



"Alexandru Ioan Cuza" University of Iasi,  
Faculty of Physical Education and Sport



West University of Timisoara,  
Faculty of Physical Education and Sport



Babeş-Bolyai University of Cluj-Napoca,  
Faculty of Physical Education and Sport

# ICU 2021

*12-13th November, Iaşi - România*

7th International Conference of the Universitaria Consortium  
in Physical Education, Sports and Physiotherapy

# BOOK OF ABSTRACTS

# Modelling Valences Of Physical Education And Sport

Abalasei Beatrice-Aurelia<sup>a,\*</sup>, Popescu Lucian<sup>a</sup>

*<sup>a</sup>"Alexandru Ioan Cuza" University of Iasi, Iasi, Romania*

## Abstract

Sport is a social phenomenon and it should not be separated, while motivating its actions, from its own context: historical, social, cultural, political and economic (Bourdieu, 1978); sport and physical education, implicitly, has an independent history, influenced by impressive economic and social-political events in terms of magnitude, it has its own rhythm, its evolution laws, its obvious crises, its specific chronology. Through motor activity, the relations of human and sports intelligence improve, consolidate because sport is related to the forms of exercising and to movement games, where cooperation, relationships can create affinities, within the same group, in relation to the adverse team; moreover, sport provides feelings that promote everybody's victory. We predict that the subjects with a high-school degree feature higher hostility, compared to performance athletes with a college degree. In order to assess this hypothesis, we applied the t test for independent samples. After conducting the statistical analysis, the social actors with high instruction level and high performance in sports feature lower levels of hostility compared to high school students.

*Keywords:* education; model; physical education.

---

\* Corresponding author. Tel.: +4-074-535-0332.  
*E-mail address:* beatriceabalasei@yahoo.com

# Recovery Balance Disorders In Virtual Reality Therapy

Agapii Eugeniu<sup>a,\*</sup>, Racu Serghei<sup>a</sup>, Savitchi Svetlana<sup>a</sup>

<sup>a</sup>*State University of Physical Education and Sport, 22, Andrei Doga Street, Chisinau MD-2024, Republic of Moldova*

## Abstract

Innovation in execution of exercises, new conditions and unusual requirements for performing motor activities are the most important criteria's for selecting exercises for efficient influence to the development of coordination qualities and balance. This research is a case study, the subject diagnosed with Wallenberg Syndrome with the functional diagnosis being balance disorders. The own-receptive training was performed in combination with the Oculus quest virtual reality applications. The Berg balance test was applied in two stages at the beginning of the rehabilitation program and at the end. The average rating of the Berg score was 53 points compared to the initial value of 37 points. At the end of the sessions, it was possible to descend the stairs and walk on a straight line without assistance, maintaining a stable dynamic balance.

*Keywords:* Virtual reality therapy; Wallenberg Syndrome; balance problems; Berg test; coordination.

---

\* Corresponding author. Tel.: +3-736-912-8809; fax: +3-732-249-7671  
E-mail address: eugenagapii@gmail.com

# The Time Allocated Daily To Physical Activity And The Eating Habits Of A Lot Of Students From Iasi

Albu Adriana<sup>a</sup>, Onose Raluca-Mihaela<sup>b,\*</sup>,  
Abdulan Irina<sup>a</sup>, Abalasei Beatrice-Aurelia<sup>b</sup>

<sup>a</sup>"Gr. T. Popa" University of Medicine and Pharmacy, Iasi, Romania

<sup>b</sup>"Alexandru Ioan Cuza" University of Iasi, Iasi, Romania

## Abstract

During childhood, the growth and development processes are dominant, which require an adequate diet and a systematic physical effort. Material and method: the study was conducted on a group of 204 students from D. Cantemir High School from Iasi. These are 122 young people from the 9th grade and 82 from the 12th grade. Students completed a questionnaire with questions about the time spent daily on physical activity and their eating habits. The processing of the results was done with the help of the Pearson test. Results and discussions: most students allocate to daily physical activity between 15 and 45 minutes (51.47%) with statistically significant differences by class ( $p < 0.01$ ). 12th grade students are less and less concerned with daily physical activity. Physical activity practiced daily for over 60 minutes, as recommended, is claimed by only 24.01% of young people. The morning food intake is present daily in the menus of 37.25% of students, and the one for snacks at 49.01% with insignificant differences by classes. Pork is present in their menus especially once a week (46.56%) as well as beef (42.64%) with statistically insignificant differences. Vegetables are consumed especially once a week (51.47%) as well as pasta (45.58%) with statistically insignificant differences. Conclusions: students are less concerned with physical activity but resort to harsh dietary restrictions to control their body weight.

*Keywords:* eating habits; exercise.

---

\* Corresponding author. Tel.: +4-074-043-9987.

*E-mail address:* ralucaonose@yahoo.com

## Education Of Students Majoring In "Physical Education And Sports" On The Knowledge Of Olympic Education (On The Example Of Yuriy Fedkovych Chernivtsi National University)

Balatska Larisa<sup>a,\*</sup>, Moseychuk Yuriy<sup>a</sup>, Moldovan Andriy<sup>a</sup>,  
Nakonechnyi Ihor<sup>a</sup>, Goriuk Petro<sup>a</sup>, Dotsyuk Lidiia<sup>a</sup>,  
Vaskan Ivan<sup>a</sup>

<sup>a</sup>*Chernivtsi Yuriy Fedkovych National University, Address: 58007, Chernivtsi, Koczybunskogo 2, UKRAINE*

### Abstract

To cherish the ideals, symbols of Olympism, one of the tasks of education in the upbringing and training of the younger and juvenile generation. In different countries of Europe and the world, education on the knowledge of Olympism is carried out through Olympic education programs for different groups of the population (preschoolers, schoolchildren, students, etc.).

At various levels of government, from the United Territorial Communities (UTCs) to the Ministry of Education and Science (MES) in Ukraine more and more time is devoted to studying, consolidating knowledge about the values and ideals of Olympism, which is manifested in the organization of different events by the National Olympic Committee: "Olympic treatment", "Olympic lesson", "OlimpicLab", etc. Theoretical knowledge of the younger generation on ideals and symbols, as practice shows, requires deeper, even greater training, as well as knowledge. Highly qualified specialists in the field of physical culture and sports who successfully master the material, the program of preparation of both practical and theoretical knowledge will help to increase the percentage on this issue.

*Keywords:* knowledge; ideals; Olympic education; students.

---

\* Corresponding author. Tel.: 0990378482.  
E-mail address: l.balatska@chnu.edu.ua

# Improvement of the Physical Education Content of Students Lyceum with Enhanced Military and Physical Preparation By Using Wrestling Means

Balushka Lyudmyla<sup>a</sup>, Khimenes Khrystyna<sup>b,\*</sup>,  
Briskin Yuriy<sup>b</sup>, Torlo Olena<sup>a</sup>, Chychkan Oksana<sup>a</sup>

<sup>a</sup>Lviv State University of Internal Affairs, Horodotska St., 26, Lviv, Ukraine, 79007

<sup>b</sup>Lviv State University of Physical Culture named after Ivan Bobersky, Kostushko str.,  
11, Lviv, Ukraine, 79007

## Abstract

The professionalism of a military man requires versatile personal development already starting from the level of secondary education. An important component in the skill structure of the future defender of the Fatherland is the level of his physical preparedness. Today in lyceums with enhanced military and physical preparation there is a need to update the material on the subject "physical culture" in the direction of finding new sports activities that on the one hand would be aimed at formation the necessary skills of future military man and on the other - develop important physical qualities for this profession. *The purpose of the study* is to increase the level of physical preparedness of students' lyceum with enhanced military and physical preparation with the use of wrestling means. *Material and methods.* The study was conducted on the basis of studying the functional and physical fitness indicators of 10th grade pupils of the Lyceum with enhanced military and physical training during the pedagogical experiment. It consisted in studying the impact of multidirectional wrestling means on the level of these sides of student preparedness during the year. *Results.* During the pedagogical experiment, students of the groups that participated in the study were able to mainly improve the level of their functional and psychophysiological capabilities, physical and special wrestling preparedness (only experimental group students). For most of these groups of indicators, the changes were positive and reliable in both study groups ( $p \leq 0.05 - 0.001$ ), in both – the first and second terms. At the same time, according to the results, the best effect was achieved by students who were

---

\* Corresponding author. Tel.: +38093-671-88-79; fax: +38093-671-88-79.  
E-mail address: kh.khimenes@gmail.com



engaged in the author's program of physical culture with the wrestling means use. This is evidenced by a comparison of the total growth of the averaged data of indicators groups during the pedagogical experiment. In the studied of experimental group it was 94.0%, and in the participants of control group – only 53.3%. Regarding the level of special wrestling preparedness according to the results of wrestling tests, we also note its growth in the experimental group students, which totaled 11.6% relative to the baseline. *Conclusions.* The proposed physical culture experimental program was relatively more effective during the pedagogical experiment. The total increase in the average data of the indicators groups used in the study in the experimental group was 94.0%, and in the control group – 53.3%.

*Keywords:* secondary education; physical preparedness; indicators; wrestling; physical culture.

## Qualitative Level Of Posture In High School Girls During The Covid-19 Pandemic

Bartíková Bianka<sup>a</sup>, Daubnerová Jana<sup>a</sup>,  
Bendíková Elena<sup>a,\*</sup>

<sup>a</sup>Matej Bel University, Faculty of Arts, Department of Physical Education and Sports,  
Tajovského 40, 974 01 Banská Bystrica, Slovakia

### Abstract

The aim of the research was to determine the current level of the skeletal and locomotor system with a focus on posture in adolescent students during the Covid-19 pandemic. The sample consisted of  $\Sigma n=60$  adolescent girls who attended 1st ( $n=30$ , age  $15.53\pm 0.34$  years, body height  $167.8\pm 5.38$  cm, body weight  $56.1\pm 6.87$  kg) and 2nd ( $n=30$ , age  $16.38\pm 0.35$  years, body height  $169.1\pm 6.35$  cm, body weight  $60.5\pm 8.65$  kg) year of grammar school in Horehronie. In terms of data acquisition methods, we used a standardized method of posture evaluating for physical education practice. The obtained results indicate that up to 81.67% of adolescent girls of the whole group  $n=60$  had good posture. Poor posture we noticed in 15%, while we did not notice incorrect posture and excellent posture was only in 3.33% girls. In the individual areas of posture, we found out significant differences in posture of head and neck ( $\chi^2=7.251$ ,  $p<0.01$ ) when evaluated with a mark of 3 to the detriment of 1st year girls. When evaluating the shape of thorax, significant differences were noticed ( $\chi^2=10.987$ ,  $p<0.01$ ) in the evaluation with the mark of 1 in favor of the girls of the 1st year. When evaluating the total curvature of the spine, we noticed significant differences ( $\chi^2=8.872$ ,  $p<0.01$ ) in the evaluation with a mark of 2 to the detriment of the girls of the 2nd year. When evaluating the height of the shoulders and the position of the shoulder blades, significant differences were noticed ( $\chi^2=6.099$ ,  $p<0.05$ ) in the evaluation with the mark of 2 in favor of the girls of the 2nd year. We did not notice significant differences ( $\chi^2 p>0.05$ ) in the evaluation of the shape of the abdomen and the inclination of the pelvis.

*Keywords:* Covid-19 pandemic; posture; students

---

\* Corresponding author. Tel.: +421-048-446-7556.  
E-mail address: Elena.Bendikova@umb.sk



# Organized Leisure Physical Activity In Terms Of Consolidating The Quality Of The Musculoskeletal System Of Pupils

Bendíková Elena<sup>a,\*</sup>, Slováková Michaela<sup>a</sup>,  
Jančoková Ľudmila<sup>a</sup>, Rozim Robert<sup>a</sup>, Daubnerová Jana<sup>a</sup>

<sup>a</sup>Matej Bel University, Faculty of Arts, Department of Physical Education and Sports,  
Tajovského 40, 974 01 Banská Bystrica, Slovakia

## Abstract

The current situation, which essentially affects the whole world, the Covid-19 pandemic, has largely affected the quality of the bulk of physical activities carried out in the movement mode of students as well as the functionality of the musculoskeletal system, in conjunction with measures taken to protect public health. Therefore, the aim of the research intention was by using analysis, to detect the physical activity in the movement mode in pupils, with its subsequent change and targeted intervention of the motional program supporting selected indicators of the musculoskeletal system (muscular system and posture), within targeted organized leisure activities. The sample consisted of  $n=87$  pupils of pubescent age, willing to participate in the research of cities in the Central Slovakian region of Liptov, of which  $n=45$  girls (age  $12.2\pm 0.6$  years, body height 149.1 cm, body weight 43.5 kg) and  $n=42$  boys (age  $12.5\pm 0.9$  years, body height 149.9 cm, body weight 43.3 kg). In terms of data acquisition, methods for physical education practice were applied. In terms of time schedule, this was implemented after the release of Covid-19 measures in Slovakia, in May 2021. Findings indicate that targeted adjustment and sufficient bulk of physical activity with a health and preventive character resulted in improved muscular system ( $W_{\text{test}} p<0.05$ ) and posture ( $W_{\text{test}} p<0.05$ ) in girls as well as in boys. In the monitored sample we found out, that the relationship between the implementation of regular physical activity and observed factors of the musculoskeletal system exists (posture  $r=0.729$ , muscular system  $r=0.810$ ).

*Keywords:* hypokinesia; musculoskeletal system; health; pupils.

---

\* Corresponding author. Tel.: +421-048-446-7556.  
E-mail address: Elena.Bendikova@umb.sk

# Development Of Motor Activity Of Primary School Students Under Conditions Of Digitalization Of Education And Distance Learning Caused By The Covid-19 Pandemic

Bilavych Halyna<sup>a</sup>, Vlasii Olesia<sup>a</sup>, Kohanovska Olena<sup>b</sup>,  
Iliichuk Liubomyra<sup>a</sup>, Blavt Oksana<sup>c,\*</sup>, Kondur Oksana<sup>a</sup>,  
Oliiar Mariia<sup>a</sup>, Matishak Marianna<sup>a</sup>, Malona Svitlana<sup>a</sup>,  
Savchuk Borys<sup>a</sup>

<sup>a</sup>Vasyl Stefanyk Precarpathian national university, 57 T. Shevchenko street,  
Ivano-Frankivsk, 76018, Ukraine

<sup>b</sup>Kherson Academy of Continuing Education of Kherson Regional Council, Pokrisheva  
street, 41, Kherson, 73034, Ukraine

<sup>c</sup>Lviv Polytechnic National University, 12 Bandera street, Lviv, 79013, Ukraine

## Abstract

The involvement of schoolchildren in motor activities is one of the main socio-pedagogical problems that are relevant in the context of distance learning, which has been going on in Ukraine for more than a year and a half due to the spread of the Covid-19 pandemic. According to the survey conducted during the study, only 20% of students regularly play sports, and about 5% of them do PE homework. The results of the survey confirmed the thesis that, unfortunately, the level of motor activity of schoolchildren in distance education is decreasing and reaches a critical level. According to the results of the diagnosis of interest in motor activities, physical culture and sports of students, it was concluded that students are usually characterized by medium and low levels of interest in physical culture and sports, some students have a high level, but not many of them, most students are characterized by relatively low physical activity, unwillingness to attend physical education classes, they have a neutral attitude to physical culture and sports as a type of activity. Most students are not satisfied with physical education classes under quarantine restrictions. Under the condition of distance learning, most students demonstrate a decrease of independent physical activity and interest in these classes. In view of this, we created an author's method of forming an interest in motor activities, physical culture and sports in the out-of-school

---

\* Corresponding author. Tel.: +380671652309.  
E-mail address: oksanablavt@ukr.net



institution, which was implemented under the conditions of distance learning and quarantine restrictions at the University of Gifted Child, which operates at the Vasyl Stefanyk Precarpathian National University. The study confirmed the hypothesis that the effectiveness of this process is provided by a number of conditions: students mastering the knowledge about physical culture and sports, health-saving, well-known athletes-countrymen; practical activities of children; joint activities with parents; joint physical education and sports classes with parents outdoors; joint hiking and biking; value attitude of junior schoolchildren to physical education, motivation for a healthy lifestyle, emotional satisfaction from physical exercise, motor activities, sports, active rest; experienced teachers, who are famous athletes, university teachers, as well as creative students; integrated classes, application of innovative educational technologies, gaming teaching methods, etc. We believe that our pedagogical finds (practical experience in forming the interest in junior students to physical culture and sports at the University of Gifted Child can be fully used in any educational institution both in Ukraine and abroad, individual innovations, fruitful ideas and approaches to the organization of motor activities of children and parents should be applied in school practice, their creative application will serve to increase the effectiveness of physical education of children.

*Keywords:* motor activity; school physical education; distance education; primary school students; physical education.

# Study Regarding The Level Of Strength As A Motor Quality among High School Students In The Context Of The Covid-19 Pandemic

Bogdan Mihaela<sup>a,\*</sup>, Mardare Ioana<sup>a</sup>,  
Moraru Cristina-Elena<sup>b</sup>

<sup>a</sup>*Doctoral School in Sports Science and Physical Education, "Alexandru Ioan Cuza" University Iași, Bulevardul Carol I, Iași, 700506, Romania*

<sup>b</sup>*"Alexandru Ioan Cuza" University Iași, Bulevardul Carol I, Iași, 700506, Romania*

## Abstract

The lack of physical PE class attendance and the closure of school gyms hosting practising extracurricular activities have affected the physical activity of pupils during the pandemic. This study aimed to evaluate the level of strength as a motor quality among high-school children. The research subjects were 143 eleventh graders (53 boys and 90 girls, without physical issues). The tests performed consisted of push-ups in 30", torso raises from lying on the back 30" and standing long jump. Physical education classes were held exclusively online. The results obtained from strength evaluation were the following: for arm muscle strength, the mean value is  $13.3 \pm 7.4$ ; for abdominal muscles, the average is  $24.7 \pm 4.9$ ; and for leg muscle strength, the average value is  $182.9 \pm 16.9$ . These values related to the scale of the national evaluation system indicate that students fall within the average of grades 6-7 (lower values than the results obtained before the pandemic). In conclusion, it is worth noting that, in this pandemic context, the strength level of high-school students has been affected significantly, as highlighted by the lack of physical class attendance.

*Keywords:* physical education; motor qualities; evaluation; pandemic.

---

\* Corresponding author. Tel.: +4-074-598-3175.  
E-mail address: prof.mihaela.bogdan@gmail.com

# Basketball Players Articular Lesions Prophylaxis Through Neuromuscular Training

Bulduş Codruța-Florina<sup>a,\*</sup>, Bloj Cristian-Emil<sup>a</sup>

<sup>a</sup>*Babeş-Bolyai University, Pandurilor str.7, Cluj Napoca 400376, Romania*

## Abstract

**Aim:** the purpose of this research is to study the impact of a neuromuscular training program on the enhancement of motor control and coordination, to prevent articular lesions in basketball players. **Materials and Methods:** The subjects (n=8) were chosen according to their age (15 years old) and training frequency (5±1 times/ week). The test consisted of recordings that involved 10 repetitive jumps, with the target to land in a 40cm by 40cm square "tuck jump assessment". After the analysis each deficit is categorized as: trunk dominance, quadriceps dominance, and leg dominance. The evaluation was done after video recording each player performing the test. The recording and evaluation were conducted using two cameras set to 60fps, Full HD, and the video materials were screened with Kinovea software. Elastic bands, balance boards, BOSU balls, Bobath balls, balancing balls, suspension training equipment, dumbbells, kettlebells, basketballs, and tennis balls were employed in the prophylactic program. Each session lasted 20-30 minutes and included a variety of preventative exercises, the most of which were basketball-related but also focused on foot proprioception, balance, and muscular tone. **Results:** The initial results: in leg dominance 0,17± 0,08 seconds, trunk dominance 10,15± 2,75cm, quadriceps dominance 121,52°± 5,48°. Compared to final examination: 0,0065±0,35 seconds in leg dominance, 5,94cm ± 3,24cm in trunk dominance and 107 ° ±14,5 ° in quadriceps dominance. **Conclusions:** The analysis demonstrates enhanced motor control by reducing motor control deficiencies: the asymmetrical landing improved by 0.08 seconds. The inconsistent landing site, as assessed by trunk dominance, was reduced by 4,78 cm, and the landing amortization, as evaluated by knee flexing angle, was improved by 10,2°. The recommended training plan might be used in the prevention of joint lesions in sport.

*Keywords:* neuromuscular training; joint lesions prophylaxis; neuromuscular training

---

\* Corresponding author. Tel.: +4-074-278-1328.  
*E-mail address:* codruta.buldus@ubbcluj.ro

# The Efficiency Of The Nirvana System In The Recovery Of Scapulo-Humeral Periarthritis

Calotă Nicoleta Daniela<sup>a</sup>, Munteanu Camelia<sup>a</sup>,  
Ionescu Elena Valentina<sup>a</sup>, Petcu Damian<sup>a</sup>,  
Georgescu Adrian<sup>a</sup>, Popescu Răducu<sup>a,\*</sup>

<sup>a</sup>*Ovidius University of Constanta, Constanta, 900470, Romania*

## Abstract

Nirvana is the first system for recovering patients with various pathologies through multisensory stimulation with "immersion" in virtual reality. The therapeutic, unique and innovative system is addressed to all patients, regardless of age, the therapy stimulating both the lower and upper train. The study aims to apply kinetotherapeutic methods and procedures to restore the functionality of reduced or lost capacity of patients diagnosed with scapulo humeral periarthritis using the Nirvana device. The study was performed on a group of 11 patients (4 men and 7 women), aged between 40 and 60 years, diagnosed with scapulo humeral periarthritis -single shoulder. From the analysis of the data obtained by measurements, we can conclude that the recovery took place according to the established objectives, which indicates that the application of the recovery program on Nirvana of patients diagnosed with scapulo humeral periarthritis helps a much more efficient and faster recovery than by practicing classic exercises.

*Keywords:* Nirvana; scapulo humeral periarthritis; recovery.

---

\* Corresponding author. Tel.: +4-077-457-1017.  
*E-mail address:* r.popescu.online@gmail.com

# Training Communication Competence In Students With Mental Retardation Through Physical Education Activities (Pedagogical Model)

Cebotaru Nina<sup>a,\*</sup>, Racu Serghei<sup>a</sup>, Cebotaru Vasile<sup>a</sup>

<sup>a</sup>SUPES, 22 Andrei Doga street, Chisinau 2024, Republic of Moldova

## Abstract

The timeliness and importance of the topic is argued by theoretical and practical premises. *The general importance of communication for the human being.* The activity of verbal communication is defining to man and humanity. It is universal and ubiquitous and occurs independently of the characteristics of the individual – sex, age, education, social status, ethnicity, residence, etc. However, the efficiency of communication depends on the level of development of the communication skills of the communicators. And the competence in communication presupposes the person's ability to use his internal resources to orient himself to the natural aspiration and to the communicative potential of the interlocutor in a concrete communication situation, as well as, if necessary, to identify optimal solutions to communication problems. In modernity, due to globalization, people communicate more than ever. The formation and development of communicative competence thus becomes a matter of urgent topicality both for the person (educable) and for the national, regional, world community.

*Keywords:* competence; communication; mild mental retardation; physical education; dynamic games; sports activities; pedagogical model.

---

\* Corresponding author. Tel.: +373 68121490; fax: +373 22497671.  
E-mail address: ninutza.cebotaru@gmail.com

# Developing Possibilities Of The Psychomotor Capacities By Practising Judo

Chirazi Marin<sup>a,\*</sup>

<sup>a</sup>*"Alexandru Ioan Cuza" Univerwsity, Iasi, Romania*

## Abstract

The study makes a theoretical argumentation concerning the effects of learning the technical procedures in judo, for their application in adversity conditions over the developing level of the psychomotor capacities of the one who practice it. The developing and the continuous training of the psychomotor capacities and also their correlation with the scope of every physical field has as an explanation the use on a larger and larger scale of the new scientific achievements, especially of those from the physiology, biochemistry, biomechanics, psychology fields; these in their turn being stimulated by the universality of the sportive phenomenon, by the growth of the competition among sportspersons. Multiple repetition of a technique from judo allows fixing the skill and the improvement of the technic-tactics actions, but also it develops the muscular chains involved in the execution of the movement. Therefore, a quality of the movement is developed according to the way in which a technical procedure is executed (number of repetitions, effort intensity, length of the breaks, partner/opponent's action, etc.). The theoretical analysis of the developing possibilities of the motor capacities by practicing judo pointed out the fact that a motor quality cannot be isolated; on the contrary the other capacities are influenced in different proportions closely connected to the influence of some psychological and sensorial components.

*Keywords:* judo; capacities/skills; technical procedures; learning.

---

\* Corresponding author. Tel.: + 4-074-585-0678.  
*E-mail address:* marin.chirazi@uaic.ro



## Relationship Between Posture Deviations In The Sagittal Plane And Plantar Weight Distribution In Adolescents

Cîtea Mihai Alexandru<sup>a,\*</sup>, Cordon Mariana<sup>a</sup>

<sup>a</sup>National University of Physical Education and Sports, Bucharest, 060057, Romania

### Abstract

Posture deviations are becoming a common occurrence in today's society, and for the adolescents, which are in a period of growth, the skeletal and muscular system are exposed to factors that can impair natural development. While balance is typically assessed by measures of the body's vertical orientation, it is possible to evaluate the posture and analyze the way that the weight is distributed at plantar level (plantar load) at the same time. *The purpose* of this study is to point out whether there is a relationship between spine alignment and the way teenagers distribute the weight in standing position. *The subjects* of this study were 30 14 years old high school students, from which 15 females and 15 males. *Materials and method*: The subjects were evaluate using BTS P-WALK baroresistive platform for weight distribution at plantar level and KINEOD posturograph, which is a tool that uses rasterstereography (a photogrammetric method for measuring body surfaces) that uses infrared acquisition technology to provide a complete 3D postural analysis. The data received from the software designed for those specific devices was compiled, analyzed, and the results were presented as tables, while graphic representations were conducted using Microsoft Office Excel. *Conclusions*: Results indicate that 76.67% of the subjects present at least one type of spine deviation in sagittal plane while weight distribution imbalances occur more often (90% of the students showed at least one type of imbalance). Out of the 30 subjects just one (3.33%) can be considered as having a proper alignment and balanced weight distribution at plantar level, taking into consideration the inclusion criteria. While all this data shows that there is an important segment of the young population that manifests this imbalances the strength of the relationships between posturer deviations in sagittal plane and plantar weight distribution may be only poor to fair.

*Keywords*: Posture; Sagittal; Kyphosis; Lordosis; Plantar load; Alignment; Baropodometer.

---

\* Corresponding author. Tel.: +4-074-643-3702.  
E-mail address: a.citea@yahoo.com

# The Effect of a Five-Week Training on Upper Limbs Specific Endurance-Speed Motor Ability in Elite Athletes of Qwan Ki Do Martial Art

Cojocariu Adrian <sup>a\*</sup>, Abalașei Beatrice-Aurelia<sup>a</sup>,  
Ungurean Bogdan-Constantin<sup>a</sup>,  
Martinaș Florentina-Petruța<sup>a</sup>

<sup>a</sup>"Alexandru Ioan Cuza" University of Iași, Str. Toma Cozma nr.3, Iași, 700554,  
Romania

## Abstract

The aim of the study is to highlight the effects of a five-week physical training program on specific endurance-speed combined motor ability in upper limbs, in Qwan Ki Do martial art. As a hypothesis, we suppose it is possible to improve the endurance-speed in upper limbs using an efficient planning and adequate means, which could conduct to an increasing of athletes' efficiency. Within the experimental study were included 11 male and 8 female elite athletes from the Romanian Qwan Ki Do national team. The five-week program included long and Fartlek runs, intermittent runs and also general and specific force–endurance and endurance–speed circuits, during the preparatory phase. We used two specific tests (at the beginning and at the end of the five-week period): 1. alternative direct punches – 60 seconds, respectively 2. alternative circular punches – 60 seconds. The statistical analysis (using IBM SPSS Statistics 20 – Independent and Paired T-Tests) reveals a significant progress ( $p < 0.05$ ) in both male and female groups, and also in both tests (test 1 male group:  $t = -2.341$ ,  $p = 0.041$ ; test 2 male group:  $t = -2.942$ ,  $p = 0.015$ ; test 1 female group:  $t = -2.695$ ,  $p = 0.031$ ; test 2 female group:  $t = -6.711$ ,  $p = 0.000$ ). On the other hand, we did not find significant differences between groups in both initial and final tests ( $p > 0.05$ ). The overall results suggest the five-week program included into the study could improve the specific endurance-speed motor ability in upper limbs, related to martial arts. On the other hand, it is possible that the program to have a greater positive influence on the female group, in terms of circular hits.

*Keywords:* martial arts; physical training; planning; physical tests; specific training.

---

\* Corresponding author. Tel.: +4-075-437-2249.  
E-mail address: cadriano@uaic.ro

# Perfecting Through Game, Of The Technical-Tactical Actions At Juniors, In Volleyball

Cojocaru Adin-Marian<sup>a,\*</sup>, Cojocaru Marilena<sup>a</sup>

<sup>a</sup>*Spiru Haret University, Faculty of Physical Education and Sport, Berceni street, 24,  
Bucharest, Romania*

## Abstract

Volleyball athletes must have specific abilities to be applied under high pressure due to the requirements of the game. The study was conducted on the national volleyball team, with a number of 20 athletes from the National Center of Excellence (experimental group) in Craiova and another 20 athletes from the Nicolae Titulescu National College in Craiova (control group), all of them aged 17-19, juniors. The hypothesis of the study from which it starts would be that, by using training with different types of play, based on a small number of players, on small pitches, it can improve the skills of volleyball players and increase their efficiency in the game. The testing aimed at recording the quality of taking over, lifting, service. The service belonging to the Break point game structure, and the other actions, taking over from the service and lifting from the Side out structure. The statistics consisted in the analysis and calculation of the means and the standard deviations of all the variables involved in the training. The Kolmogorov-Smirnov test was used to calculate the distribution, which highlighted an appropriate balance of distributions for all variables applied and studied. The analysis of the trainings was performed by ANOVA with measurements performed several times. At a level of 95% ( $p < 0.5$ ), all results were considered significant. The hypothesis we started from is confirmed, namely that game-based training has positive effects and leads to increased accuracy and consistency in performing technical-tactical actions at the junior level, so it achieves the improvement of skills in game conditions.

*Keywords:* perfecting; game; volleyball training; juniors; technical and tactical.

---

\* Corresponding author. Tel.: +4-073-555-7868.  
E-mail address: adincojocaru@yahoo.com

# Incidence Of Obesity In Young School-Age Students In The Republic Of Moldova

Corman Mariana<sup>a,\*</sup>, Zavalisca Aurica<sup>a</sup>

<sup>a</sup>*SUPES, 22 Andrei Doga street, Chisinau 2024, Republic of Moldova*

## Abstract

During the years 2007 - 2019, the World Health Organization (WHO) at the European Initiative for the Surveillance of Childhood Obesity (COSI) estimated the prevalence and monitored changes in overweight and obesity in children aged 6 - 9 years. According to these studies, obesity is one of the most common chronic diseases in the world and reaches the proportions of a non-communicable epidemic. So far, no comparative studies with data on obesity in young school children in the Republic of Moldova have been published. The aim of this paper was to present the prevalence of obesity in school-age children in R. M. in the last 10 years.

*Keywords:* incidence; obesity; young school age students.

---

\* Corresponding author. Tel.: +373 79580238; fax: +373 22497671.  
*E-mail address:* kineto7@mail.ru

## Evolution Of Heart Rate Following Exercising In Postpartum Women

Croitoru Horia<sup>a</sup>, Teodorescu Silvia Violeta<sup>b</sup>,  
Ene-Voiculescu Carmen<sup>c</sup>, Ene-Voiculescu Virgil<sup>a,\*</sup>

<sup>a</sup>Naval Academy "Mircea cel Batran", Constanta, Romania

<sup>b</sup>University of Physical Education and Sport, Bucharest, Romania

<sup>c</sup>University "Ovidius", Faculty of Physical Education and Sport, Constanta, Romania

### Abstract

Physical activity is described as any form of movement generated by the skeletal muscles and which, following the development, determines an energy consumption measured by kilocalories. This represents the set of motor actions, systemically articulated, based on some ideas, rules, organizational forms, having as a result the achievement of a goal. Motor activity is unitary, conscious, based on anticipation and supported by a consistent motivation. It is a complex, large-scale phenomenon that in most cases bears the "mark" of the individual's personality.

*Keywords:* prepartum; postpartum.

---

\* Corresponding author. Tel.: +4-074-102-2296.  
E-mail address: virgil.ene@anmb.ro

# Effects Of Circuit Training On General Strength In 7-10 Year Olds Basketball Players

Deak GrațIELA-Flavia<sup>a,b,\*</sup>, Boros-Balint Iuliana<sup>a,b</sup>,  
Irimia Alexandru<sup>c</sup>

<sup>a</sup>Department of Kinesiotherapy and Theoretical Disciplines, Babeș-Bolyai University, Cluj-Napoca, Romania

<sup>b</sup>Interdisciplinary Research Center in the Domain of Physical Education and Sport, Babeș-Bolyai University, Cluj-Napoca, Romania

<sup>c</sup>Faculty of Physical Education and Sport, Babeș-Bolyai University, Cluj-Napoca, Romania

## Abstract

Circuit training is considered to be one of the best methods in improving VO<sub>2</sub> max, muscle resistance and general strength. Benefits of circuit training were observed in young athletes after relatively short periods of time (4-8 weeks). The purpose of this study was to assess the effect of a 4-week circuit training program on the general strength of 7-10 year olds basketball players. Data were collected from a total of 24 male basketball players (7-10 years old). Participants were equally and randomly divided into two groups: a Control group (12 subjects) and an Experimental group (12 subjects). The subjects from the Experimental group were trained by incorporating circuits of exercises into their workouts, for 4 weeks (3 times per week, 15-20 minutes per session), at the beginning of the training session, followed by 40 minutes of specific basketball training. The Control group followed a specific basketball training program for the same period of time (4 weeks), with the same frequency (3 sessions per week), 60 minutes per training session. Four tests were performed before and after the training period in order to assess general strength (e.g., push-up, bent-arm hang, plank, vertical jump). Statistically significant differences were found for push-up ( $p = 0.001$ ), bent-arm hang ( $p = 0.007$ ) and plank ( $p = 0.032$ ) tests between pre and post-training values in the Experimental group. Nevertheless, no significant changes were observed post training in comparison with the Control group ( $p > 0.05$ ). Lower body power did not seem to be affected by the training protocol.

---

\* Corresponding author. Tel.: +4-026-442-0709.  
E-mail address: gratiela.deak@ubbcluj.ro



The results of the current study show that 4 weeks of circuit training did not significantly improve general strength among 7-10 year olds basketball players.

Although short-term interventions could develop muscular strength and endurance in young athletes during the initiation stage, further research is needed to establish the optimal training stimuli to obtain muscular fitness improvements in youth.

*Keywords:* circuit training; young athletes; basketball players; general strength.

## Dance as a Means of Social Inclusion for People with Down Syndrome

Doană Amalia<sup>a,\*</sup>, Stepan Amalia-Raluca<sup>b</sup>,  
Popescu Daniela<sup>a</sup>, Cosma Germina<sup>a</sup>

<sup>a</sup>*Doctoral School of Social Sciences and Humanities, University of Craiova,  
Craiova, Romania*

<sup>b</sup>*INCESA, University of Craiova, Craiova, Romania*

### Abstract

This study aimed to identify the differences as concerns the perception of social inclusion of people with Down syndrome according to certain specific variables and establish the relations between the perception of social inclusion, the social support and the emotional state of people with Down syndrome. The present study involved 41 persons aged between 27 and 77 years, M = 49.76, AS = 11.15, caregivers of people with Down syndrome. The age of people with Down syndrome was between 1 and 40 years. M = 20.54, AS = 11.67. The used tools were: The scale of the Social Inclusion and PANAS X : Positive and Negative Affects: extended form. The results showed that the persons who feel more acute the negative changes in social life, do not perceive stronger the problems related to the social inclusion of people with Down syndrome and there are no differences related to the way of spending the free time. People with Down syndrome, who attend dance classes won't have a higher level of positive and negative affect, but the perception of the social inclusion is a significant predictor of the emotional states and the perceived social support is a significant predictor of the emotional states.

*Keywords:* Down Syndrome; dance; social inclusion; emotional states.

---

\* Corresponding author. Tel.: +4-076-322-8546.  
*E-mail address:* doanaamalia@yahoo.com



# Study on the Efficacy of Extracorporeal Shock Wave Therapy in the Rehabilitation Treatment of Patients Diagnosed with Jumper Knee

Dobreanu Ioana-Bianca<sup>a,\*</sup>, Solomon-Pârțac Sergiu<sup>a</sup>

<sup>a</sup> "Alexandru Ioan Cuza" University of Iași, Faculty of Physical Education and Sport, Toma Cozma Street, Iași, 700554, ROMANIA

## Abstract

Aim of the study: *Jumper knee* or patellar tendonitis of the knee frequently affects both athletes who participate in activities that involve the jumping movement, as well as people who practice leisure training. Current studies emphasize that this pathology is difficult to address: so far various therapeutic treatments have been used, often based, rather, on the personal experience of the attending physician, rather than on scientific evidence. The aim of this study is to present our experience in recovering a group of patients diagnosed with knee jumper using extracorporeal shock wave therapy (ESWT / Shockwave therapy).

Methods: In this study, 17 sports patients (17 knees), 12 men and 5 women, aged between 18 and 37 years (mean age; 27 years) were included. All patients underwent clinical diagnosis by performing a soft tissue ultrasound, magnetic resonance imaging and X-ray, and functional diagnosis by performing specific tests to identify the presence, location and severity of specific patellar tendinopathy. Symptomatology was classified using the visual analog scale and according to a 10-step clinical evaluation interval. The shock wave treatment was applied with the BTL-6000 SWT device, which allows therapy with a pressure of up to 5 bar and a frequency of up to 20 Hz.

The protocol consisted in applying 6 sessions of shock wave therapy, at an interval of 2/3 days between applications, for 3-4 weeks. At each session, around 2000 pulses were administered, with a frequency of 10-15 Hz and an intensity that was progressively increased with each application, from 0.2 to

---

\* Corresponding author. Tel.: +4-074-260-3202.  
E-mail address: bioana0311@yahoo.com



0.2 bar depending on the patient's sensitivity threshold. at the time of therapy.  
Results: We obtained satisfactory results in all 17 patients in terms of decreased pain and regained mobility in the knee joint. The average time to return to sports was 6 weeks.

Conclusion: The results of this study on the treatment of extracorporeal shock waves in patients diagnosed with knee jumper are satisfactory and confirm the role of this alternative treatment in the management of localized tendon disorders.

*Keywords:* recovery; joint mobility; electrotherapy; physiotherapy protocol; decreased pain.

# The Role Of Spine And Hip Joint Flexibility In Free Aerial Forward Walkover -Danilova- Element Performance

Domokos Cerasela<sup>a</sup>, Dragomir Andrei<sup>b</sup>,  
Mirica Silvia Nicoleta<sup>a,\*</sup>, Domokos Martin<sup>a</sup>,  
Negrea Cristian<sup>a</sup>, Bota Eugen<sup>a</sup>, Argeşanu Veronica<sup>c</sup>,  
Nagel Adrian<sup>a</sup>

<sup>a</sup>West University of Timișoara, Faculty of Physical Education and Sport

<sup>b</sup>National Institute of Research in Sport, Bucharest

<sup>c</sup>Politehnica University Timișoara, Faculty of Mechanical Engineering

## Abstract

Free (aerial) walkover forward (Danilova) is an acrobatic flight element from group 5, according to the International Gymnastics Federation Code of Points 2017-2020. The study aims to characterize the differences of the center of mass height during the execution of the element according to the individual level of flexibility of the spine and hip joint. The study group consisted of 14 senior and junior gymnasts ( $n=14$ ,  $14\pm 1.93$  years,  $149.35\pm 7.94$  m and  $40.01\pm 7.41$  kg) that were instructed to perform the free aerial forward walkover (Danilova) on the floor. In order to record the data, the gymnasts were monitored by a multiple inertial measurement system suit. All gymnasts performed a series of 3 singular element executions and the most correct one, according to the Code of Points 2017-2020, has been selected and further analyzed. In order to characterize the element execution, the difference of center of mass height between the maximum and minimum measured recorded values was correlated to two parameters as follows: 1) the maximum extension of the spine at the moment of the first ground contact during the landing phase of the element and 2) the hip joint angle of the landing limb. Our data revealed that in gymnasts who presented a reduced mobility of the hip and/or spine, a compensatory explosive strength due to a supplementary limb muscle involvement during the upsurge phase of the element is needed. The characterization of all these elements gives a great amount of information regarding the execution technique permitting the identification of the weakest link of the element execution sequence. Thus, by studying the individual

---

\* Corresponding author. E-mail address: [nicoleta.mirica@e-uvt.ro](mailto:nicoleta.mirica@e-uvt.ro)



performance of the gymnasts when they execute Danilova, and by superimposing the objective kinematic data obtained from the analysis of the element, this will permit the implementing of new strategies of technique correction in order to obtain the required accuracy for the maximum grading of the element.

*Keywords:* artistic gymnastics; spin; hip joint angle; center of mass; free aerial forward walkover.

## The Post-Pandemic Eating Behavior

Droșescu Paula<sup>a,\*</sup>, Honceriu Cezar<sup>a</sup>, Trofin Florin-Petru<sup>a</sup>,  
Puni Alexandru-Rareș<sup>a</sup>

*<sup>a</sup>"Alexandru Ioan Cuza" University of Iasi, Faculty of Physical Education and Sports,  
Street Toma Cozma, Nr. 3, Iași, Romania*

### Abstract

Having as reference the WHO (World Health Organization)'s definition for health (a state of physical, mental, emotional and spiritual well-being), and correlating it with the period we are currently traversing, we have created a complex survey to evaluate the general nutrition level through 16 questions (weight, height, age, occupation, weight variations over the last 15 months, number of meals per day, types of food consumed, food preferences, alcohol intake) and to identify types of eating behaviors through another 21 questions. The number of respondents to our survey was 681, of whom 241 were male and 440 female, with a wide variation in age between them. The parameter that helped us interpret the results was the BMI (Body Mass Index). The correlation of answers with the BMI is significant ( $p < 0.0001$ ), even though the relevance was  $r = 0.23$ , which leads us to think that in the future it would be useful to refine the questions even better. We consider that the 34.8% of people who are underweight, overweight or obese should be alarmed – this is not a question of physical looks, but rather about an increase in cardiovascular and respiratory disease, neurological pathologies, afflictions of the locomotor apparatus – in short, this represents a comorbidity for virtually any kind of illness. Another important conclusion, which supports the previous one, is connected to a lack of well-being that is manifested through weight oscillations (51.8% had different values). The reasons why the 34.8% have a weight outside of the normal BMI range (18,5 – 24,99 Kg/m<sup>2</sup>) are multiple: a chaotic eating schedule, missing food groups (such as dairy), excess consumption of other food groups (such as over 4-5 slices of bread per day), and replacing meat with meat-derived products such as salamis. Eating behaviors are a result of the way a person is taught to approach their relationship with food, of the habits and beliefs of the family they are a part of, and later also of their entourage and their own filters and information on food and nutrition. Added to all of these beliefs, values, habits and personal filters we also find the person's emotions. All of these become part of the equation of our approach

---

\* Corresponding author. Tel.: +4-074-528-4953.  
E-mail address: paula\_droșescu@yahoo.com

to feeding. When something does not function at an optimal level, we do not know how to interpret certain states, or fail to recognize them, or ignore them, or remain unaware of them – and we find ourselves with a feeding pattern that deviates from the normal (BMI modifications). After a variable amount of time, this starts to associate to other illnesses. We can stop the evolution towards illness only through awareness, education and a repetitive display of information – aimed especially at the young population. This is also what we propose to do next, through webinars that will discuss:

- the various types of eating behaviors (constant eating, anger eating, self-destructive eating, ignorant eating, habitual eating, addictive eating) and their characteristics, causes and ways to overcome such behaviors
- the make up of a correct food intake and how it can be organized in order to correspond to the theoretical requirements and to be easily implementable; also, the monitoring of the implementation of a healthy way of thinking about food
- creating a minimal but effective physical education program, so that we can revert to an optimal level of health by combining adapted exercises with emotion management and with quality nutrition.

*Keywords:* eating behavior; emotional eating; food intake; relationship with alimentation.

# Local Active Tourism - A Hybrid Perspective Of Reconfiguring A Healthy Lifestyle And A Sustainable Tourism During Pandemic Context

Dumitru Iulian-Marius<sup>a,\*</sup>

<sup>a</sup>"Alexandru Ioan Cuza" University of Iasi, Faculty of Physical Education and Sports,  
Street Toma Cozma, Nr. 3, Iași, Romania

## Abstract

Building a model of reorganization of physical activity carried out in conditions of maximizing health safety in the current pandemic context is a challenge and a necessity. The LAT model (LAT - Local active tourism) proposes a portfolio of physical activities that are in the top of world preferences in 2021 but accessed in a different way. This difference consists in a reconfiguration in two directions: the first involves the creation of outdoor sports programs that will allow people to engage in a systematic sports practice in harmony with nature and in accordance with theories and practices on optimal functional health and respect health recommendations; the second represents the creation of local tourism destinations that will combine with the announced sports practices and will offer a sustainable alternative to the classic pre-pandemic tourism. The applied research involved the evaluation of the individual choices regarding the ordering by importance ranks of the portfolio of specific activities of LAT. The results revealed a first position of importance of functional fitness activities with an average percentage of 16% ( $p > 95\%$  and  $t_{State} = 2.36$ ) of the total use value of the LAT product portfolio. The next two ranked were the activities in the family of aerobic gymnastics and trekking with a value of 14% ( $p > 95\%$  and  $t_{State} = 2.24$ ). These results should provide a benchmark when an entrepreneur wants to launch a LAT service to a category of population that includes the customer profile included in our research.

*Keywords:* safety; active life; outdoor sports; Coronavirus; responsible tourism.

---

\* Corresponding author. Tel.: +4-074-094-7088.  
E-mail address: iulian.dumitru@uaic.ro

# Study Regarding the Injuries Rate in National Basketball League from Romania

Fagaras Pia Simona<sup>a,\*</sup>, Ursanu Adela<sup>b</sup>,  
Petrea Renato-Gabriel<sup>c</sup>

<sup>a</sup>*University of Medicine, Pharmacy, Science and Technologies "G.E.Palade", 38  
Gheorghe Marinescu Street, Tg.Mures, Romania*

<sup>b</sup>*"Gheorghe Asachi" Technical University, 67 prof. Dimitrie Mangeron, Street, Iasi,  
Romania*

<sup>c</sup>*University "Alexandru Ioan Cuza", 11Carol I Blvd., Iasi, Romania*

## Abstract

Basketball is a multi-directional team sports with complex movements such as shuffles, jumps, accelerations and decelerations. Every sport has its sets of common injuries, and basketball is no exception. The study conducted was intended to explore the injury rates in the National Basketball League from Romania, in relation to aspects, such as the gender of the players, their height and weight, age and years of experience, their position on the field, affected body area, type of injury, missed matches and recovery time. Our study has highlighted a higher injury rate amongst female athletes. These findings can be attributed to the fact that female athletes in Romania, generally do not have access to a dedicated physical therapist on their team. Concerning the relation between the position of the players and the number of injuries for each, we have found wing players to be the most susceptible. Our hypothesis was that the most common injury site is the lower extremity, in the anatomical region of the ankle. These injuries are commonly represented by sprains and strains, which was confirmed in this study, as well as other research. Both male and female athletes in the study have reported to have suffered mostly lower extremity lesions. We have found that the correlation between injuries and weight as well as injuries and height are not statistically significant. However, the number of reported injuries grew with age and experience. Contrary to most research, our results show that players suffered more injuries during practices rather than games.

*Keywords:* basketball; injuries; National Basketball Leagues.

---

\* Corresponding author. Tel.: +4-074-435-5644.  
E-mail address: pia.fagaras@umfst.ro



## Review Study On Different Methods Of Influencing Fatigue In Tennis Players

Farzat Sara Maria<sup>a</sup>, Avram Claudiu<sup>a,\*</sup>, Nagel Adrian<sup>a</sup>

<sup>a</sup>*West University of Timisoara, Faculty of Physical Education and Sport*

### Abstract

Fatigue is an overwhelming sustained feeling of exhaustion and decreased capacity to complete physical and mental work. Overtraining also lead to fatigue if the training regime exceeds the recovery capacity and may result in decreased sports performance. Objective: The aim of this review is to summarize the scientific literature that has examined the influence of fatigue in sports performance of tennis players. Methods: Using the following electronic databases Google Scholar, Pub Med and Research Gate, we searched for articles using the following keywords: tennis, training plan, sports fatigue and sports performance. We selected only those articles that aim on influencing fatigue in competitive tennis players. We identified 68 articles that meet the inclusion criteria: articles that investigated fatigue in tennis players who competes in tournaments, articles published in English language and those available in full text. We excluded articles published in abstract, that did not provide details of the method of investigation, older articles published before 2000 and articles that analyze muscle fatigue in recreational tennis players (players who practice tennis without being trained by a professional coach). Results: We have selected 25 articles that meet the inclusion and exclusion criteria. The results show that fatigue significantly influences sports performance of tennis players both in competition and in training. A major factor for delaying the onset of muscle fatigue is applying the optimum training methods, tailored to the specific individual needs of tennis players. Conclusions: Muscular fatigue experienced by competitive tennis players is influenced by the training methods, the total training time and the moment of evaluation.

*Keywords:* muscle fatigue; sport performance; tennis.

---

\* Corresponding author. *E-mail address:* [claudiu.avram@e-uvt.ro](mailto:claudiu.avram@e-uvt.ro)

# The Importance of Recovering Grip of Handball Players After Hand Injuries – A Case Study

Gidu Diana Victoria<sup>a,\*</sup>, Mușat George Cosmin<sup>a</sup>,  
Cazan Florin<sup>a</sup>, Neumann Oana Verona<sup>b</sup>,  
Oltean Antoanela<sup>a</sup>

<sup>a</sup> Ovidius University of Constanta, Faculty of Physical Education and Sport, bd Mamaia, no 124, 905500, Romania

<sup>b</sup> Bucharest Technical University of Construction, Bucharest, Romania

## Abstract

**Aim.** Compromising of the global functionality of the hand, respective, compromising of the prehension, represent a hard tolerate and compensate handicap in handball. We supposed that the use of our kinesiological therapy for recovery of prehension in handball players, will lead to efficient results of complete prehension recovery and injury prevention of the hands. **Methods.** We realized a case study on two male handball players from CSU Medgidia. The proposed recovery program was 3 sessions of the week, one hour duration, for the six weeks. Methods for assessment of the degree of recovery were scale of pain intensity, Dreiser functional index and assessment of the strength of palmar flexors (classical mechanic dynamometer – type DRP-90) **Results.** The values for pain intensity were reduced from the initial testing to the final one. Statistical analysis shown that the Dreiser functional index was significantly better at final testing, in both subjects ( $t = 5.449$ ,  $p < 0.01$  for the subject no 1, and  $t = 5.377$ ,  $p < 0.01$  for the subject no 2). And the same result was found for the strength of palmar flexors ( $t = 4.523$ ,  $p < 0.01$  for the subject no 1, and  $t = 4.657$ ,  $p < 0.01$  for the subject no 2). **Conclusions.** The kinesiological therapy is indispensable for recovery after injuries in handball players, and the subjects who used the kinesiological recovery recorded significant improvement from initial testing to the final one.

**Keywords:** prehension; handball; recovery.

---

\* Corresponding author. E-mail address: campiap@yahoo.com

# Personalized 3d Printed Hand Orthosis For Chronic Pain: A Case Study

Glazer Ciprian<sup>a</sup>, Avram Claudiu<sup>a,\*</sup>, Jurjiu Nicolae-Adrian<sup>a</sup>

<sup>a</sup>*Department of Physical therapy and Special Motricity, Faculty of Physical Education and Sports, West University of Timisoara (ROMANIA)*

## Abstract

*Introduction:* Recently, three-dimensional (3D) technology has been utilized to scan, design and fabricate orthoses for different hand pathologies and injuries. Although this method is a popular solution that raised interest in recent studies, it is hard to objectively evaluate the technique due to the lack of data and evidence in the field. *Objective:* To evaluate the feasibility of developing a personalized orthosis utilizing an accessible 3D scanner, a conventional 3D modelling software and a commercial 3D printer for a patient suffering from chronic wrist pain. *Method:* The right hand of a man with chronic wrist pain was scanned with an accessible three-dimensional scanner in order to obtain the topographic anatomy map of the segment. The prototype was modelled using conventional software and tools in order to obtain the orthosis design and the device has been printed with a commercial 3D printer. *Results:* A 3D printed orthosis was obtained following the process and methods suggested in recent relevant studies utilizing accessible 3D software and hardware. Although the manufactured device indicates a number of advantages, compared with conventional immobilization techniques in particular, it cannot yet be integrated in all pathologies rehabilitation protocols due to its faults. *Conclusion:* We designed and manufactured a patient-specific 3D printed hand orthosis for chronic pain with initial results that indicate the need of further research in order to make the method more accurate and accessible to the clinicians. We are looking forward to continuing the research with a group of patients and a matched control.

*Keywords:* 3D printed; orthosis; hand

---

\* Corresponding author. Tel.: +4-072-089-5900.  
E-mail address: claudiu.avram@e-uvt.ro

# The Impact Of The Covid-19 Pandemic On Sports Games

Grădinaru Csilla<sup>a,\*</sup>, Popescu Silvia<sup>a</sup>, Strava Cristian<sup>a</sup>,  
Stainer Brigitte-Alexandra<sup>a</sup>

<sup>a</sup>West University of Timisoara

## Abstract

**Introduction:** The COVID-19 pandemic has played a significant role globally in all current areas, this role it was seen especially on the side of sports activities, where it has a negative impact on athletes physically, competitively, emotionally, but also socially. They have been restricted for a long time, and because of this they have lost their physical condition, endurance, muscle tone and, some, even the desire to exercise. **Objectives:** The study on the impact of the pandemic had on the factors of sports, psychological and social nature made through a questionnaire. **Material and method:** The study group, consisting of 74 respondents from five sports games: football, handball, basketball, volleyball and rugby. This study is conducted in the form of a questionnaire containing thirteen questions regarding the difficulty of adapting to the rules imposed by the COVID-19 pandemic. At the same time, they made changes on their own initiative against SarsCov2 infection. These changes consisted of regular hand disinfection, social distancing and isolation from family and acquaintances, but also the activities they practiced in their free time. **Results:** According to the answers received after conducting the questionnaire in the group of athletes, it turned out that the impact of the COVID-19 pandemic is high, because all participants expressed their opinion more to the negative answers in the form. These negative opinions have the greatest weight on the conditions they have in carrying out their activities during the pandemic, at the same time the changes necessary or imposed by the authorities for social distancing had the same weight. **Conclusions:** The COVID-19 pandemic has a major impact on the influence of athletes, as preventive measures taken during this period include reducing contact with others and applying proper personal hygiene. Due to the high risks of infection during the field game, the athletes had to avoid as much as possible the physical contact they had with the competitions and to observe stricter measures for their development.

*Keywords:* COVID-19; Athletes; Impact; Pandemic.

---

\* Corresponding author. Tel.: +4-072-391-2236.  
E-mail address: csilla.gradinaru@e-uvv.ro

# Can HIIT Be Used For The Prophylaxis Of Severe Forms Of COVID-19?

Hagiu Bogdan-Alexandru<sup>a,\*</sup>, Dumitru Iulian Marius<sup>a</sup>

<sup>a</sup>*Faculty of Physical Education and Sports, Alexandru Ioan Cuza University of Iasi,  
Toma Cozma Str. no 3, Iași 700554, Romania*

## Abstract

There are sufficient theoretical and practical arguments that continuous moderate exercise can be an effective means of preventing severe forms of COVID-19. Instead, high-intensity interval training is contraindicated for this purpose, the reasons being immunological disorders and blood hypoxia that could promote infection with the SARS-CoV-2 virus of the vascular endothelium. The paper discusses the concept of an intense training program during which the oxygen saturation of peripheral blood should not fall below 92. This was made possible by the programming of an innovative design and a versatile management of the intensity of the effort during the participation in the program. Reducing the duration and frequency of neuromuscular effort intervals allows the avoidance of blood hypoxia, but HIIT has the necessary duration to achieve specific goals. We consider that the avoidance of hypoxia during HIIT also prevents the release of the inducible factor of hypoxia 1 $\alpha$  involved in the pathogenesis of COVID-19.

*Keywords:* COVID-19; blood hypoxia; HIIT.

---

\* Corresponding author. Tel.: +4-072-808-6749.  
E-mail address: b\_hagiu@yahoo.com

## Comorbidity And Life Quality Of The Elderly

Hakman Anna<sup>a,\*</sup>, Duditska Svitlana<sup>a</sup>, Medvid Anzhela<sup>a</sup>,  
Tymchuk Liudmyla<sup>a</sup>, Koshura Andrii<sup>a</sup>, Huliaieva Mariia<sup>a</sup>,  
Yachniuk Maksym<sup>a</sup>, Mykyteichuk Khrystyna<sup>a</sup>

<sup>a</sup>*Yuriy Fedkovych Chernivtsi National University*

### Abstract

The article addresses the issue of increasing the effectiveness of the use of health-promoting and recreational physical activities to improve life quality and satisfaction in the elderly. The relevance of the study is due to the fact that the progressive aging of the population in most countries of the world, including in Ukraine, is accompanied by a corresponding increase in the number of people with multiple health conditions that affect their quality of life. The purpose of the study was to determine the morbidity structure and quality of life of the elderly and to explore the possibilities of the use of health-promoting and recreational activities at the universities of the third age to improve the physical and psycho-emotional status of this group of population. To achieve the goal, the following methods were used: theoretical analysis of the data from specialized scientific and methodological literature, documentary materials, comparative analysis, data extraction from medical records, methods of assessing the morbidity structure (Cumulative Illness Rating Scale), level of satisfaction (The Satisfaction with Life Scale (SWLS)), and quality of life (36-Item Short Form Health Survey (SF-36) with modifications), methods of mathematical statistics. The study involved 91 individuals aged 60-75 years (with a mean age of 67.3 years). The study was conducted at the universities of the third age (Chernivtsi). Research results. Priority groups of diseases of the elderly, which include diseases of the organs of the musculoskeletal system (muscles, joints, and bones) and skin, diseases of the cardiovascular system, diseases of the sense organs, diseases of the nervous system, etc., were identified. It is revealed that a considerable part of the elderly have a low level of life satisfaction and poor quality of life. Possibilities of involvement of the elderly in health-promoting and recreational physical activity at the base of the third-age universities were outlined. Conclusions. On the basis of theoretical and empirical research the morbidity and quality of

---

\* Corresponding author. Tel.: +380669777304.  
E-mail address: an.hakman@chnu.edu.ua



life of the elderly were assessed. The study showed high prevalence of comorbidity in the older population that, in turn, affects the satisfaction and quality of life of the elderly.

*Keywords:* old age; morbidity; comorbidity; quality of life; satisfaction; health-promoting and recreational physical activity; third-age university.

# The Effect of Covid-19 pandemic on the Body Mass Index (BMI) and Physical Efficiency Index for High Schools Students

Hisham Abu Taha<sup>a,\*</sup>, Amro Mohamed<sup>b</sup>, Rusu Ligia<sup>a,b</sup>

<sup>a</sup>University of Craiova, Craiova, Romania

<sup>b</sup>Banha University, Banha, Egypt

## Abstract

*Introduction:* Covid 19 is a respiratory infectious virus disease that appeared by the end of 2019. People experienced covid 19, had a range of symptoms ranged from mild to acute on their physical health, including breathing difficulties, fatigue, cough, headache, joint and muscle pain, and the essential thing stayed the people at home long time without doing sports or physical activity and the student also not going to the schools.

The study aimed to identify the effect of the Covid-19 pandemic on the Body Mass Index (BMI) and physical efficiency index for students in Al-Ain city private school schools. *Material and Method:* The study sample was 75 male students were chosen from 5 different private schools. Their BMI was calculated according to their specific age using electronic devices (Omron body composition monitor BF511), and the Harvard step test was implemented to measure their physical efficiency index. *Results:* Results have shown statistical differences in their BMI, and physical efficiency index as 45% have Ideal/Healthy weight, 14% overweight, 29% obese, and 10% were underweight. As for physical efficiency, it was found that all the sample has shown generally low level, as 5.3% with low level, and 94.7% with weak efficiency level. None of the samples has shown a good or perfect level. *Conclusions:* It was concluded that the Covid-19 pandemic had a negative effect on students as more than half the sample has shown no healthy weight and obesity. Also, none could reach at least the middle level of physical efficiency index.

*Keywords:* body mass index; physical efficiency index; The Covid-19 pandemic.

---

\* Corresponding author. Tel.: +971501324487.

E-mail address: abu.hisham.t4n@student.uca.ro



# Effectiveness of the Content of the Personal Motivation Levels of the Swimming Education System in the Development of the Strength Quality of Students of Higher Education Institution

Hlukhov Ivan<sup>a,\*</sup>, Drobot Katerina<sup>a</sup>,  
Hlukhova Hanna<sup>a</sup>

<sup>a</sup>Kherson State University, University str., 27, Kherson, Ukraine, 73003

## Abstract

The application of a systematic approach to swimming training of students should take into account modern requirements, the nature and objectivity of the criteria for this process, effective experience in organizing swimming lessons, the level of swimming preparedness of students in the process of physical education. *Purpose:* to establish changes in the indexes of physical fitness of students (girls and boys) based on the implementation of individual and motivational levels of the swimming training system. *Organization.* All programs were designed for 18 classes during the first semester. This feature is determined in accordance with the minimum normatively requirements of physical education at Kherson State University (Ukraine) and the possibilities of individual teaching trajectory of students. The duration of classes was 60 minutes. *Participants.* To the study was involved students who were engaged in swimming at four individual and motivational levels of the swimming training system (1EG, the number was 23 girls and 28 boys; 2EG, n = 26 and 25; 3EG, n = 23 and 21; 4EG, n = 21 and 23 respectively). *Results.* There have been identified four individual-motivational levels of classes for students of the Higher Educational Institution within the framework of the implementation of the methodical component of swimming training system. Each of these levels has its own goals, objectives, tools and methods of training. For students at the first level, the characteristic difference is the presence of a significant fear of being in the water and the lack of ability to swim. For the students at the second level – a low level of fear of being in the water and lack of ability to

---

\* Corresponding author. Tel.: +38050-538-73-97; fax: +38050-538-73-97.  
E-mail address: swim.ks.ua@gmail.com



swim. For students at the third level – the presence of skills to stay afloat and swim in any way (original methods without the use of swimming techniques or a separate style of swimming). For students at the fourth level – the possession of swimming skills and the desire to engage in and improve techniques in the future. *Conclusions.* The use of curricula of different methodical content indicated a positive effect of physical education classes in general, with slightly higher benefits for students of separate individual and motivational levels of swimming training system. This is in some extent related to the existing level of physical fitness before entering the Higher Educational Institution. During the pedagogical experiment, representatives of all groups without exception (1-4 individual and motivational levels of the swimming training system of students of Higher Educational Institution and the control group), which involved to the study, significantly improved the average group results on most tests related to strength, speed and strength qualities.

*Keywords:* swimming; efficiency; strength qualities; students; classes.

# Analysis Of Haematological And Biochemical Indicators Among Professional Soccer Players

Honceriu Cezar<sup>a,b,\*</sup>, Oprean Alexandru<sup>a</sup>,  
Jurcău Ramona<sup>c</sup>, Drosescu Paula<sup>a</sup>

<sup>a</sup>"Alexandru Ioan Cuza" University of Iasi, Faculty of Physical Education and Sports

<sup>b</sup>Centre of Interdisciplinary Research in the Science of Human Motricity

<sup>c</sup>Medicine Faculty, "Iuliu Hațieganu" University of Medicine and Pharmacy,  
Cluj-Napoca

## Abstract

Physical effort within sports training may determine tardive adaptations at the level of apparatuses and systems involved directly or indirectly in maintaining homeostasis and increasing sports performance. The tardive blood modifications contribute to a thorough evaluation of the level of adaptation to effort. The paper features the reference level of morphological, haematological and biochemical indicators among athletes, following a study carried out on 15 professional soccer players, with a mean age of 26.53. Hence, our study reports a haemoglobin mean of 14.84 g/dL, haematocrit – 43.30 %, mean corpuscular volume 87.9 fL, mean corpuscular haemoglobin concentration – 34.28 g/dL, blood glucose – 78.3 mg/dl. Our values are comparable to those reported by other studies.

**Keywords:** haematological; biochemical indicators; soccer.

---

\* Corresponding author. Tel.: +4-074-078-2377.  
E-mail address: chonceri@yahoo.fr

## The Importance Of Sleep Quality In Running Training: A Case Study

Hrițcu Bogdan<sup>a</sup>, Mirica Silvia Nicoleta<sup>a,\*</sup>,  
Negrea Cristian<sup>a</sup>, Domokoș Martin<sup>a</sup>, Bota Eugen<sup>a</sup>,  
Nagel Adrian<sup>a</sup>, Avram Claudiu<sup>a</sup>

<sup>a</sup>West University of Timișoara, Faculty of Physical Education and Sport

### Abstract

Among young athletes, both the insufficient sleep and the total lack of it represent aspects that can be frequently found within the weekly routine. Among others, either busy daily schedule or a full nocturnal social life can have a bad influence on sleep quality and quantity. Contrary to the large number of studies that demonstrate the important relationship between sleep and sports performance, amateur athletes tend to neglect the sleep role into their daily routine. These people are at increased risk of sports injuries, acute illness, and metabolic disorders. There are studies which demonstrate that poor sleep decreases physical performance (reaction speed, endurance and sport skills), increases the cardiovascular and respiratory response to physical exercise and has a negative impact on emotional status. Some sportsmen use energy supplements in order to alleviate fatigue and to improve their physical performance, while others use sleep inductors in order to improve sleep. Medication can be a short-term solution, if it is used responsibly according to a doctor's prescription and recommendation. Within this category of athletes, a sleeping - pill addiction can occur and could be responsible for the worsening of the already installed sleep disturbances. The present case study aims to measure the impact of sleep on morning running training. We analyzed both the amount and quality of sleep over a period of 30 days in a 28 years old, male, who performed a training program consisting of 4 training sessions per week. The data for both sleep, and running performance were collected using the Garmin smartwatch (Forerunner 945) and the heart rate monitoring belt (HRM-PRO). Analyzed sleep parameters were: Sleep stages (deep, easy, rapid eye movement, awake) duration, sleep score, blood oxygen saturation, respiratory rate, and resting heart rate (HR). Running performance was analyzed using: running speed and pace, average HR and respiratory rate. The data analysis highlights the fact that sports performance is closely related to sleep quality and quantity, some parameters being strongly

---

\* Corresponding author. *E-mail address:* [nicoleta.mirica@e-uvt.ro](mailto:nicoleta.mirica@e-uvt.ro)



associated. Awareness of sleep importance is essential in both elite and amateur sportsmen.

*Keywords:* sleep; running; sport performance.

## Short-Term Therapeutic Effects Of Biopton Light Therapy And Dry Needling For The Treatment Of Low Back Myofascial Pain In Amateur Sport Players

Iacob George Sebastian<sup>a,\*</sup>, Pantyo Valerij<sup>b</sup>,  
Vrabie Diana<sup>a</sup>, Zelenovic Milan<sup>c</sup>, Măzăreanu Alexandru<sup>d</sup>

<sup>a</sup>*"Alexandru Ioan Cuza" University of Iași, Faculty of Physical Education and Sports, Toma Cozma 3, Iași, 700554, Romania*

<sup>b</sup>*Uzhhorod National University, Faculty of Medicine, Narodna Square 3, Uzhhorod, 88000, Ukraine*

<sup>c</sup>*University of East Sarajevo, Faculty of Physical Education and Sport, Aleksa Santic 3, Sarajevo, 71420, Bosnia and Herzegovina*

<sup>d</sup>*University of Bucharest, Faculty of Biology, Mihail Kogalniceanu 36-46, Bucharest, 050107, Romania*

### Abstract

Low back pain represents a very common situation which requires an individual treatment from a sport physiotherapist. More and more complex short-term therapeutic methods are a part of the nowadays treatment options. Biopton light therapy and dry needling are well known as effective treatment methods for a high category of myofascial disorders. The aim of the study is to identify and present the short-term effects of a combined treatment for the low back myofascial pain: the systematic use of the biopton light therapy and dry needling. The subjects of the research were 36 amateur sport players (20-37 years old), having the main criteria for selection of an active myofascial pain located in the lower back area. The physical assessment of the subjects was indicated by the visual examination, finger-to-floor distance, Modified Schober's test and evaluation of the pain during palpation using visual analogue scale. The research subjects were structured in two equal groups which followed two different therapeutic plans during one month (2 sessions/week): dry needling techniques for group A; biopton light therapy and dry needling techniques for group B. Manual therapy techniques including deep tissue massage, trigger point and stretching were used for both groups during every therapy session. Compared to the baseline measurements, participants in both treatment groups reported significant reductions in pain

---

\* Corresponding author. Tel.: +4-074-549-3982.  
E-mail address: georgesebastianiacob@gmail.com



during palpation ( $p < 0.05$ ) and movement. A significant increase of lumbar spine range of motion (flexion) had been observed in the final Modified Schober's test measurement (4.68 cm for group A; 5.06 cm for group B,  $p < 0.05$ ).

*Keywords:* myofascial pain; Modified Schober's test; light therapy; trigger points; medolight.

# Aspects Regarding The Kinematics Of Direct Free Throwing At Young People Between 10 And 18 Years Old

Iacob Mihai-Radu<sup>a,\*</sup>, Merticaru Eugen<sup>b</sup>, Budescu Emil<sup>b</sup>,  
Puni Alexandru-Rareș<sup>a</sup>

<sup>a</sup>"Alexandru Ioan Cuza" University of Iasi, Faculty of Physical Education and Sports,  
Street Toma Cozma, Nr. 3, Iași, Romania

<sup>b</sup>"Gh. Asachi" Technical University, Mechanical Engineering Faculty, Biomechanics  
Laboratory, Iași, Romania

## Abstract

The paper deals with the direct free throw in the basketball game and analyses the success of the throw depending on the throwing distance, the height of the player, the initial throw velocity. Also, it is taken into account the interaction between the ball and the basket. There is studied the influence of the height of the children over the age of 10. The trajectory of the ball is written and some mathematical conditions are imposed in order to increase the success of the throw. Some calculations are done and numerical results are obtained. The paper can be useful for basketball coaches and for specialists in sports biomechanics.

*Keywords:* basketball; young people; kinematic; trajectory; biomechanic.

---

\* Corresponding author. Tel.: +4-074-287-1508.  
E-mail address: iacobradu1975@gmail.com



## Job Satisfaction and Romanian Athletes' Commitment

Iancu Augustin<sup>a,\*</sup>, Stepan Amalia-Raluca<sup>b</sup>,  
Cosma Alexandru, Cosma Germina<sup>a</sup>

<sup>a</sup>*Doctoral School of Social Sciences and Humanities, University of Craiova, Craiova, Romania*

<sup>b</sup>*INCESA, University of Craiova, Craiova, Romania*

### Abstract

The present research aimed to establish the differences and relations in terms of job satisfaction and commitment, depending on some specific variables, among a sample of Romanian athletes. The present study involved 42 people aged between 18 and 52 years, M=42,55, AS=8,07. The participants are members of sports clubs and hold various positions within them. Job satisfaction was measured with the Job Satisfaction Scale and commitment was measured with the Organisational Commitment Scale. The results showed that there are no major differences between clubs in terms of employee engagement and job satisfaction, depending on the facilities, the existence or absence of the development strategies, the existence of ongoing development programs or training courses at which athletes could participate. Statistically, significant differences have argued that organisational development is higher among participants who are part of clubs where there are contracts with athletes in comparison with those who are part of clubs where there are no such contracts and job satisfaction is a significant positive predictor of work commitment.

*Keywords:* commitment; job satisfaction; athletes; development strategies.

---

\* Corresponding author. Tel.: +4-072-058-6895.  
E-mail address: gusti.iancu@gmail.com

## Guidelines for the Physical Education and Sport Lesson in Romania

Iconomescu Teodora Mihaela<sup>a</sup>, Olaru Bogdan Sorin<sup>a</sup>,  
Talaghir Laurentiu-Gabriel<sup>a,b,\*</sup>, Berdila Anamaria<sup>a</sup>,  
Rus Cristian Mihail<sup>c</sup>

<sup>a</sup>Dunarea de Jos University of Galati, domneasca street no. 47, 800008, Romania

<sup>b</sup>South Ural State University, Prospect Lenina street, 454080 Chelyabinsk, Russia

<sup>c</sup>"Alexandru Ioan Cuza" University of Iasi, bdul Carol no. 11,700063, Romania

### Abstract

The contemporary period in Romania is dominated by the accession to the European Union, which implicitly means the assimilation of the values that EU promotes. Related to the subject of Physical Education, in European education systems, but also in the international environment, a movement has emerged that has proposed a new trend, called the knowledge-based approach. This paper aims at analysing the Romanian domain-specific literature and at determining whether the new guidelines may be applied in this country as well. In order to achieve this endeavour, we shall take into account, on the one hand, the representative works that deal with the theory and teaching methods of Physical Education and Sport and the new changes that have appeared in recent years, at the level of specialized curricula, and, on the other hand, the publishing of the Physical Education and Sport textbook. The knowledge-based approach has its foundation in the theory and didactics of Physical Education and Sport and is justified by the existence of a "specialized theoretical knowledge" component in the educational process. Another result that proves the presence of this new guideline is given by the changes made to the curricula, which, through the proposed general competencies, make no reference to the traditional approach (sport-based approach). The current main guideline of Physical Education and Sport in Romania is the sport-based approach. However, with the changes made to the curricula and, also, with the appearance of the textbook, one may notice a trend that has its origin in the new European values.

*Keywords:* knowledge-based approach; physical education; new trend.

---

\* Corresponding author. Tel.: +4-074-503-3806.

E-mail address: gtalaghir@ugal.ro

# Predicting Figure Skaters Jump Performance Using Neural Networks Based On Anthropomorphic Measurement

Ionescu Anca<sup>a,\*</sup>, Ionescu Vlad<sup>b</sup>

<sup>a</sup>*Department of Motor Performance, Faculty of Physical Education and Mountain Sports, Transilvania University of Brasov, Brasov 500036, Romania*

<sup>b</sup>*Interdisciplinary Doctoral School, Transilvania University of Brasov, Brasov 500036, Romania*

## Abstract

This study is aiming to develop and validate a predictive model using neural networks on competitive figure skaters' jump performance based on anthropometry measurements, optical sensor data and neural network models. The data was collected from competitive skaters representing two different countries (Turkey and Romania), covering a two years span (2018 - 2020). We have developed a neural network model for predicting figure skaters' performance, more precisely if an athlete will be able to successfully land by the end of next season a jump with two and a half revolution (900°). The most powerful predictors turned out to be the body mass index (BMI) and the athletes' age. The model was trained and tested on two different data sets achieving a 95% accuracy, which were cross-validated with competition performance. Upon analyzing the result, we found out that a lower BMI could help the athlete achieve difficult jumps. Furthermore, we looked at the personal bests of world-class figure skaters and compared their scores with their BMI, which confirmed our findings. We have also surveyed the skating community in-order to compare the results of the current study with their perceived performance improvement based on BMI.

*Keywords:* Figure Skating; Outcome Measures; Anthropometry; Modeling; Neural Networks; Machine Learning; ICE Plots.

---

\* Corresponding author. Tel.: +4-075-512-6565.  
E-mail address: anca.ionescu@unitbv.ro

# Attracting European Funds In Sport – A Comparative Analysis Of Good Governance In Romania And Italy

Ionescu Anca-Maria<sup>a,\*</sup>, Monica Stănescu<sup>a</sup>

<sup>a</sup>National University of Physical Education and Sport, Bucharest, Romania

## Abstract

In a complex, ever-changing environment, sports entities face new challenges, mainly due to a low recreation and sport expenditure per inhabitant, underfunding from the state budget, and a low absorption rate of European funds. From 2014 until now, on the sport component of the Erasmus+ program, 1176 projects have been funded, 234 projects having as coordinators sports structures in Italy, compared to only 49 projects funded with coordinators sports entities in Romania. Thus, Italy ranks first in the EU in accessing Erasmus + grants on the sports component, followed by Spain, Croatia, Bulgaria, France, Greece, Slovenia, and Romania. In the current European context, where there are countless funding opportunities from non-reimbursable funds, we must learn from countries with a good tradition in attracting European funds in sport. From a comparative perspective, this article aims to analyze which contexts favored or not the increase of the number of projects with European funds in Romania and Italy in the domain of sport. The results demonstrated an implicit link between a country with an effective good governance system and the number of European projects and successful investment outcomes. Italy has a better performance in terms of good governance than Romania, so we can conclude that EU funds have more impact and contribute more to long-term economic development, where good governance is safeguarded.

*Keywords:* good governance; sports entities; good governance in sports entities; principles and indicators of good governance; European funds.

---

\* Corresponding author. *E-mail address:* anca@tangoact.ro

# The Level Of Motor Skills Development Compared To The Requirements Of The National Evaluation System In Grade 4 Students

lordăchescu (Elena) Marina<sup>a,\*</sup>,  
Georgescu (Bărtăgui) Carmen Mariana<sup>a</sup>,  
Orțănescu Dorina<sup>a</sup>

<sup>a</sup>University of Craiova/ Doctoral School of Social Sciences and Humanities,  
Craiova, Romania

## Abstract

A good knowledge of the level of development of motor skills of students allows us to identify/improve/establish the level of manifestation of its components and the relationships between them. Physical fitness is a strong indicator of health in childhood and adolescence and a main objective for the specialist in the field. In this context, the present study was carried out in 2018-2019 and aimed to determine the level of development of motor skills in fourth-grade students from several school units in Craiova, compared to the requirements of the national evaluation system. Materials and methods. In order to ascertain the level of somatic and motor development of the group included in the present approach, anthropometric measurements and motor tests were applied, namely: height, weight, torso/chest height, abdominal perimeter, arm span, the standing long jump, supine trunk lifts, the 25m running speed and the long-distance running. The recording methods applied were those already standardized. Results. Following the analysis of the recorded data we can state that, as far as somatic indicators are concerned, the investigated group presents values below the average of students of the same age in both girls and boys, and there are no significant differences between sexes. However, there is a downward trend in the average values in the motor tests, many of the recorded values being above the requirements of the national evaluation system. Also, the body mass index calculated for the target group has values that place the students in a comfortable range, the average being below the underweight threshold. Conclusions. We consider

---

\* Corresponding author. Tel.: +4-074-576-4935.  
E-mail address: marinasu@yahoo.com



such approaches very useful, both for a diagnosis of what is actually happening in the school, and for applying targeted intervention programs to improve any deficiencies.

*Keywords:* physical education; motor skills; development; classes.

# Review Study On Posture Analysis With Digital Optic System in Visual and Infrared Spectrum

Jurjiu Nicolae-Adrian<sup>a,\*</sup>, Avram Claudiu<sup>a</sup>

<sup>a</sup>*Department of Physical therapy and Special Motricity, Faculty of Physical Education and Sports, West University of Timisoara (ROMANIA)*

## Abstract

**Introduction:** Clinical methods of assessing postural control, such as static and dynamic balance, in the standing position and functional tests for assessing posture provide important information for clinical practice. However, difficulties may be encountered with the duration of the test, the accuracy with the type of the position information and the cost of the assessment are provided. Optical devices such as Microsoft Kinect™, which use a digital camera system (depth and infrared) provide real-time data on static and dynamic posture using three-dimensional anatomical landmarks (3D), which is an easy configurable alternative, portable and inexpensive for posture assessment.

**Objective:** This study aims to analyze the usefulness and reliability of Kinect-type optical devices in assessing static and dynamic posture, but also in monitoring the physical therapy program. **Material and method:** In this article a systematic documentation was made using databases: google scholar, science direct, pubmed and research gate, using the following search terms to identify relevant articles for this topic: Kinect, posture, static and dynamic balance. The inclusion criteria were: articles in English available to be downloaded in full-text format published after 2010, the date the device was launched. Items that used the sensor for a purpose other than medical purposes were excluded. **Results:** The studied articles showed that the Kinect device was tested and used to evaluate the accuracy in terms of recognizing human posture in different environments, different anatomical positions and by association with different objects. Most authors stated that this method of evaluation using complex optical systems such as Kinect has an accuracy of over 90%. **Conclusions:** In conclusion, the present study demonstrates that posture analysis with the Kinect device is reliable for assessing static and dynamic posture, as well as for guiding patients during physical therapy programs.

**Keywords:** Kinect; posture; static and dynamic balance.

---

\* Corresponding author. Tel.: +4-072-283-7494.  
E-mail address: nicolae.jurjiu@e-uvv.ro

## Structure, Contents and Efficiency of The Modern Competition System In American Football

Khimenes Khrystyna<sup>a,\*</sup>, Pityn Maryan<sup>a</sup>,  
Lynec Mykhajlo<sup>a</sup>, Antonov Sergij<sup>a</sup>,  
Kharchenko-Baranetska Ludmyla<sup>b</sup>

<sup>a</sup>*Lviv State University of Physical Culture named after Ivan Boberskyi,  
Kostushko str., 11, Lviv, Ukraine, 79007*

<sup>b</sup>*Kherson State University, University str., 27, Kherson, Ukraine,  
73003*

### Abstract

Today, modern professional sports are being transformed, that primarily caused by public demands regarding the form and content of the sports spectacle. In accordance with this, the leading leagues of professional sports improve the structure and content of competition systems. This contributes to the interest of the audience and, accordingly, their revenue in billions of \$. The league that receives the highest profits from its activities today is the National Football League (NFL). *Purpose.* To determine the content of the components modern NFL competition system and to identify its organizational and economic efficiency. *Material and methods.* The study was mostly theoretical. It was based on an analysis of information resources and documents related to the organization of competitions in the NFL. The research methods were theoretical analysis and generalization, historical method, theoretical interpretation and explanation; analysis of documentary materials, system analysis. *Results.* The competition system in the NFL today is one of the most effective in both organizational and economic aspects. First of all, the League is guided by the study of the needs of modern consumers of sports services, the economic and political situation in the United States and the situation with quarantine restrictions in the last two years when it making adjustments to structure and content to the competition system. The structure of the championship is now as follows: 32 teams divided into two conferences, containing four divisions and 4

---

\* Corresponding author. Tel.: +38093-671-88-79; fax: +38093-671-88-79.  
E-mail address: kh.khimenes@gmail.com





teams in each of them. The championship consists of two stages – the regular season and the playoffs (Wild Card round, Divisional Round, Conference Championships and Super Bowl). Team meetings are planned according to the developed formula in such a way that they play the largest number of matches with those who are closer in the territorial location. This saves money of NFL on relocations. In general, the NFL competition system is designed in such way that the intrigue about the winner persists throughout the season.

*Keywords:* American football; competitions; components; factors; revenue.

# Taxonomy Of Study Programs In The Interference Of The Physical Education And Sports Profile

Larion Alin<sup>a,\*</sup>, Popa Cristian<sup>a</sup>, Melenco Ionel<sup>a</sup>

<sup>a</sup>*Ovidius University of Constanta, Faculty of Physical Education and Sport, 900470,  
Romania*

## Abstract

This paper examine the manner in which a curriculum for physical education bachelor is designed. Starting to skills and competences describes we propose a matrix of learning achievement personalized to Physical Education study program for bachelor degree. This matrix was sent to different stakeholders (alumni student, master and PhD students, professors and employers) in order to complete a list of learning outcomes. Therefore we develop a matrix of knowledge and skills necessary for a PETE to entry in professional practice. The descriptors of learning achievement have been grouped into three categories: knowledge and understanding, applying and wider competences. Each of them includes one or more competencies and skills. The first step in designing a curriculum is to identify the related set of competences to be developed by learning outcomes. The set of competences are described and standardized in ISCO08 (ESCO08) only for teachers. PETE has some specificity: multidisciplinary, working with children with different ages and concerns. From European perspective, an important step in construction of curriculum is to find a set of descriptors based on knowledge, understanding, knowledge applying, making informed judgments, communication and capacity to continue learning. The result of this interview was used to design the program study for Physical Education.

*Keywords:* physical education; designing; learning achievement; learning outcomes.

---

\* Corresponding author. Tel.: +4-072-246-3021.  
E-mail address: alinlarion@yahoo.com

# Aspects Of The Analysis Of Motor Capacity According To Positions In The Game Of Rugby Seven's Female

Lepciuc Gabriela<sup>a,\*</sup>

<sup>a</sup>The State University of Physical Education and Sport Chişinău, str. Andrei Doga 22,  
Republica Moldova

## Abstract

*Introduction.* Rugby is a game in which the rules are regularly evaluated and changed to make the game more attractive, safer, and faster for spectators. This affects the requirements of the game and the profile depending on the position of the game. *Objective.* The purpose of this work is to analyze and prove that in the game of rugby 7 there are no major differences between the two compartments depending on the motor capacity. *Material and method.* In the present work, 14 players were investigated, performance sportswomen from the rugby team in 7 women's C.S. Politehnica Iasi. The tests applied were: speed over the distance of 10 m and 50 m, CMJ, agility test 505 and VamEval. The statistical analysis was done using the SPSS Statistics 23 program. *Results.* The results of the tests proved that the physical profile of the athletes is homogeneous, there are no significant differences between the compartments. *Conclusions.* The results of this study show that a good athlete is a good rugby player in seven. Polyvalence is an advantage of rugby players in 7 because it gives them the opportunity to quickly move from the position of forward to that of a player of backwards and vice versa.

*Keywords:* motor capacity; game positions; monitoring; performance; rugby sevens.

---

\* Corresponding author. Tel.: +4-075-742-6943.  
E-mail address: gabriela\_lepciuc@yahoo.com

# Review Study On The Efficiency Of The Use Of Kinesiologic Tape In Performance Athletes

Liute Ștefan-Octavian<sup>a</sup>, Inciulescu Marius-Iulian<sup>a</sup>,  
Pantea Corina<sup>a,\*</sup>, Vutan Ana-Maria<sup>a</sup>

<sup>a</sup>West University of Timișoara, Bd. Vasile Pârvan no. 4, 30022, Romania

## Abstract

*Introduction.* In Asia, in the early 1970s, a new concept was developed - kinesiological tape. Physiotherapists use the kinesiological band in both performance or amateur athletes and patients who are in a kinetic recovery program. The exact mechanisms by which the kinesiological band acts on the body have not yet been fully elucidated. *Aim.* The aim of the study was to identify in the literature the information about the potential positive or negative effects offered by the use of kinesiological tape in performance athletes that had suffered injuries and also to identify potential prophylactic effects in healthy athletes. *Material and method.* The selection of articles was made using the Google Scholar search engine, where 98 studies were found in the databases of ResearchGate, PubMed, MinervaMedica, Journal of Athletic Training, Journal of Orthopedic & Sports Physical Therapy. Only studies on groups of performance athletes were included. *Results.* Of the 28 selected articles, 12 studies showed results in which there were increases in performance and improvements in some parameters, in 12 studies it was concluded that there were no beneficial or significant effects, and in 4 articles the results of applying the bands kinesiological and placebo effect had relatively similar positive effects. *Conclusions.* Kinesiology tapes do not seem to bring major benefits in terms of the performance in healthy athletes. Regarding the potential prophylactic effect of kinesiological bands, several complex and longer studies need to be performed. But the kinesiological bands could be considered as an adjuvant method in rehabilitation.

*Keywords:* kinesiologic taping; performance athletes; sports pathologies.

---

\* Corresponding author. Tel.: +4-072-262-9829.  
E-mail address: corina.pantea@e-uvt.ro

# Physical Therapy Approaches in the Recovery of Patients with Cerebellar Infarction

Lucaci Paul<sup>a</sup>, Neculăeș Marius<sup>a,\*</sup>, Drosescu Paula<sup>a</sup>

<sup>a</sup>"Alexandru Ioan Cuza" University of Iasi, Faculty of Physical Education and Sport, 3  
Toma Cozma Str., 700554, Iasi, Romania

## Abstract

The functional recovery of patients with cerebellar infarction is complex and challenging because this condition has numerous implications, manifestations and various sequelae. This study analyses the possibility of re-educating balance and gait for patients with cerebellar infarction, through physical therapy strategies used in the period of convalescence. Functional assessment using the stabilometric platform and specific gait tests were our ways of evaluating the subjects' evolution and analysing the findings. Our research sample included 17 patients. They underwent a functional exploration 30 days post cerebellar infarction and 3 months after the physical therapy programs for the re-education of balance and gait. Our findings highlight the contribution of the physical therapy programs for the re-education of balance and gait in regaining gait autonomy and resuming daily living activities in the case of patients with cerebellar infarction. The conclusions of the study underline the need of physical therapy intervention and complex recovery treatment strategies for patients with cerebral vascular lesions.

*Keywords:* neuromotor rehabilitation; balance; gait; assessment; stabilometry.

---

\* Corresponding author. Tel.: +4-074-463-7342.  
E-mail address: marius.neculaes@uaic.ro

## Study regarding the Benefits of Managerial Coaching in Sports Organization

Macra-Oșorhean Maria-Daniela<sup>a</sup>,  
Crișan Cristian Sebastian<sup>b</sup>, Boroș-Balint Iuliana<sup>a</sup>,  
Ciocoi Pop Dumitru-Rareș<sup>a</sup>, Radu Paul Ovidiu<sup>a,\*</sup>

<sup>a</sup>Babeș-Bolyai University, Cluj-Napoca, Romania  
<sup>b</sup>Crișan Swimming Club SRL, Cluj-Napoca, Romania

### Abstract

Managerial coaching and team coaching are part of organizational coaching and represent the process by which one or more coaches support the team in achieving the desired change, organizational coaching involving change in existing skills, by enriching them and learning new one, in terms of values, by transforming them at the level of employees' beliefs and behaviours, at the motivational level. *Objective.* The main objective of this study is to investigate the effect and benefits of managerial coaching in a sports organization. *Materials and methods.* In this study, two questionnaires „The Multidimensional Work Motivation Scale, MWMS” and „Work Performance Scale, WPS” were applied, and the data were analyzed and interpreted using the SPSS V.20 program. *Results and discussion.* The 95% interval confidence does not include the 0 value, the lower and upper values being negative. There are differences from the completion of the first questionnaire and after the completion of the last questionnaire, these being statistically significant, which means that the coaching intervention had an effect. The T-test helped us to determine if there were any differences, but it could not specify the size of the effect. Pearson (r) correlation analysis confirms a strong, statistically significant, and positive correlation between work motivation and performance ( $r = 0.980$ ,  $p=0.01<0.05$ ). The ANOVA analysis data specific that the intervention has an effect,  $F(1,3) = 49.5$ ,  $p = 0.02<0.05$ . *Conclusions.* In the present study, the increase of motivation and performance through managerial coaching was confirmed following two weekly sessions of 90 minutes each, the results being statistically significant. Moreover, 96.1% of the variance in professional performance was predicted by motivation at work, which emphasizes the importance of the managerial coaching process.

*Keywords:* managerial coaching; coaching in sports organization; performance; motivation.

---

\* Corresponding author. E-mail address: radu.paul1993@yahoo.ro

# The Influence Of Open And Closed Chain Movements On Postural Balance In Visually Impaired Children

Maniu Dragos-Adrian<sup>a,\*</sup>, Maniu Emese-Agnes<sup>b</sup>

<sup>a</sup>*Babeş-Bolyai University Cluj-Napoca, Faculty of Physical Education and Sport, 7 Pandurilor Street, Cluj Napoca, 400376*

<sup>b</sup>*Babeş-Bolyai University Cluj-Napoca, Doctoral School in Physical Education and Sport, 7 Pandurilor Street, Cluj Napoca, 400376*

## Abstract

The visual system allows the brain to evaluate information about the body's position in space. Blindness, whether congenital or acquired, causes aberrant sensorymotor interactions, which leads to the development of common musculoskeletal abnormalities, altered gait patterns and postural balance. Humans primarily employ vision, out of all of the body's sensory systems, to allow the brain to assess information about the relative location of the body in space and modify posture accordingly. The aim of this study was to investigate the changes in postural balance following open kinematic chain exercises through swimming activities in which subjects did not have support, and closed kinematic chain activities through climbing activities in which subjects used 2 or 3 support points. In both ways the movements were performed in a homologous or cross-coordinated model. 24 visually impaired children aged between 7 and 12 participated in the study for a 6 month period, 2 sessions weekly. 12 children were part of the swimming group and 12 of the climbing group. We assessed the postural balance using the AMTI NET force BP 400600. At the end of the study all the children showed statistically significant changes of the postural balance  $p \leq 0,05$ . CKC and OKC both type of exercises influence postural control of visually impaired children. CKC exercises proved to be more efficient in postural stability for visually impaired children. The climbing group showed greater improvements in postural balance than the swimming group.

*Keywords:* Climbing; swimming; visually impaired; postural balance; close and open chain movement.

---

\* Corresponding author. Tel.: +4-075-103-6911.  
E-mail address: dragos.maniu@ubbcluj.ro

## The Effect Of Climbing And Swimming Activities On Self-Esteem Of Visually Impaired Children

Maniu Emese-Agnes<sup>a,\*</sup>, Maniu Dragos-Adrian<sup>b</sup>,  
Grosu Vlad-Teodor<sup>c</sup>, Grosu Florina-Emilia<sup>a</sup>

<sup>a</sup>*Babeş-Bolyai University Cluj-Napoca, Doctoral School in Physical Education and Sport, 7 Pandurilor Street, Cluj Napoca, 400376*

<sup>b</sup>*Babeş-Bolyai University Cluj-Napoca, Faculty of Physical Education and Sport, 7 Pandurilor Street, Cluj Napoca, 400376*

<sup>c</sup>*Babeş-Bolyai Technical University of Cluj, Faculty of Mechanical Engineering, Memorandum Street 28 Cluj Napoca, 400114*

### Abstract

The foundation for personal growth and development is self-esteem. Children with strong self-esteem are more inclined to trust their own judgment and to be willing to try new things, investigate new concepts and activities, create and maintain friendships, reach out to individuals in need, and as kids grow older, they take on more responsibilities. The aim of this study was to investigate the effects of climbing and swimming on self-esteem in visually impaired children. 30 visually impaired children aged between 7 and 12 participated in the study for a 6 month period, 2 sessions weekly. children swam twice a week for 60 minutes and 15 children climbed twice a week for 60 minutes. We used the Coopersmith – Self- Esteem Inventory to asses the measure of the extent to which one believes that he or she is talented, successful, and that his or her life has meaning and value. The Inventory mesures 4 specific aspects of self-esteem, namely: general self, social self-peers, home-parents, and school-academic. After the intervention all children showed statistically significant changes of self-efficacy levels  $p \leq 0, 05$  for the total score of the inventory. Analized seperetly all 4 aspects improved. The climbing group showed higher levels of self efficacy than the swimming group.

*Keywords:* Climbing; swimming; visually impaired; self-esteem.

---

\* Corresponding author. Tel.: +4-074-604-7831.  
E-mail address: emesita2004@yahoo.com



# Evaluation Of Conscientiousness Among Rugby Players During Puberty

Martinaș Florentina-Petruța<sup>a,\*</sup>, Cojocariu Adrian<sup>a</sup>

<sup>a</sup>"Alexandru Ioan Cuza" University of Iași, Str. Toma Cozma nr.3, Iași, 700554,  
Romania

## Abstract

During puberty, young athletes face many changes and transformations, both physically and psycho-emotionally. Thus, many studies focus on the importance of personality characteristics in sports performance. The aim of this paper is to assess the conscientiousness, the main factor of personality, and its facets, among rugby players during puberty. Thus, we assume that rugby players in puberty, in the area of Moldova, have high values of conscientiousness and its facets, but also consider that there are significant differences between the values of facets, depending on the gender and city of origin of the players. In this regard, 132 male and female rugby players were investigated (68=male and 64=female) during puberty, from several teams from different cities in Moldova (N total=132, Gura Humorului=22 boys, Bârlad=23 boys, Iași M=23 boys, Iași F=35 girls, Pașcani=29 girls). To assess conscientiousness, the Big Five Questionnaire@plus\_short was applied, a tool that investigates all personality factors, built and validated on the Romanian population in accordance with the Big Five model. The individual results were generated and interpreted by the PsihoProfile platform, and the values of the five meta-factors and their facets were introduced and analyzed using the IBM SPSS Statistics 20 program, using analysis tools such as descriptive statistics, Anova and multiple comparison. The results of our research show us high values of conscientiousness and its facets among rugby players, but at the same time there are significant differences between the values of some facets.

*Keywords:* rugby; puberty; personality; conscientiousness.

---

\* Corresponding author. Tel.: +4-075-185-1970.  
E-mail address: petruta.martinas@uaic.ro

# Study On The Efficiency Of Finalisation Specific To 9-Meter Handball Players, Seniors

Muntean Raul - Ioan<sup>a,\*</sup>

<sup>a</sup>Faculty of Law and Social Sciences, Department of Physical Education and Sports,  
Alba Iulia, 51009, Romania  
University "1 Decembrie 1918" of Alba Iulia, Street Gabriel Bethlen Nr. 5, 510009,  
Romania

## Abstract

In this study we will present the results obtained after the investigation of 18 players located on the position of right back, left back and center, from 3 teams (CSM Focșani 2007, HC Voința Savinidue Sebeș and HC Sibiu), who participated in the national competitions between 2011-2017. Throwing at the goal, regardless of the throwing mode used (flung, launched or pushed), can be executed from the spot, from running, from jumping, from plunge, with crossed steps, skipping, this was the triggering idea of the approach we made in this research to identify the effective throwing procedures more often used by the players of the nine-meter line in the teams of the National Championship of Romania, Division A. The data retrieval for this research was done with the help of match sheets, in which each throw at the goal of one of the players of the 9-meter line was centralized according to the completion process used. As a result of the analysis and processing of the data obtained as a result of the recordings made at the matches of the handball teams participating in the study, a series of particularly interesting results have emerged regarding the efficiency of the completion procedures specific to the players from the nine-meter line.

*Keywords:* handball; seniors; performance; left back; center; right back.

---

\* Corresponding author. Tel.: +4-074-322-7033.  
E-mail address: r.muntean92@gmail.com

# Handball Player's Recovery After The Injury Of The Anterior Cruciate Ligament

Muntean Raul - Ioan<sup>a,\*</sup>

<sup>a</sup>Faculty of Law and Social Sciences, Department of Physical Education and Sports,  
Alba Iulia, 51009, Romania  
University "1 Decembrie 1918" of Alba Iulia, Street Gabriel Bethlen Nr. 5, 510009,  
Romania

## Abstract

In this study, we have tried to make a recovery treatment with kinetic exercises, for the postoperative recovery of the rupture of the anterior cruciate ligament and its reconstruction by ligamentoplasty, of a performance handball player, active for 13 years, male, 24 years old, in helping him return to his sporting life and the active life he has, in the shortest possible time. The reason why I chose to do this study is obvious in the foreground being my personal recovery after ligamentoplasty, also to improve my theoretical and practical knowledge about this condition, and as a physiotherapist to be able to help other athletes, colleagues, who face the problem of returning to the sports field as soon as possible, and to have the same performance as before the surgery. The duration of the kinetic recovery program was 5 weeks, starting from the first day after the intervention. This program began with an initial assessment by joint testing and muscle testing on the first day, before starting the proposed recovery program. The physiotherapy program consists of 26 exercises, which can be done in a physiotherapy room, with the help of a physiotherapist. This program was applied twice a day to the research subject, obtaining positive results.

*Keywords:* handball; sports; performance; ligament; muscle.

---

\* Corresponding author. Tel.: +4-074-322-7033.  
*E-mail address:* r.muntean92@gmail.com

## 2d:4d Ratio of Junior Handball and Football Players in Correlation with Somatic Measurements

Muntianu Vlad-Alexandru<sup>a,\*</sup>, Abalașei Beatrice-Aurelia<sup>a</sup>,  
Trofin Florin Petruț<sup>a</sup>, Vizitiu Maria – Emilia<sup>b</sup>

<sup>a</sup>University "Alexandru Ioan Cuza", Faculty of Physical Education and Sports, Str.  
Toma Cozma 3, 700554, România

<sup>b</sup>National University of Physical Education and Sports, Str. Constantin Noica, nr. 140,  
Sector 6, Bucharest, Romania

### Abstract

Such as any sports discipline, is imperative to have a better understanding of the player's behavior as well as a good assessment of their level of physical development even if we are to speak about the junior period. The aim of this study is in a first phase to assess the players on from two perspectives. One is related to the 2D/4D ratio, a measurement taken from the two fingers from their hand, that can be connected to aggressiveness, and the other is related to the somatic evaluation in order to see if there is any correlation between these two aspects. As methods we have used, for the first measurement, a digital caliper for a better measurement of the hand, and for the somatic measurement we used two pieces of equipment: for assessing the height we have used an infrared telemeter and for the assessment of the body mass and BMI we used a body analyzer for a more accurate output of data. The subjects of the study were represented by a number of 92 junior players, more exactly 46 handball players and 46 football players, with ages between 14 and 15 years. Conclusions will be withdrawn after analyzing the information received from the statistical analysis.

*Keywords:* aggressivity; junior football players; junior handball players; correlation.

---

\* Corresponding author. Tel.: +4-074-277-0767.  
E-mail address: vlad.muntianu@uaic.ro

# Initial Assessment Of Basketball Player Performance To Study Movement Stability And Balance

Muresan Dorin-Alexandru<sup>a,\*</sup>, Apostu Dragoș<sup>c</sup>,  
Ordean Mircea-Nicolae<sup>d</sup>, Arghir Mariana<sup>b</sup>,  
Grosu Emilia Florina<sup>a</sup>

<sup>a</sup>*Faculty of Physical Education and Sport, "Babeș-Bolyai" University, Cluj-Napoca, ROMÂNIA*

<sup>b</sup>*Department of Mechanical Engineering Systems, Technical University of Cluj-Napoca, ROMÂNIA*

<sup>c</sup>*Department of Orthopaedics and Traumatology, University of Medicine and Pharmacy, Cluj-Napoca, ROMÂNIA*

<sup>d</sup>*"1 Decembrie 1918", University of Alba-Iulia, ROMÂNIA*

## Abstract

This paper presents the motor behaviour of 8 basketball players, 5 women and 3 men, aged between 15 and 31 years old. Balance and movement stability tests are performed using the HUBER® 360 platform in order to obtain the necessary information to avoid injuries while practicing high-performance sports. This study applies to athletes, because sports pathologies, which belong to injuries, have negative effects on the health of the enhancers for a short period of time, if they are detected in time and long-term, otherwise. The preliminary testing on the HUBER 360 device specialized in establishing the performance capacities of the athletes and not only, by detecting certain peculiarities of the athletes, makes it possible to correct them and thus improve the sports performances. The measurements made on a group of basketball players, men, and women, is appropriate to the sport practiced as professionals and thus can establish training measures and technologies for the targeted athletes. In this way, the improvement of sports performances, of their health, but also of the elimination of those subjects for whom the practice of performance sports would be destructive or cannot reach the performance required of sport in this case "basketball". Among those investigated, it is found that corrective trainings must be applied, but it can also be specified those directions, positions, and speeds of travel, which must be avoided or

---

\* Corresponding author. Tel.: +4-074-820-6178.  
E-mail address: alex.d.muresan@gmail.com



used with caution. The method presented in this paper can be considered pioneering in the field and it is part of the doctoral thesis of the main author.

*Keywords:* basketball players; balance tests; movement stability tests; avoid injuries.

## System-information Support Optimization Of Control Of Physical Preparedness In Physical Education Of Students

Mykytyuk Zinovya<sup>a</sup>, Blavt Oksana<sup>a,\*</sup>, Kozibroda Larissa<sup>a</sup>,  
Andres Andrii<sup>a</sup>, Stadnyk Volodymyr<sup>a</sup>, Gurtova Tatyana<sup>a</sup>

<sup>a</sup>Lviv Polytechnic National University, 12 Bandera street, Lviv, 79013, Ukraine

### Abstract

*Purpose:* of the study is the implementation of information and communication technologies in the test control of the parameters of physical fitness in the process of physical education of students. *Methods.* General scientific methods were used to solve the research problems: analysis, synthesis, generalization, induction, systematization and as well as applied method – scientific modeling. The methods used to obtaining empirical data were the pedagogical experiment, pedagogical testing mathematical methods for processing digital files, and system-functional analysis. *Results.* The paper presents a developed hardware and software complex based on modern microprocessor devices and electronic devices. The complex consists of a set of sensor devices, an electronic interface unit and a personal computer. The method of assessing the level of development of the parameters of physical fitness is that the student's body has a sensor with a digital output. The signal received by the sensor enters the electronic unit of the interface. The signal is then transmitted by wireless infrared devices to a personal computer. According to the calculations, the reliability validity of the test coefficient of the parameters of physical fitness test used in the study, the results of which were recorded in the traditional way, is between low and medium, By changing the way the results are recorded, we have achieved that the test validity has reached a high level. *Conclusions.* The use of the presented hardware and software complex in the test control of the parameters of physical fitness of students ensures the objectivity of the testing procedure, which is a requirement of a modern approach to the educational process. An innovative information control tool intensifies the process of testing, obtaining and processing information and structuring it in the form of a real-time database.

*Keywords:* testing; control; physical education; student; information and communication technologies; physical fitness.

---

\* Corresponding author. Tel.: +380686407767.  
E-mail address: oksanablavt@ukr.net

# Psychophysiological Properties and Mental Processes of Football Players 11-12 Years

Nakonechnyy Roman<sup>a,\*</sup>, Okopnyy Andriy<sup>a</sup>,  
Neroda Neonila<sup>a</sup>, Zadorozhna Olha<sup>a</sup>, Ivanska Olena<sup>b</sup>

<sup>a</sup>*Lviv State University of Physical Culture named after Ivan Boberskyj,  
Kostushko str., 11, Lviv, Ukraine, 79007*

<sup>b</sup>*Zaporizhzhia National University, Zhukovskogo St., 66, Zaporizhzhia, Ukraine, 69600*

## Abstract

The performance of the football player in the game, is related to the peculiarities of functioning of his nervous system (strength, mobility and balance of nervous processes), features of mental processes (memory, attention, thinking, etc.) and psychophysiological properties (time of simple and complex reactions, etc.), because the search by the player on the football field of the most optimal solution to the game situation occurs in conditions of lack of time, space limit and high psychological stress, which requires this high level of manifestation of certain opportunities. *Material and methods:* One hundred children who play football at FC Lviv Youth Sports School took part in the experiment, 46 of them were 11 year old and 54 football players were 12 year old. Assessment of psychophysiological properties and mental processes of football players aged 11-12 was carried out with the help of a computer-hardware complex for testing "Neurosoft-psychotest" and personally as a researcher of selected methods. *Results and discussion:* 12 year-old football players have a slight advantage in all tests compared to 11-year-olds. Differences in the indicators of psychophysiological authorities and mental processes of football players of two groups of 11 and 12 years were found only for three selected methods (choice reaction -  $p \leq 0.01$ , attention -  $p \leq 0.01$  and Troika test -  $p \leq 0.001$ ) in favor of older football players. Were studied in both groups, regardless of age, showed a high level of intelligence, showed psychophysiological and mental processes. *Conclusions:* The results show that there are no differences between the level of psychophysiological and mental indicators of football players aged 11-12. Based on the obtained results, it is expedient to assert the

---

\* Corresponding author. Tel.: +38093-473-30-94; fax: +38093-473-30-94.  
E-mail address: roma\_1960@ukr.net





existence of reasonable preconditions for the beginning of the implementation of a purposeful process of tactical training with 11, 12 years old football players.

*Keywords:* football players of 11-12 years; psychophysiological properties; mental processes; tactical training and preparation.

# Methodical Aspects In The Functional Recovery Of Patients With Complex Humerus Fractures

Neculăeș Marius<sup>a</sup>, Lucaci Paul<sup>a,\*</sup>

<sup>a</sup>*"Alexandru Ioan Cuza" University of Iasi, Faculty of Physical Education and Sport, 3  
Toma Cozma Str., 700554, Iasi, Romania*

## Abstract

In the past years, the incidence of humeral fractures has increased. In our recovery practice, we have seen more and more cases of severe posttraumatic fractures at the upper limb level. For their recovery, we require thorough anatomy and biomechanics notions by the physical therapist, besides the rehabilitation principles adapted to the objectives of the treatment plan. In this paper, we presented through a case study the phase-based methodology of the recovery program for a male patient aged 33, with a comminuted fracture of the upper middle third of the humerus, which occurred during an arm-wrestling match. The research findings highlight the favourable evolution of the patient's mobility and muscle strength, which allowed his socio-professional reinsertion. Our conclusions underline that the methodology of the selected physical therapy manoeuvres carefully particularised to the type of fracture and its localisation may lead to the functional recovery of the upper limb, thus regaining the abilities and possibilities of performing daily living activities.

*Keywords:* rehabilitation; regaining mobility; muscle strength; physical therapy.

---

\* Corresponding author. Tel.: +4-076-352-0768.  
*E-mail address:* paul.lucaci@uaic.ro

# Level of Physical Activity and Perception of Anxiety

Negru Ioan Niculaie<sup>a,\*</sup>

<sup>a</sup>*Babeş-Bolyai University, 7 Pandurilor Street, Cluj-Napoca, 400376, Romania*

## Abstract

*Aim:* The aim of this study is to determine the physical activity level of those involved, how they perceive anxiety and whether the physical activity level can influence individuals' degree of anxiety. *Methods:* This study included 84 subjects (with a median ages of 40.25 years), girls (n = 30) and boys (n = 54). The data collection tools we used are the short form of the Physical Activity Questionnaire and the anxiety measurement scale developed by Hamilton. *Results:* 50% of the respondents have a high level of physical activity, 41.67% a moderate level, and 8.33% a low level. As for perception of anxiety, 89.29% perceive mild anxiety, 5.92% mild to moderate anxiety, while 4.76% perceive severe anxiety. A statistical analysis of our data indicates that there is a negative statistical relationship ( $\rho = -0.279$ ,  $df = 82$ ,  $p = 0.01$ ) between the level of physical activity and the level of anxiety. *Conclusions:* Most of the subjects' physical activity level is high and moderate according to reports, although 41.67% are above normal weight. A high level of physical activity positively influences the perception of anxiety, by reducing it.

*Keywords:* physical activity; vigorous; moderate; anxiety.

---

\* Corresponding author. Tel.: +4-075-241-3191.  
E-mail address: ioan.negru@ubbcluj.ro

# Satisfaction With Life Of Female Athletes And Non-Athletes With Physical Disabilities According To Differentiated Levels Of Assistive Technology Use

Nemček Dagmar<sup>a,\*</sup>

<sup>a</sup>*Comenius University in Bratislava, Faculty of Physical Education and Sports,  
Department of Sport Sciences in Educology and Humanities, Nábr. Arm. Gen. L.  
Svobodu 9, 814 69 Bratislava, Slovakia*

## Abstract

Individuals with disabilities who are using or not using assistive technology (AT) have varied and dynamic feelings and thoughts about their lives which contribute to satisfaction with their life. The objective of the present study was to analyse and compare the satisfaction with life in groups of female athletes and female non-athletes with physical disabilities according to differentiated levels of assistive technology use. Female athletes (n=53) and female non-athletes (n=89) with differentiated levels of AT use were split into three groups at wheelchair users (n=50), other AT users (n=50), and without AT use (n=40). The Satisfaction with Life Scale was used as a primary research method. The study confirms that there are significant differences in satisfaction with life among female athletes with physical disabilities according to the differentiated levels of AT use. Female athletes who are not using any AT for their daily mobility are the most satisfied with their life compared to female athletes' wheelchair users or other AT users. No significant differences were found in satisfaction with life among female non-athletes with physical disabilities according to the differentiated levels of AT use. Recreational therapists should offer opportunities to try to spend leisure time through sports activities in females with physical disabilities, especially to those who are not participating in any sport leisure activities, offering them specific sport disciplines that do or do not require AT use. They can be encouraged to participate in programs and activities, experience beneficial effects on their health and well-being and hand in hand increase satisfaction with their life.

*Keywords:* statements; overall satisfaction with life; female; athletes; non-athletes; wheelchair users; assistive technology users.

---

\* Corresponding author. Tel.: +421-02-206-699-29; fax: +421-02-206-699-29.  
E-mail address: dagmar.nemcek@uniba.sk

# Subjective Well-Being Of Elite Junior Racket Sports Players

Nemček Juraj<sup>a</sup>, Nemček Dagmar<sup>b,\*</sup>

<sup>a</sup>*Comenius University in Bratislava, Faculty of Physical Education and Sports, Department of Sports Games, Nábr. Arm. Gen. L. Svobodu 9, 814 69 Bratislava, Slovakia*

<sup>b</sup>*Comenius University in Bratislava, Faculty of Physical Education and Sports, Department of Sport Sciences in Educology and Humanities, Nábr. Arm. Gen. L. Svobodu 9, 814 69 Bratislava, Slovakia*

## Abstract

Single sport specialization, high training load, frequent competitions with a focus on competitive success, and high expectations from coaches, or parents are characteristics of today's youth elite sports, and can significantly affect young athlete's subjective well-being (SWB). Three groups of top elite junior racket sports players (n=56; males, n=27, and females, n=29) categorized by the sports specialization were recruited for the study: tennis players (n=35), badminton players (n=11), and table tennis players (n=10). The objective of the study was to analyse the SWB of the Slovak elite junior racket sports players and compare the differences among tennis players, badminton players, and table tennis players. A standardized, The Bern Subjective Well-Being Questionnaire on Adolescents was used as a primary research method. No significant differences were revealed in SWB among three samples of elite junior racket sports players according to SWB dimensions. Significant differences were revealed in three SWB items the Current physical difficulties dimension. Tennis and table tennis players declare significantly higher problems with sleep compared to badminton players. Tennis and badminton players have significantly bigger digestive problems such as stomach ache than table tennis players, and table tennis players feel significantly more unusually tired compared to tennis and badminton players.

*Keywords:* subjective well-being; dimensions; items; tennis players; badminton players; table tennis players.

---

\* Corresponding author. Tel.: +421-02-206-699-29; fax: +421-02-206-699-29.  
E-mail address: dagmar.nemcek@uniba.sk

# Comparative Study on Cultural Differences in Sport Camp in Romania

Nichifor Florin<sup>a,\*</sup>, Muntianu Vlad Alexandru<sup>a</sup>

<sup>a</sup>Universitatea "Alexandru Ioan Cuza" din Iași, Bld. Carol I, nr. 11, 700506, România

## Abstract

This research aims to compare the elements of cultural specificities in sport camps in Eastern Romania (Oglinzi Targu Neamt, Arted and Muncel) camps in Western Romania (Adeona Apuseni, Carpathia and Sun Adventure) which refer to following the activity of manager and management team, the attitude of employees, customer behavior (children, students, young people, adolescents, athletes), mental behavioral and attitudinal conditions in the context of efforts to ensure the functioning of the camp. Cultural differences were analyzed based on criteria that enable comparison. Intercultural Management calls them cultural dimensions. I analyzed the overlaps and interferences between these cultural dimensions, in order to highlight the most important aspects and to consider them within my research. The research series comprises 332 subjects, of whom 34 are represented by the managerial staff of the three camps (14 persons in the Oglinzi camp, 10 persons in the Arted camp, 10 persons in the Muncel camp) vs (14 persons in the Adeona Apuseni camp, 10 persons in the Carpathia camp, 10 persons in the Sun Adventure camp and 298 are represented by clients of the three camps (171 persons in the Oglinzi camp, 77 persons in the Arted camp, 50 persons in the Muncel camp) vs. camps (171 persons in the Adeona Apuseni camp, 77 persons in the Carpathia camp, 50 persons in the Sun Adventure camp) Subjects were both females and males and they were divided by age categories, as follows: the personnel of the three camps into two groups – 20-40 years old (personnel with low or average experience) and 41-60 years old (personnel with high experience), while the clients into two groups: 7-12 years (preadolescents) and 13-18 years old (adolescents). Results were analyzed qualitatively and quantitatively using SPSS – version 17.

*Keywords:* cultural dimensions; intercultural; sports camp; cultural differences.

---

\* Corresponding author. Tel.: +4-074-236-2434.  
E-mail address: florinnichifor71@yahoo.com

## Dual Career - Concept and Representation for a Group of Students of the Faculty of Physical Education and Sports

Onose Ionut<sup>a,b</sup>, Onose Raluca-Mihaela<sup>a,\*</sup>,  
Abalasei Beatrice-Aurelia<sup>a,b</sup>

<sup>a</sup>"Alexandru Ioan Cuza" University of Iasi, Iasi, Romania

<sup>b</sup>"Alexandru Ioan Cuza" University of Iasi, Doctoral School in Sport Science and  
Physical Education, Romania

### Abstract

The phrase "double career/dual career" is an association of words that we sometimes encounter in everyday life. Undoubtedly, the term is relatively new in the socio-human approach, optimizing the goal and objectives of an individual representing successful models for professional fulfillment. The possibility of a sudden and uncontrolled termination of a sports career can be a moment with a strong emotional impact on young people. Awareness and education of their perspective can be achieved by acting in the direction of a double career, as a control mechanism for subsequent success. This study was attended by 61 students of the Faculty of Physical Education and Sports of the University "Alexandru Ioan Cuza" in Iasi, and the results were analyzed using the prototypical-categorical technique of Verges, verified by Havârneanu's technique to identify the representation social status of double-careers. The 287 associations of the notion "double career" were divided into the following categories: personal development, sacrifice, profession, benefits, obstacles, competition, material advantages. The conclusion of the research presents a vacuum of knowledge regarding the phrase "double career", a situation that can be remedied by using existing initiatives that can be taken over and implemented in Romania: the development of research on dual careers for athletes with early specialization or late, specific educational programs (to increase the chances of success of athletes), the provision of good practice guides, investments in programs presented in the national language.

*Keywords:* dual career; education; sports; students.

---

\* Corresponding author. Tel.: +4-074-043-9987.  
E-mail address: ralucaonose@yahoo.com

# Correlation Between Body Mass Index And Perception Of Body Weight In A Lot Of Students From The Faculty Of Physical Education And Sports From Iasi

Onose Raluca-Mihaela<sup>a</sup>, Popescu Lucian<sup>a</sup>,  
Onose Ionut<sup>a,\*</sup>, Albu Adriana<sup>b</sup>

<sup>a</sup> "Alexandru Ioan Cuza" University of Iasi, Iasi, Romania

<sup>b</sup> "Gr. T. Popa" University of Medicine and Pharmacy, Iasi, Romania

## Abstract

Adequate body weight is essential for maintaining good health but also for practicing physical activities in good condition. Material and methods: The study was conducted on a group of 142 students from the three sections of the Faculty of Physical Education and Sports, 50 students from „Physical Education and Sport Section”, 33 from the „Sports and motor performance” and 59 from „Physical Therapy and Special Motricity” were interviewed. A questionnaire was applied with questions regarding the values of anthropometric indicators, the perception of body weight and daily eating habits. The processing of the results was done with the help of the Pearson test. Results and discussions: the normal values of the body mass index are present in 77.64% of students, and the perception of body weight is adequate in 74.42 % of the situations. The correlation of BMI - weight precepts shows statistically significant difference at a  $p < 0,0001$  for the students from the three studied sections. Morning food intake is recognized by 87.3% of students with different statistically significant ( $p < 0.05$ ) drawing attention to the high percentage of physical education students who start the day with minimal energy reserves. The dominant intake of dairy products is 2-3 times a week (42.25%) as well as that of cheeses (45.07%), with various statistically insignificant. Eggs are also consumed 2-3 times a week (56.33%) with various statistically insignificant. Bread is present in the menus daily (50.70%) and fruits 2-3 times (42.25%) per week with various insignificant. Conclusions: We draw the attention of the students from the physical education faculty who systematically make a physical effort but who are not supported by an adequate nutrition.

*Keywords:* physical activity; nutrition; health.

---

\* Corresponding author. Tel.: +4-074-459-6993.

E-mail address: onoseionut@yahoo.com



# Body Composition Evolution Of Romanian Professional Rugby Players – Backs

Oprean Alexandru<sup>a,\*</sup>

<sup>a</sup>*Alexandru Ioan Cuza University of Iasi, Str. Toma Cozma, nr 3, Iasi, Romania*

## Abstract

The evolution of the rugby game in recent years in Romania, has brought with it the need for updating to the morphological and functional specificity of the players. Knowledge of the somatic profile and adapting it to the game requirements, will surely determine a performance improvement. The purpose of this study is to highlight the evolution of some morphological particularities of the players from the backs compartment, within a four year range. The hypothesis in this study is that the average body composition improves in the direction of a higher lean mass amount related to the progression of speed and power in the rugby game. Material and methods – the study was conducted in preseason of 2015-2016 Romanian first league and again in preseason of 2019-2020. The study was conducted on 14 backs, players of the first Romanian rugby league. Conclusions – The body composition of backs ranges within the standards generated by similar studies. . The tested centres present the poorest results on body composition, although they improve the results within four years.

*Keywords:* body fat; lean mass.

---

\* Corresponding author. Tel.: +4-074-596-1759.  
*E-mail address:* alexandru.oprean@uaic.ro

## Plyometric Training – a Method for Improving Speed Running for Junior Football Players

Ormenișan Vasile Septimiu<sup>a</sup>, Radu Paul Ovidiu<sup>a</sup>,  
Rozsnyai Radu Adrian<sup>b,\*</sup>

<sup>a</sup>*Babeș-Bolyai University, Cluj-Napoca, Romania*

<sup>b</sup>*National Academy of Music Gheorghe Dima, Cluj-Napoca, Romania*

### Abstract

Compared to the classic one, the nowadays football game is much more complex, because it is characterized by rapidity, high intensity, game speed, dynamism, the players having more and more tasks during the game. Polymetric exercises are proven methods that have already gained the confidence of practitioners in that they manage to provide greater speed to the body. Plyometric exercises are proven methods that have already gained the confidence of practitioners in that they manage to provide greater speed to the body. Training sessions USR be very well structured and efficient, in order to introduce these types of exercises in the preparation of football players. Objectives. The main objective of this research paper has been to prove that by using the plyometric exercises, the speed of football players aged 14-15 can be significantly improved, in comparison to the classical methods. Means and methods. The study group was composed of 30 athletes, 15 for the control group and 15 for the experimental group, athletes from the football club "U" Evolution Cluj-Napoca. The study was carried out during 6 weeks, from 12 July 2021 to 20 August 2021. The evaluation of the speed was realized with the Microgate Witty Manager equipment. The speed test applied to the players was running in a straight line for 30m. The data were analyzed and processed using the SPSS V.20 statistical program, applying the Shapiro-Wilk test to check the normal distribution, the T test (student), and in the case of values with uneven distribution, the non-parametric Mann-Whitney (U) tests were used. For sample-pairs, was applied the Wilcoxon test. Results. During the statistical analysis of the speed values over the distance of 30m for unpaired samples, no statistically significant differences were observed between the two groups at the first repetition (T1) ( $p > 0.05$ ), but statistically significant differences were observed between the two groups during the second repetition (T2) ( $p < 0.05$ ). On the statistical analysis of the

---

\* Corresponding author. Tel.: +4-074-810-6042.  
E-mail address: radurozsnyai@yahoo.com



speed values over the distance of 30m for paired samples, no statistically significant differences were observed between the two repetitions (T1 and T2) at any of the groups ( $p > 0.05$ ). Conclusions. Following the statistical analyzes of the obtained results, we registered improvements and increases in almost all the studied items of the applied tests. Thus, we have demonstrated the efficiency of integrating the plyometric exercises in the training program for football players aged 14-15.

*Keywords:* football; plyometric training; improving speed; juniors level.

# Cross-Cultural Adaptation of the STARS Questionnaire for Greek-Speaking Athletes

Patsiaouras Asterios<sup>a,\*</sup>, Nounos Georgios<sup>a</sup>,  
Stirbu Ilie-Catalin<sup>b</sup>

<sup>a</sup>University of Thessaly /DPESS, Karies, Trikala 42100, Greece

<sup>b</sup>Department of Sports and Physical Education, University of Iasi, Iași-700554,  
România

## Abstract

**Objectives:** To cross-culturally adapt the STARS questionnaire for Greek-speaking athletes and evaluate its psychometric properties. **Background** The STARS was developed in the English language to evaluate one's ability to bounce back from adversity or change and overcoming obstacles. In general, the validity and use of self-administered questionnaires in different language and cultural populations require a specific procedure to maintain their content validity. **Methods:** The STARS-GR Version questionnaire was translated and cross-culturally adapted according to specific guidelines. The validity and reliability were tested in 27 healthy advance level athletes. Participants completed the questionnaire at baseline and after 15–17 days. **Results** The questionnaire's face and content validity were judged as good by the expert committee, and the participants. The STARS-GR Version exhibited very good test–retest reliability (ICC=0.793,  $p<0.001$ ; 95% CI 0.502 to 0.914) for state variable and (ICC=0.859,  $p<0.001$ ; 95% CI 0.661 to 0.942) for trait variable, and internal consistency since Cronbach's  $\alpha$  analysis ranged from  $\alpha=0.645$  to 0.784 following a 15–17 days interval. Additionally, correlation coefficient (Pearson  $r$ ) between state and trait variable ranged from  $r=0.598$  (at 0.01 level) in pre post to  $r=0.676$  (at 0.01 level) following a 15–17 days interval. **Conclusions** The translated STARS\_GR Version is a valid and reliable questionnaire, and its psychometric properties are comparable with the original version and can be used in sport settings.

**Keywords:** resilience STARS\_GR version; questionnaire; sport.

---

\* Corresponding author. Tel.: +302431047060, fax: +302431047042.  
E-mail address: spats@uth.gr

# The Role of Motor Control and Proprioception in Enhancing Sports Performance. Review of the Literature

Pop Nicolae Horațiu<sup>a</sup>, Ilisei Irina<sup>a,\*</sup>

*<sup>a</sup>Babeș-Bolyai University, Faculty of Physical Education and Sport, 7 Pandurilor Street, Cluj-Napoca, 400000, Romania*

## Abstract

Movement arises from the integration of proprioceptive information from mechanoreceptors and the interaction of processes related to perception, cognition, and action. Enhancing sports performance via different training methods has been extensively investigated, yet the role of motor control and proprioception underlying this subject is still unclear. The purpose of this paper is to offer a better understanding of theoretical and practical aspects of motor control and proprioception as well as their place in sports training. Effects of proprioceptive interventions have been studied through active movement training and wearable resistance training, meanwhile, effects of motor control interventions have been studied through jumping towards specific heights and external focus of attention. Evidence suggests that proprioception and motor control interventions can underline sports performance.

*Keywords:* motor control; proprioception; sports performance; training methods.

---

\* Corresponding author. Tel.: +4-074-016-2173.  
E-mail address: irinailisei27@gmail.com

## Evaluation Of Specific Spine Mobility During Functional Activities

Popa Catalin<sup>a</sup>, Sakizlian Eduard Robert<sup>a</sup>, Miron Doina<sup>a</sup>,  
Sandu Oana Alis<sup>a</sup>, Marin Mihnea<sup>b</sup>, Rusu Mihai Robert<sup>a</sup>,  
Rusu Ligia<sup>a,\*</sup>

<sup>a</sup>University of Craiova-Sport Medicine and Physical Therapy Department, Craiova,  
200585, Romania

<sup>b</sup>University of Craiova-Mechanical Faculty, Craiova, 200585, Romania

### Abstract

*Introduction:* Functional daily activities involve an overload of spine and this need to analyse the complex assessment of spine mobility and design a prophylactic physical therapy program. The aim of this research is to make the biomechanic evaluation of segmentary spine mobility during functional activity. *Material and Method:* The study included 20subjects(avg age 30yrs old). The biomechanical analysis has been made in the Laboratory of Innovative Processes and Techniques in Bioengineering - Research Infrastructure in Applied Sciences – INCESA - University of Craiova with a complex system of capture and image processing VICON. Markers were applied at thoracic and lumbar level of the spine and 3 angles were defined and measured during the activity of walking and raised the object the object, in 4positions: u11-between T10(thoracic 10) and L1(lumbar 1) around L2(lumbar2); u12-between L1 and L3(lumbar 3), around L2; u13-between L2 and L4, around L3. *Results:* an amplitude of 90 degree for position1, 40 degree for position 2, 20 degree for position 3, 95 degree for position 4, average value for all three angles being closed to the same value 170 degree; maxim mobility was at L2-L4 segment, but the difference from maxim and minim values is on angle u11, and is 1,75 degree from position 1 to position 4. The amplitude is high on first segment of the lumbar spine, because is possible to have an interaction between trunk strength and sagittal lumbar mobility of the spine. *Conclusions:* Biomechanical analysis of spinal mobility for each segment could give information about interactions mobility - muscle activity, during specific activities, helping the physician to design the protocols for evaluation and estimating the point of maximal overuse at spine.

*Keywords:* spine; biomechanic; mobility.

---

\* Corresponding author. Tel.: +4-072-386-7738.

E-mail address: ligiarusu@hotmail.com

# A Study Of How Worldwide Basketball Was Influenced By The Pandemic

Popescu Silvia<sup>a,\*</sup>, Gradinaru Irinel Sorin<sup>a</sup>

<sup>a</sup>West University, Timișoara, Romania

## Abstract

The following article aims to analyse the impact of COVID-19 on the basketball industry and on professional players. It serves as a benchmark for players' unions, basketball's stakeholders, governments and the media to highlight the importance of players' contribution during this global pandemic and documents the impact of professional basketball players around the world. The article analyses the role basketball players play in the fight against COVID-19, both in emergency response and in helping to restore sport and society. It aims to demystify misconceptions about player solidarity, and to protect players from abuse and inappropriate financial demands and disproportionate expectations during this time of global crisis. It further highlights the support needs of many players around the world as they face a host of uncertainties, including unemployment. The way out of this crisis requires significant private contributions, commercial and public affairs so that our societies can cope with the immediate impact and repercussions of this virus. There will never be enough effort in this context. While government support and the role of public institutions are essential in the recovery process, private and corporate contributions, in all their forms, have an important role to play in sustaining public efforts and helping as needed. The courage to change and the solidarity between players, clubs, leagues, and federations will be essential in finding fair and sustainable measures for a better future for basketball.

*Keywords:* basketball; pandemic; sport crisis.

---

\* Corresponding author. Tel.: +4-072-196-4980.  
E-mail address: [silvia.popescu@e-uvv.ro](mailto:silvia.popescu@e-uvv.ro)

# Traumatology And Sport Injuries In Professional Athletes

Popovici Ileana-Monica<sup>a</sup>, Lepciuc Gabriela<sup>b</sup>,  
Radu Liliana-Elisabeta<sup>a,c,\*</sup>

<sup>a</sup>*"Alexandru Ioan Cuza" University of Iași, Carol I Boulevard 11, Iași, 700506, Romania*

<sup>b</sup>*State University of Physical Education and Sport, Andrei Doga 22, Chișinău,  
Moldavia Republic*

<sup>c</sup>*University of Latvia, Raina Boulevard 19, Riga, LV-1586, Latvia*

## Abstract

The objective of this study was to investigate the frequency of sport injuries in professional handball and rugby players. A total of 111 athletes were interviewed (25 female handball players, 17 male handball player, 24 female rugby players and 45 male rugby players) by means of an online questionnaire, women (n=49) with an average age  $23.65 \pm 3.71$  years with an average sport experience of  $9.75 \pm 4.03$  years and men (n=62) with an average age  $26.15 \pm 7.44$  with an average of  $8.30 \pm 5.81$  for sport experience. In total 264 injuries were reported in detail (130 injuries for women and 134 for male). The predominating types of sustained injuries were contusions (1), muscle sprains and strains (2), tears of the ligament that hold joints together (3), tears of tendons that support joints and allow them to move (4), dislocated joints (5), and fracture bones, including vertebrae. Persistent pain at any site was reported by 33,7 % and the most injuries were registered for women handball players and male rugby players. In the last competition year (2020-2021) the number of injuries reported was 71. Even the competition year was adapted at the pandemic situation, the number of injuries were higher, especially for male rugby players. This study illustrates some key differences in injury patterns between male and female, between rugby players and handball players, that may reflect underlying gender differences and contrasting playing styles.

*Keywords:* athletes; injury; sport performance; handball; rugby.

---

\* Corresponding author. Tel.: +4-074-201-8239.

E-mail address: liliradu2004@yahoo.com



# The First Stage of Development of the Modern Olympic Movement According to the Author's Complex-factual Periodization

Prystupa Yevhen<sup>a</sup>, Briskin Yuriy<sup>a</sup>,  
Neroda Neonila<sup>a,\*</sup>, Perederiy Alina<sup>a</sup>, Svistelnyk Iryna<sup>a</sup>

<sup>a</sup>*Lviv State University of Physical Culture named after Ivan Boberskyj,  
Kostushko str., 11, Lviv, Ukraine, 79007*

## Abstract

The multifaceted and dynamism of the Olympic movement allows scientists to use a variety of criteria for periodizing its development. The vast majority of authors views on the periodization of development of the Olympic movement have a pronounced problem-oriented rather than generalized nature. This requires updating information and identifying further stages of development of the modern Olympic movement in accordance with changes in sports industry, international politics and the world economy; refusal to use events Games of the Olympiad as an exclusive criterion for periodization and mandatory consideration of the events an integral part of the Olympic movement - Winter Olympic Games; factual objectification of determining the boundaries of stages (periods), etc. *Purpose.* To substantiate and update the time limits of the main stages of development of the modern Olympic movement and to characterize its first stage. *Material and methods.* The study was based on the analysis of information resources and documents related to the research issues, history and activities of the International Olympic Committee (IOC). The following methods were used: theoretical analysis and generalization, scientific induction, systems approach, historical method *Results.* A preliminary comprehensive analysis of the factual material made it possible to assume the existence of the following stages in the development of the Olympic movement: 1894 - 1914; 1919-1939; 1946-1971; 1972 - 1984; 1985 -2013; since 2014 years. As the limits for the first stage of development of the Olympic movement, we propose 1894 and 1914 - from the "*Congress on the Revival of the Olympic Games*", which defined the strategic objectives of the Olympic movement, to the VI Olympic Congress, which detailed the competencies of the main components of the Olympic movement. (IOC, NOC,

---

\* Corresponding author. Tel.: +38067-722-24-37; fax: +38067-722-24-37.  
E-mail address: neonila290081@gmail.com



IF, as well as OCOG), specified the requirements for participants in the Olympic Games. The first stage is associated with the initial formation of the structure and organizational foundations of the Olympic movement. The priority directions of the IOC's activities at this stage were aimed at forming the organizational structure of the Olympic movement, regulating the holding and increasing the popularity of the Olympic Games and pedagogical aspects of sports activities. Further research will be aimed at factual substantiation of the proposed stages in the development of the modern Olympic movement.

*Keywords:* Olympic Games; Olympic movement; periodization.

## Complex Control of Special Readiness in High Performance Sports

Prystupa Yevhen<sup>a</sup>, Tyshchenko Valeria<sup>b,\*</sup>,  
Omelianenko Halyna<sup>b</sup>, Bessarabova Olena<sup>b</sup>,  
Dyadechko Igor<sup>b</sup>

<sup>a</sup>*Lviv State University of Physical Culture named after Ivan Boberskyj,  
Kostushko str., 11, Lviv, Ukraine, 79007*

<sup>b</sup>*Zaporizhzhia National University, Zhukovskogo St., 66, Zaporizhzhia, Ukraine, 69600*

### Abstract

*The purpose of the research* – to substantiate the effectiveness of using a number of indicators of technical and tactical preparedness of high-skilled football players in the general system of complex control of the special preparedness. *Material and Methods.* Were used to substantiate the informativeness of a set of benchmarks: method of analyzing the effectiveness of the technical and tactical skills of high-qualified football players, conducted on the basis of literary data and our own pedagogical observations; the calculation of a number of coefficients of efficiency, reliability, feasibility of technical and tactical actions of players using conventional mathematical methods. The state of the technical and tactical preparedness of the team is made by calculating a generalized assessment using algorithm. *The object of study* is the indicators of the technical and tactical preparedness of highly qualified football players at the level of national tournaments and a number of official international and friendly matches. *Results.* The results of the study have shown a rather large variation, which occurred in almost all ten parameters of technical and tactical actions. The systematization of a large amount of factual material allowed to classify the quantitative and qualitative indicators of the technical and tactical actions of football players. *Conclusions.* Quantitative and qualitative criteria for evaluating the effectiveness of individual technical and tactical actions have been developed. The algorithm of calculation of the generalized quantitative estimations and the table of their qualitative interpretation is presented.

*Keywords:* technical and tactical preparedness; high-skilled football players; complex control; special preparedness.

---

\* Corresponding author. Tel.: +38097-248-76-58; fax: +38097-248-76-58.  
E-mail address: valeri-znu@ukr.net

# The Kinematics of the Serving of the Ball in Volleyball

Puni Alexandru-Rares<sup>a,\*</sup>, Merticaru Eugen<sup>b</sup>,  
Budescu Emil<sup>b</sup>, Iacob Mihai-Radu<sup>a</sup>

<sup>a</sup>"Alexandru Ioan Cuza" University of Iasi, Faculty of Physical Education and Sports,  
Street Toma Cozma, Nr. 3, Iași, Romania

<sup>b</sup>"Gh. Asachi" Technical University, Mechanical Engineering Faculty, Biomechanics  
Laboratory, Iași, Romania

## Abstract

The paper deals with the Serving the ball in volleyball game. Using the kinematic model of the oblique throw, the paper is studying the conditions which must be fulfilled in order to ensure the success of the serving. Some calculations are made and numerical results are obtained.

The paper can be useful for volleyball coaches and for the specialists in sports biomechanics.

*Keywords:* volleyball; service; kinematic; trajectory; biomechanic.

---

\* Corresponding author. Tel.: +4-074-546-0578.  
E-mail address: punirares@yahoo.com

# The Link Between Heart Rate Variability And Endurance In Swimming

Purcaru Mircea<sup>a,\*</sup>, Jari Sabri<sup>b</sup>, Teodorescu Silvia<sup>a</sup>

<sup>a</sup>*National University of Physical Education and Sports, Faculty of Physical Education and Sport, Bucharest, Romania*

<sup>b</sup>*Spiru Haret University, Faculty of Physical Education and Sport*

## Abstract

Heart rate variability is a relatively new measurement in sport that can predict sport performance. Unfortunately, it is underused because usually it is not simple to measure it. In the last years, because of the increase of the investment in sport, many companies tried to make different devices to make this measurement easier. In this study, for 21 days, 10 elite swimmers aged between 12 and 14 years old were observed. All the swimmers are experienced ones, being ranked in the first 2 places at Romanian National Championships in at least one swimming event. In this period, they performed 3 endurance tests, at a 10-day interval. The endurance test consisted of a 30 minutes continuous swimming at maximum speed, these tests being named T-30. Heart rate variability was measured in every morning, right before practice, on the swimming deck. For this measurement was used a very easy to use device, iThlete, a photoplethysmography which was attached to a mobile phone. The time needed for measurement is only 55 seconds and the value is very easy to interpret. The link between swimming endurance and the heart rate variability measurement was interpreted. The results showed us that heart rate variability influenced the results in swimming endurance with a  $p\text{-value} < 0,001$ .

*Keywords:* Swimming; heart rate variability endurance.

---

\* Corresponding author. Tel.: +4-074-564-1453.  
E-mail address: mircea\_purcaru@yahoo.com

# The Role Of Physical Exercises In Improving Coordination In 6-7-Year-Old Children

Rață Bogdan-Constantin<sup>a,\*</sup>, Larion Alin<sup>b</sup>

<sup>a</sup>"Vasile Alecsandri" University of Bacau, Calea Marasesti, no. 157, Bacau, 600115,  
Romania

<sup>b</sup>"Ovidius" University of Constanta, Bulevardul Mamaia 124, Constanta, 900527,  
Romania

## Abstract

The research aims to show that the use of physical exercises in Physical Education (PE) lessons leads to improved coordination, but also to increase the effort capacity. The purpose of this study was to evaluate the impact of the use of exercise on improving coordination in 6-7-year-old children in the preparatory grade. Material and methods: 56 children aged 6-7 were included in the study, of which 26 were girls and 30 boys, divided into 2 groups, an experiment group with 28 children (with an average age of 6.62), and a control group with 28 children (with an average age of 6.48). The Matorin test was used to assess the coordination performed with rotation to the right and to the left. The result analysis found that the students in the experiment group who performed during the research both right and left rotation exercises obtained better results than those in the control group, who used only right rotation exercises during the lessons. Comparing the results, it is found that there are no significant differences in the rotation to the right, but there are significant differences in the rotation to the left. In conclusion, children evolve depending on how they work out. The research results suggest the use of both right and left rotation exercises.

*Keywords:* coordination; balance; children; physical exercises.

---

\* Corresponding author. Tel. +4-075-707-3063.  
E-mail address: rata.bogdan@ub.ro

## Milk - An Important Source Of Nutrition And Hydration For Athletes

Rațu Roxana Nicoleta<sup>a</sup>, Onose Ionuț<sup>b</sup>,  
Postolache Alina Narcisa<sup>c</sup>, Usturoi Marius Giorgi<sup>d</sup>,  
Usturoi Alexandru<sup>e</sup>, Radu-Rusu Răzvan Mihai<sup>d</sup>,  
Veleşcu Ionuț Dumitru<sup>a,\*</sup>

<sup>a</sup>Food Technology Department IULS, 3 Mihail Sadoveanu Alley, Iași, 700490, Romania

<sup>b</sup>Faculty of Physical Education and Sports, "Alexandru Ioan Cuza" University of Iași, Iași Romania

<sup>c</sup>Research and Development Station for Cattle Breeding Dancu, 707252, Iași, Romania

<sup>d</sup>Animal Production Management Department IULS 8, Mihail Sadoveanu Alley, Iași, 700490, Romania

<sup>e</sup>Fundamental Sciences in Animal Husbandry Department IULS, 8, Mihail Sadoveanu Alley, Iași, 700490, Romania

### Abstract

Milk consumption can be an extraordinary source of hydration but also nutritious for athletes. Nowadays, you can easily find several varieties of milk that come from mammals (cows, goats, buffalo) or vegetable products such as rice milk, soy, coconut, flax, etc. Each of these products meets the consumer with a higher or lower nutritional source but all products have a water content high enough to be consumed properly to ensure proper hydration.. Starting from all these aspects, in this paper we set out to conduct a comparative study between several types of milk. In the first phase, three types of cow's milk with different fat concentrations (1.5%, 3.5% and whole pasteurized milk) and two types of vegetable milk (soy milk and rice milk) were analyzed. Determinations were performed in order to establish the main physico-chemical parameters, values with which it was possible to determine the energy value, for which the highest average values were in the case of whole cow's milk, ie  $66.01 \pm 0.18$  kcal followed by cow's milk with 3.5% fat where the average value was  $63.40 \pm 0.15$  kcal, followed by rice milk ( $48.43 \pm 0.20$  kcal), followed by milk with a fat content of 1,5% with a mean value of

---

\* Corresponding author. Tel. +4-075-476-2965.  
E-mail address: i.velescu@yahoo.com.



44.73  $\pm$  0.14 kcal and finally milk soybean, where the mean value was 33.78  $\pm$  0.11 kcal.

*Keywords:* milk; athletes; nutrition.



## Physical Training, Support Of The Technical Training For Dancers, Juniors II

Roșă Alin Cristian<sup>a,\*</sup>

<sup>a</sup>University "1 Decembrie", Alba Iulia, Romania

### Abstract

Although considered important, both by the specialists and the athletes, from practical experience, I found that physical training is not given the necessary amount in the training plans, which led me to develop a program to optimize the physical training of the juniors II, presented in other articles. The purpose of my approach, in addition to improving the indices of the motor and the functional capacity of the dancers, juniors II, was to optimize the technical training, against the background of a rigorously directed physical training. In this sense, in order to achieve a more objective assessment of the quality of the technical expression against the background of the specific physical demands, we used in the research an evaluation method with characteristics of arbitration, by awarding grades in both initial and final testing. The five evaluators who were part of the team are instructors at the ACS Top Dance 2007 Sports Club. Thus, for both the standard and the Latin section, a musical collage was made comprising 40 seconds of each of the 4 dances, the athletes having to perform the specific choreography without interruption. In our approach, we used the following research methods: the bibliographic study of the literature, the pedagogical observation, the experimental method, the measurement and evaluation methods, the statistical-mathematical method of data processing, the graphical and tabular method. The sample of our research was composed of 20 athletes (10 boys and 10 girls), legitimated at the ACS Top Dance Sports Club 2007, all participants in the competitions organized by FRDS. In all the tests we used, following the statistical analysis of the results obtained in the initial and final testing, there were statistically representative differences, which shows that the physical training strategy we used was effective, both in terms of motor and functional parameters, as well as at the level of technical expression of the subjects of our research.

*Keywords:* dance sport; physical training; technical training.

---

\* Corresponding author. Tel.: +4-074-679-8606.

E-mail address: alin.rosa@uab.ro

# The Influence Of The Kinetic Program On The Quality Of Life In Elderly Patients With Physical Deconditioning

Roșca Vladimir<sup>a</sup>, Mihailov Natalia<sup>a,\*</sup>, Pogorlețchi Ala<sup>a</sup>

<sup>a</sup>*SUPES, 22 Andrei Doga street, Chisinau 2024, Republic of Moldova*

## Abstract

The deconditioning syndrome is a gradual decrease in physical activity in the elderly. In our days, the known method in studying the negative impact on the health of the old people with physical deconditioning is the studying of quality of life. Quality of life is understood as "the meaning for man of his life, the result of the global evaluation, by the point of view of the human, of his own life." In this study, the direct approach is the issue of recovering psychophysical qualities and transferring the skills obtained during physiotherapy sessions in the conditions of daily life. The solution of the problem is to develop an adapted program which is effective for the recovery of psychophysical qualities and to improve the daily and professional motor activities performed by people suffering from physical deconditioning. This article reports the results of the study of improving the quality of life in the elderly with physical deconditioning under the influence of the kinetic program. The study was realized on a sample of 10 elderly women, aged between 57 and 62 years. To assess the quality of life of these patients we used the SF - 36 quality of life measurement questionnaire. Following the application of this program, it was noticed that it contributed to the improvement of all the studied parameters: physical function increased by up to 16.4%, general health - 12.50%, and vitality and emotional role by up to 21.4 %.

*Keywords:* kinetic program; physical deconditioning; life quality; occupational therapy.

---

\* Corresponding author. Tel.: +373 69958005; fax: +373 22497671.  
E-mail address: natyap89@gmail.com

# Strategies And Tools For Intervention And Prevention Of Volleyball Injuries

Rusu Oana<sup>a,\*</sup>

*<sup>a</sup>"Alexandru Ioan Cuza" University of Iasi, Faculty of Physical Education and Sport, str. Toma Cozma, no. 3, Iasi, Romania*

## Abstract

Practicing the game of volleyball, recreational, but especially in high-level competitions, can materialize in the occurrence of possible injuries that can restrict the athlete's activity for different periods of time. Acute and overload injuries are identified, the incidence, prevalence, location, injuries in volleyball, the degree of damage, repeatability and recovery period being caused by the presence of risk factors, internal and external. Starting from the prevention model (prevention sequence) in 4 stages (van Mechelen et al., 1992), generally valid in sports, intervention and prevention strategies can be developed for injuries in volleyball. Injury prevention measures are oriented in several directions: equipment and the environment in which the activity takes place; protective equipment, development of tools to assess the physical and technical level of the athlete, methods and means of recovery. Three phases (acute, recovery, functionality) in the rehabilitation process of the athlete were identified, which can overlap, each of them having specific objectives and directions of intervention depending on the physiological stages of healing. Continuous reassessment is needed to ensure the effectiveness of this process. Also, a series of intervention means were structured (both in recovery, but especially in prevention) that can be used by the coach / teacher / physiotherapist, for the main categories of injuries encountered in volleyball.

*Keywords:* volleyball injuries; prevention model; prevention measures; recovery intervention strategies and tools.

---

\* Corresponding author. Tel.: + 4-072-730-1142.  
E-mail address: broana@uaic.ro

# Social Integration of Children With Special Educational Needs in The Context of Kindergarten – Family Educational Partnership

Savițchi Svetlana<sup>a,\*</sup>, Agapii Eugeniu<sup>a</sup>

<sup>a</sup>State University of Physical Education and Sport; 22, Andrei Doga Street, Chisinau MD-2024, Republic of Moldova

## Abstract

This article reflects the opinion of several Although current legislative measures recognize parents' participation in kindergarten life, several difficulties remain and many barriers need to be broken down as there are still uncomfortable situations to be dealt with between kindergarten and parents. In this context, the aim of this study is to identify and to interpret parents, teachers and specialists' opinions concerning parental involvement and participation in their children's kindergarten life. This study was carried out in an interpretative and descriptive paradigm which involves children with Special Educational Needs (SEN), their families and the relationship between them and the kindergarten their children are attending. It is an exploratory, cross-sectional study, with convenience sample of 18 parents/ tutors, teachers and specialists and 16 children attending a kindergarten. The results were analyzed through a descriptive statistics program, SPSS. The results of the study will help us build a viable and determined partnership between family, kindergarten and community.

*Keywords:* educational partnership; special educational needs; preschool institutions integrations; disabilities.

---

\* Corresponding author. Tel.: +373 69710803; fax: +373 22497671.  
E-mail address: svet sav@yahoo.com

## Psychophysiological Criteria of Talent in Martial Arts

Smyrnovskyy Serhiy<sup>a,\*</sup>, Smyrnovska Sofiia<sup>a</sup>,  
Ivchenko Anastasiia<sup>b</sup>, Chervonoshapka Maryna<sup>c</sup>,  
Potapova Olena<sup>d</sup>

<sup>a</sup>*Lviv State University of Physical Culture named after Ivan Bobersky, Kostushko str.,  
11, Lviv, Ukraine, 79007*

<sup>b</sup>*Ivan Chernyakhovsky National University of Defense, pr. Povitroflotskyj, 28, Kyiv,  
Ukraine, 03049*

<sup>c</sup>*Lviv State University of Internal Affairs, Horodotska St., 26, Lviv, Ukraine, 79007*

<sup>d</sup>*Zaporizhzhia National University, Zhukovskogo St., 66, Zaporizhzhia, Ukraine, 69600*

### Abstract

In recent years, due to the active processes of commercialization in martial arts, the number of competitions involving qualified athletes has increased significantly. As a result, the intensity of competitive activities has increased and the requirements for the training of athletes have increased. Coaches and scientists have begun to look for new ways to increase the effectiveness of competitive activities of athletes, as well as new approaches to the selection of talented athletes. Competitive activity in sports and, in particular, in martial arts is characterized by the external manifestation of the processes of higher nervous activity, which provide speed of reactions and information processing, speed of mastering the technique of movements, the ability to switch from attacking to defensive and vice versa. *The aim of the research:* to determine the psychophysiological criteria of talent in martial arts. *Research methods* are theoretical analysis and generalization, documentary method, survey (questionnaire), measurement, methods of mathematical statistics. *Results.* During the first stage of research, we analyzed the features of selection and criteria for talent in sports. At the second stage of research, we conducted a survey of fencing, karate and boxing coaches, and identified criteria for talent in martial arts. After that, we hold the measurement of psychophysiological characteristics of fencers, boxers and karate fighters at the stage of maximum realization of individual capabilities and at the stage of specialized basic training. The characteristics we measured were simple visual-motor reaction, distinction reaction, choice reaction, resistance to obstacles, reaction to a

---

\* Corresponding author. Tel.: +38063-220-70-69; fax: +38063-220-70-69.  
E-mail address: smirnovskyy.s@gmail.com



moving object and strength endurance. In conclusion, we have defined informative psychophysiological criteria of giftedness in martial arts, supplemented scientific data on psychophysiological characteristics in martial arts.

*Keywords:* Fencing; karate; boxing; talent criteria; sports selection; psychophysiological characteristics.

# Study Regarding The Importance Of Physical Therapy In The Recovery Of Vestibular Deficit In Patients With Vertigo Syndrome

Solomon-Pârțac Maria Ștefana<sup>a,\*</sup>, Cojocariu Adrian<sup>a</sup>,  
Solomon-Pârțac Sergiu<sup>a</sup>

<sup>a</sup>*"Alexandru Ioan Cuza" Univeristy of Iasi, Faculty of Physical Education and Sport,  
Toma Cozma Street, Iasi, 700554, ROMANIA*

## Abstract

The vertigo syndrome is a condition that can lead to a functional deficit caused by vestibular symptoms and in some situations patients may be at risk of falling. Generally the treatment is medicamentary, but we should also highlighted the need to follow a vestibular re-education program, which can be achieved through virtual reality with specific equipment or through a physical therapy program. The purpose of this study is to highlight the importance of a physiotherapy program for patients diagnosed with vertigo. Regarding the research objectives, they are the description of the vestibular rehabilitation program, highlighting the results obtained by the subjects in the case of balance tests, comparing the results with some similar studies and drawing conclusions that highlight the specific aspects of the topic. The present research started from the following hypothesis: patients with vertigo syndrome require a vestibular rehabilitation program to be performed by a physiotherapist. That included a number of 17 patients, both male and female, aged between 36 and 54 years, all diagnosed with vertigo syndrome due to inner ear disease. They were divided into two groups: group 1 (nine subjects, including five women and four men) followed an exercise program at home and group 2 (eight subjects, including 5 women and 3 men) followed a vestibular reeducation program on a recovery center, under the guidance of a physiotherapist. The subjects were monitored for a period of twelve weeks, while they were assessed using the Tinetti balance test and the Berg scale three times: initially, at the start of the rehabilitation program, intermediately, six weeks after the start of the rehabilitation program and finally, at the end of the twelve weeks of rehabilitation.

---

\* Corresponding author. Tel.: +4-074-787-2323.  
E-mail address: stefanasolomon@yahoo.com



The research results highlight how following a vestibular reeducation program under the guidance of a specialist improves the functional status of patients with vertigo syndrome.

*Keywords:* dizziness; balance; falling risk; vestibular rehabilitation.



# The Importance Of Balance Assessing Of Patients With Anterior Cruciate Ligament Reconstruction-Pilot Study

Solomon-Pârțac Sergiu<sup>a,\*</sup>, Cojocariu Adrian<sup>a</sup>,  
Solomon-Pârțac Maria-Ștefana<sup>a</sup>

*<sup>a</sup>"Alexandru Ioan Cuza" Univeristy of Iasi, Faculty of Physical Education and Sport,  
Toma Cozma Street, Iasi, 700554, ROMANIA*

## Abstract

Total anterior cruciate ligament injuries require surgical reconstruction and postoperatively it is necessary to follow a functional rehabilitation program in order to improve joint mobility, muscle strength, joint stability and balance. The latter parameter requires an objective evaluation, through which its evolution along the functional re-education protocol can be observed. The aim of this research is to highlight the way in which the assessment of balance for patients with anterior cruciate ligament reconstruction provides information related to their functional reeducation. The objectives of the research include the use of the stabilometric platform to determine the oscillations of the center of gravity in relation to the support polygon for postligamentoplasty patients, comparing the results obtained by patients with a control group (healthy subjects) and making analogies between the results obtained in this research with similar studies. The present study started from the hypothesis according to which patients with anterior cruciate ligament reconstruction show changes in balance and thus it is necessary to objectively evaluate it through important technological tools. According to the methodology of the present study it can be described that it was conducted on a number of 25 subjects, aged between 22 and 41 years, both male and female. They were divided into two groups: group 1, which included 13 subjects with anterior cruciate ligament reconstruction (7 men and 6 women) and group 2, which included 12 subjects and represented the control group (subjects healthy, 7 men and 5 women). Group 1 followed a postoperative recovery protocol for a period of six months. The subjects of both groups were evaluated through the Global Postural System 400 platform, in order to determine the oscillations of the center of gravity in relation to the support polygon in the antero-posterior axis and in the

---

\* Corresponding author. Tel.: +4-076-718-0091.  
E-mail address: partacsergiu@yahoo.com



mid-lateral axis. Group 1 subjects were evaluated both at the beginning of the recovery program (at 4 weeks postoperatively) and at the end of the functional rehabilitation protocol (at 24 weeks postoperatively). The results of this study are expressed through graphs and through statistical analysis and highlight the necessity of assessing balance in an objective way in the case of subjects with anterior cruciate ligament reconstruction.

*Keywords:* ligament injury; center of gravity; stabilometry; functional status.

# Influence Of The Recovery Program On The Treatment Of The Upper Limb Lesions Among Athletes

Ștefan Neonila-Gabriela<sup>a,\*</sup>, Moraru Cristina-Elena<sup>a</sup>

<sup>a</sup>*"Alexandru Ioan Cuza" University Iași, Bulevardul Carol I, Iași, 700506,  
Romania*

## Abstract

The shoulder is both the most mobile and the most unstable human body joint. This joint is like a ball, and rotator cuff conditions emerge due to a significant trauma or overload, repeated movements or sports practicing. The purpose of this study was to highlight the importance of kinesitherapy assisted by modern technologies in the recovery of this traumatism. The objective of this study was to restore joint mobility, muscle tone and to eliminate pain, thus favouring a speedier recovery program for athletes. Our research subjects were five male athletes diagnosed with a right rotator cuff pathology. We have conducted several tests: clinical and imaging exam, musculoarticular testing, painful arc test, VAS scale. The recovery program included Tecar and laser therapy, as well as kinesitherapy. Research results: after associating the new protocol, we confirmed and outlined the efficiency of a new treatment formula in the recovery of the upper limb traumatisms. Hence, in the final testing (after 4 months of treatment) the mean values for the five patients improved as follows: for flexion=37.8°, active extension=13.4°, passive extension=15°, abduction = 35.2°, adduction=20.2°, internal rotation=17.2°, external rotation=17.6°, muscular testing = 4, VAS scale =7.2. Therefore, it may be stated that the treatment formula applied has led to the physical and functional rehabilitation of the shoulder joint among the patients within this study.

*Keywords:* sport; traumatism; rotator cuff; recovery.

---

\* Corresponding author. Tel.: +4-076-307-3980.  
E-mail address: neonila\_gabriela@yahoo.com.

# The Role Of Chess In The Development Of Attention In Primary School Children

Stegariu Vlad-Ionuț<sup>a,\*</sup>, Abalașei Beatrice Aurelia<sup>a</sup>

<sup>a</sup>"Alexandru Ioan Cuza" University of Iași, Faculty of Physical Education and Sports,  
Toma Cozma street 3, Iași, 700554, Romania

## Abstract

The distribution of attention is essential both in the teaching path of children and in the chess career. In the game of chess there are a couple of key moments that are decisive for the course of the game which require full attention. Also, any mistake annihilates all the work done up to that point. In the case of education, the transition of information from the working memory to the long-term one is carried out only if the student has an effective distribution of attention. 98 children from the first grade were tested with the Kraepelin and Toulouse-Pieron samples. They conducted two tests, initial and final, at the beginning and end of the first semester of the 2020-2021 school year. The pupils studied chess from the preparatory class, one hour a week as an optional subject included in the school curriculum. We used independent samples t-test to statistically validate the numerical differences registered in the two tests. The results indicate that the practice of chess has a positive influence on the development of the ability to distribute attention.

*Keywords:* chess; children; attention; school.

---

\* Corresponding author. Tel.: +4-074-336-6800.  
E-mail address: vlad.stegariu@uaic.ro.

## Five Decades Of Olympic Education In Romania

Sterea Anita-Diana<sup>a</sup>, Nica Alexandra<sup>b</sup>,  
Tabără-Amânar Simona<sup>c</sup>, Ababei Radu<sup>d</sup>,  
Radu Liliana-Elisabeta<sup>e,\*</sup>, Vanvu Gynetta-Ionela<sup>f</sup>

<sup>a</sup>*History Faculty, University of Bucharest, Elisabeta Boulevard 4, Bucharest, Romania*

<sup>b</sup>*Romanian Olympic Sports Committee, Mărăști Boulevard 20A, Bucharest, Romania*

<sup>c</sup>*West University of Timișoara, Vasile Pîrvan Bv 4, 300223, Timișoara, Romania*

<sup>d</sup>*Vasile Alecsandri University of Bacău, Mărăști st., 157, 600155, Bacău, Romania*

<sup>e</sup>*Alexandru Ioan Cuza University of Iași, Carol Boulevard 11, 700506, Iași, Romania*

<sup>f</sup>*University of Medicine and Pharmacy Grigore T. Popa, Universității st., 16, 700115, Iași, Romania*

### Abstract

Since the founding of the Olympic Games, Baron Pierre de Coubertin, a pedagogue, has created the link between sport and education. The concept of Olympic education is one that appears in the second half of the twentieth century but which spreads and develops from one year to another in the world. Olympic education programs are created especially for the Olympic Games or for the Youth Olympic edition. An important role in this development was played by the International Olympic Academy, which since its founding in 1961 has promoted Olympic values through activities that included education, research and interdisciplinary. In Romania, Olympic education was promoted by personalities from the world of sports such as Lia Manoliu, Alexandru Siperco, Mihaela Penes, Laura Badea or Simona Amanar. An important role was played by the creation of the Romanian Olympic Academy in March 1991, which through its 48 branches propagated the Olympic values in the Romanian society. This paper aims to analyse how Olympic education has created its way in Romanian society in the last 50 years, what is the role of the Romanian Olympic Academy in promoting Olympic education and who were the Olympic champions who helped develop the Olympic education programs in the country. The paper will also have a section of examples of good practices by analysing projects and programs made by three branches of the Romanian Olympic Academy.

*Keywords:* Education; history.

---

\* Corresponding author. Tel.: +4-023 -220-1130.

E-mail address: liliana.radu@uaic.ro.

# Analysis Of High Speed Running And Sprint Running In Elite Female Football Competitions

Stîncel Oana-Ruxandra<sup>a,\*</sup>, Lazăr Cristian<sup>b</sup>, Nicoară Vlad<sup>b</sup>,  
Oravițan Mihaela<sup>a</sup>

<sup>a</sup>Faculty of Physical Education and Sport, West University of Timisoara

<sup>b</sup>Politehnica University Female Football Club

## Abstract

Introduction: Although football is recognized as the fastest growing sport globally, scientific literature on female football is still limited. Available published data in understanding the physical demands of female football players have described the necessity of a high level of physical conditioning during matches with average heart rates of 84-86% maximum heart rate and an average of 9.1-11.9 km in total distance covered in the running. The most commonly utilized physical performance measures reported are high-speed running (19 km/h-23 km/h) and sprinting (>23 km/h). A better understanding of football's physical, technical and tactical demands has resulted from investigations of both training and matches by wearing a global positioning system unit. Objective: This study aimed to assess the running speed and the proportions of different types of running during official competitions in elite female football players. Material and Method: A total of 22 female players (16 seniors and six juniors) that are part of a Romanian First League female football team - Politehnica Timisoara, have been monitored for running speed and covered distance in 6 official matches, which represent a quarter of the championship period. The assessment period was ten weeks (August-October 2021). The monitored parameters (total distance, distance/minute, low speed running, high speed running, sprint running, and maximum speed) were obtained using K-Sport GPS with a high sampling rate of 50 Hz. Results: During the six analyzed matches the following average values were found: total covered distance -  $7906.33 \pm 1176.68$  m, distance/minute -  $90.83 \pm 3.72$  m/min, low-speed running distance -  $7598.50 \pm 1102.16$  m, high-speed running distance -  $308 \pm 101.31$  m, sprint running distance -  $69.50 \pm 28.54$  m, and maximum speed -  $25.13 \pm 0.84$  km/h. Conclusion: Regarding the monitored parameters (total distance, average speed, proportion of different

\* Corresponding author. Tel.: +4-073-075-0226.

E-mail address: oana.stincel@e-uvt.ro



speed running, maximum speed), we observed a constancy between different matches. During female football matches, high-speed running and sprinting covered 4.77% of the total distance. Based on this data, a future training objective would be the enhancement of this percentage in order to optimize the key moments of the matches.

*Keywords:* high-speed running; sprint running; female football; match analysis; gps tracking system.

# The Enhancement Of Effort Capacity, Particular To Soccer, Through Integrated Training Process

Stoian Iulian<sup>a,\*</sup>, Burchel Lucian<sup>a</sup>

<sup>a</sup>*“Lucian Blaga” University, 10 Victoriei Boulevard, Sibiu, Romania*

## Abstract

The non-athlete subject has the ability of naturally managing all types of effort in order to perform various activities going on for a rather short period of time, with no preliminary preparation/training. The difference between a non-athlete and a professional athlete is that the latter has a much bigger capacity to handle effort, on different intensity levels, in the same time frame, due to all the transformations that his/her body went through. Thus, related to the effort applied during soccer training, we came to the following significant conclusion: training may be a success, consequently the ADJUSTMENT process can be achieved, only if there is an adequate proportion between EFFORT and REST, during training as well as after it, proportion leading to a phenomenon called overcompensation. In other words, the trainer may schedule the success of the integrated training on the physical level, only if he/she is fully aware of the characteristics of each type of effort (volume, intensity, periods of rest, time period necessary for the recovery of energy resources needed for the next training of the same type).

*Keywords:* integrated training; guidance; adjustment.

---

\* Corresponding author. Tel.: +4-072-165-4732.  
*E-mail address:* iulian.stoian@ulbsibiu.ro



## U17 Romanian Volleyball Player's Approach Height Analysis, Related To The Jump Index As A Performance Indicator

Stupar Radu-Cristian<sup>a,\*</sup>, Monea Gheorghe<sup>a</sup>,  
Șanta Cristian<sup>a</sup>

*<sup>a</sup>"Babeș-Bolyai" University, Faculty of Physical Education and Sports, Pandurilor  
Street, no. 7, Cluj-Napoca, Postal Code 400376, Romania*

### Abstract

In the game of volleyball, as in other sports, not all actions affect the success of a team in the same way. Two categories of actions can be distinguished terminal actions, which try to obtain the point and continuity actions aimed at annihilating adverse offensive actions by recovering and transmitting the ball to one of the teammates in the best conditions. High-performance players record 250-300 actions in a 5-set match, about 269 jumps, the center player about 223, the far left about 197, and the far-right 128 jumps, averaging 194 jumps (Abidin & Adam, 2013; Gageler et. al., 2015). Detention is the basis of actions completed in force, of these actions, the attack and blockade represent 45% of the total game actions (Stanganelli et.al., 2008). The ability to jump is a basic requirement of a volleyball player to be able to perform various game-specific actions, such as jumping pass, jumping service, attack, and blocking. This study aims to determine the exact height at which volleyball players perform their vertical detachment in the offensive phases related to the jump indices developed by Romanian Volleyball Federation (RVF). For this study a total of 24 participants, members of the national school volleyball teams were registered in various offensive situations.

*Keywords:* jump index; vertical jump; reach point; volleyball.

---

\* Corresponding author. Tel.: +4-074-553-2126.  
E-mail: stupar\_radu@yahoo.com

# The Use Of Virtual Reality In Inhibiting And Modulating The Perception Of Pain In Different Medical Contexts

Talaghir Laurentiu-Gabriel<sup>a,b,\*</sup>, Coja Daniel-Madalin<sup>a</sup>,  
Georgescu Luminita<sup>c</sup>

<sup>a</sup>*Dunarea de Jos University of Galati, Domneasca street no. 47, 800008, Romania*

<sup>b</sup>*South Ural State University, Prospect Lenina street, 454080 Chelyabinsk, Russia*

<sup>c</sup>*University of Pitesti, Targu din Vale street no. 1, 110040 Pitesti, Romania;*

## Abstract

Virtual reality is a relatively new technological product with a very high applicability and a very good expansion in various activities in various fields, based on a human-computer connection. The article aims to research the use of virtual reality in different forms of action and activity in various contexts in order to streamline the process in which it is used. The technology through which virtual reality acts is a holographic, which transposes the individual in a special environment built in order to create an experience of real physical presence in the context in which it is used. The use of virtual reality is used successfully in medicine both for educational purposes and for the purpose of treating various pathologies or for analgesic purposes. Due to its mode of operation, virtual reality has a great applicability in streamlining and digitizing medical processes and in improving the procedures involved in this field, being a new step towards evolution.

*Keywords:* virtual reality; holograms; efficiency; industry.

---

\* Corresponding author. Tel.: +4-074-503-3806.

*E-mail address:* gtalaghir@ugal.ro

# Study On The Motor Capacity Of Female Gymnasts Aged 10-12 In The Pandemic Context

Tanasă Anca-Raluca<sup>a,\*</sup>, Moraru Cristina-Elena<sup>a</sup>

<sup>a</sup>Faculty of Physical Education and Sport, "Alexandru Ioan Cuza" University of Iasi, 700554, Romania

## Abstract

This study aims to identify the female of physical performances of female athletes and whether they have been affected by the manifestation of positive or negative emotions. The study was conducted on a sample of 12 female gymnasts aged 10-12. The physical parameters recorded were the following: the explosive strength of the lower limbs (SJ, CMJ, FJ), the dynamic strength of the back and the abdomen and the isometric strength of the palmar flexors. Furthermore, we applied the emotion measurement scale through a 40-item questions, divided into two categories: positive emotions and negative emotions. We interpreted the results using the t Student test and Pearson's correlation. We reached the following conclusions upon interpreting the results: for the explosive lower limb strength tests, they have a positive inter-conditioning (SJ=20.33±2.898 (p<0.677); CMJ=22.22±3.334 (p<0.835); FJ=28.68±3.880 (p<0,628); between the strength of palmar flexors and that of pelvic flexors, there is a negative correlation (r<0.736). We have found no significant correlation between (negative and positive) emotions and the results of physical tests (p>0.05). Consequently, it may be stated that the female gymnasts have an optimal motor capacity level, but that it is not influenced by their positive or negative emotions.

*Keywords:* artistic gymnastics; emotions; motivation; anxiety; monitoring.

---

\* Corresponding author. Tel.: +4-075-164-3227.  
E-mail address: ralucaatanasa@yahoo.com

# Toward A Strength Training Approach At Male Handball Players

Timofte Mihai<sup>a,\*</sup>, Leuciuc Florin<sup>b</sup>

<sup>a</sup>Secondary School Titu Maiorescu, 10 Decebal Street, Iasi, 700248, Romania

<sup>b</sup>Stefan cel Mare University of Suceava, 13 University Street, Suceava, 720229,  
Romania

## Abstract

The variety of handball playing positions produces implications on the physical, motor and physiological particularities of the players, being necessary an individualization of the training according to the specific requirements of the playing position. The development of strength capacity is done during all phases of the training, and the content used to optimize strength capacity at senior handball players of the group subjected to the experiment was varied, diversified and adapted to each training session. The aim of the research was to design and apply a training methodology that would lead to the optimization of strength capacity at senior handball players with consequences in terms of performance and level of game efficiency. The following control tests were used to assess the subjects' strength indices: test 1 maximum repetition for semiflexion, chest push-up and chest lift, and the plate test was used for the isometric strength. The results obtained by the experimental group at the strength tests applied in research are due to the specific strength training used for a period of 6 months. The designed strength program for handball players was implemented considering the characteristics of the handball game, athletes' particularities in order to achieve a better efficiency in training and competition. The intergroup statistical analysis of the final testing indicates statistical significance in favor of the experiment group, which confirms the efficiency of the means used in the training, ensuring an optimal framework for obtaining performance in competitions.

*Keywords:* handball; strength; male; competition.

---

\* Corresponding author. *E-mail address:* timofte6@yahoo.com

# Optimizing The Performance Behavior Of Junior Skiers Through Motivational Techniques

Toma Andreea-Carletta<sup>a</sup>, Grosu Vlad-Teodor<sup>b</sup>,  
Ordean Mircea-Nicolae<sup>b</sup>, Grosu Emilia-Florina<sup>d,\*</sup>

<sup>a</sup>"Babeş – Bolyai" University, Cluj – Napoca, & CSS Baia -Sprie, Maramures county,  
Romania

<sup>b</sup>Technical University, Cluj – Napoca, Romania

<sup>c</sup>"1 December 1918" University, Alba – Iulia, Romania

<sup>d</sup>"Babeş – Bolyai" University, Cluj – Napoca, Romania

## Abstract

The situation of the problem: based on the questionnaires for evaluating the sports motivation, the characteristic of the athletes of the two targeted clubs: CSS Baia Sprie, respectively CS Alpina Baia Mare. Experiment design: the pilot study conducted from October 2018 to October 2019, integrates motivating factors. The questionnaire focused on these factors was applied to groups of subjects from the two sports clubs.

Methods: The cumulative scores of the three factors: PM - Motivational persistence, LTPP - long-term pursuit of goals, CCP - pursuit of current tasks, RUP - recurrence of unattainable goals allow athletes to persist, to invest time and effort, not to abandon in pursuit of the proposed objectives. Analysis and interpretation of results: The questionnaire focused on these factors was applied to groups of subjects from the two sports clubs. Two evaluations were considered, one initial and one final. The evaluation of the results of the questionnaires was based on the analysis of the correlations of the three factors mentioned and the motivational persistence of psychological test subjects to detect stress levels, in order to reduce its intensity, awareness of well-being and high sports performance. Discussions and conclusions: the general conclusion is to increase the motivation of skiers through relaxation / meditation exercises that have been incorporated in the annual training plan of athletes, alternating and combined in different ways, with a cyclical, weekly

---

\* Corresponding author. Tel.: +4-074-462-2193.  
E-mail address: emiliaflorina.grosu@gmail.com.



recurrence, depending on the competition periods and depending by the professional considerations of the coach.

*Keywords:* performance; motivation; sport.

# The Differences In Reaction Values At Start In Sprint Trials During The Tokyo Olympic Games – Case Study

Tomozei Răzvan-Andrei<sup>a,\*</sup>, Moraru Cristina-Elena<sup>b</sup>

<sup>a</sup>"Alexandru Ioan Cuza" University Iași, Faculty of Physical Education and Sport, PhD School of Sports Sciences and physical education Bulevardul Carol I, 700506, Iași, România

<sup>b</sup>"Alexandru Ioan Cuza" University Iași, Bulevardul Carol I, 700506, Iași, România

## Abstract

**Objective:** In this paper, we aimed to identify the main differences in the reaction speed during block start in the sprint trials (100m, 110m, 200m, 400m, 400mg) in both males and females. **Method:** the subjects involved in this study are performance athletes, with notable results in international competitions, who attended the 2021 Tokyo Olympic Games (the sprint trials). We found 681 value indices of the reaction speed obtained in these events, both in the qualifying rounds and in the semi-finals and finals. We start from the assumption that there are major differences between reaction speed in male athletes and female athletes in the sprint trials in what concerns block start. We used the SPSS statistical platform to compare the means of values for the five trials and determine a correlation between the subjects' individual values. **Results:** Using the statistical method One-way Anova, we obtained statistically significant values ( $p < 0.05$ ) between male athletes and female athletes in 110-m hurdles, and 100-m hurdles, unlike the other trials, where no modifications were recorded. At the T test, we obtained significant differences ( $p < 0.05$ ) between both the means of values for the five trials and the mean related to the ideal value of 0.100 s. **Conclusions:** It may be stated that the aforementioned hypothesis is partially null because we obtained a significant differentiating result only for one event, but we maintain the idea of differences (only between the means obtained in the five trials).

**Keywords:** reaction speed; performance; Olympic Games; athletics.

---

\* Corresponding author. Tel.: +4-074-336-7922.  
E-mail address: andrei.tomozei@uaic.ro.

## Corelations Between Food Education And Body Composition Among Students Aged 16 – 18

Trofin Petruț-Florin<sup>a,b</sup>, Puni Alexandru-Rareș<sup>a,\*</sup>,  
Ungurean Bogdan-Constantin<sup>a</sup>, Dumitru Iulian-Marius<sup>a</sup>,  
Tanasă Anca-Raluca<sup>a</sup>

<sup>a</sup>*Faculty of Physical Education and Sport, Iași, 700554, Romania*

<sup>b</sup>*Centre of Interdisciplinary Research in Human Motricity Science, Iași, Romania*

### Abstract

The study analyses the relevant factors involved in the creation of food preferences, dietary behaviours and the corelations established between food intake and body structure modifications. Our research sample comprised 50 students (27 girls and 23 boys). By applying a questionnaire and monitoring body composition, we analysed healthy food intake, normal weight and general health state among the students studied. We assessed the following parameters: body mass, BMR, fat mass, body water, muscle mass, BMI, visceral fat, bone fat and body fat. The analysis of Pearson's correlation between the parameters analysed shows significant relationships between the parameters of body composition. On the other hand, the connections between the respondents' choice of a healthy diet and the internal body structure are not statistically significant. The corelations between the capacity of controlling one's body mass and the body structure parameters are positive: body mass ( $r=0.30$ ), body fat ( $r=0.34$ ) and BMI ( $r=0.31$ ). Findings indicate that the respondents have insufficient insight into healthy diet. The fact that they fail to control their body is an indicator in this respect.

*Keywords:* diet preferences; monitoring; healthy; lifestyle; self-control.

---

\* Corresponding author. Tel.: +4-074-546-0578.  
E-mail address: punirares@yahoo.com.



# The Benefits Of Exercising And Sports Practicing For Young People With And Without Intellectual Disability

Ungurean Bogdan-Constantin<sup>a,\*</sup>, Cojocariu Adrian<sup>a</sup>

*<sup>a</sup>"Alexandru Ioan Cuza" University of Iasi, Faculty of Physical Education and Sports,  
Street Toma Cozma, Nr. 3, Iasi, Romania*

## Abstract

Disabled persons are 2.5 times more likely to be inactive than people without disabilities, while the youths with disabilities are 4.5 times less active than those without disabilities. Around 47% of the adults with disabilities are obese, and the percentage is 10% higher than that of adults without disabilities. Generally, the activity level of disabled persons is inadequate to prevent illnesses and other chronic diseases entailed by inactivity. Physical activity usually decreases as youths become adults, but studies have shown that the targeted programs may reverse this trend, and they may create favorable premises for maintaining physical activity in their life. However, disabled persons do not usually have these benefits because of the limited opportunities to attend adapted sport or other leisure activities for young people. The current methods of adapted sport fail to approach the complexity of living with a disability. There is no focus on the motivation necessary to be physically active in a population at risk, who are in so much need of increased physical activity. However, disabled persons do not usually experience it because of the significant personal and environmental barriers or the limited possibilities of attending sport or other physical activities from a very early age. Furthermore, as young people evolve towards adulthood, inactivity increases. Consequently, disabled persons do not carry out enough physical activity to prevent sedentariness-related conditions and other chronic diseases derived by inactivity.

*Keywords:* intellectual disability; sport; physical activity.

---

\* Corresponding author. Tel.: +4-074-442-4746.  
*E-mail address:* ungurean.bogdan@uaic.ro.

## Fatty Acid Egg Content - A Functional Food For Athletes

Usturoi Alexandru<sup>a</sup>, Rațu Roxana-Nicoleta<sup>b</sup>,  
Usturoi Marius-Giorgi<sup>c,\*</sup>

<sup>a</sup>*Fundamental Sciences in Animal Husbandry Department IULS, 8, Mihail Sadoveanu  
Alley, Iași, 700490, Romania*

<sup>b</sup>*Food Technology Department IULS, 3 Mihail Sadoveanu Alley, Iași, 700490,  
Romania*

<sup>c</sup>*Animal Production Management Department IULS 8, Mihail Sadoveanu Alley, Iași,  
700490, Romania*

### Abstract

Whether you are a performance athlete or you enjoy sports, the foundation for increasing sports performance is proper nutrition. It is known that lipids taken from food have an energetic role for athletes and not only structurally - because they are part of cell membranes. Also, saturated fatty acids are responsible for increasing low-density lipoproteins-LDL ("bad" cholesterol), because they reduce the synthesis of LDL receptors and their activity. A good source of fatty acids is also considered to be the egg or pasteurized egg mixture, however, it is known that heat treatments applied to various foods reduce their nutritional value to some extent. The present study aimed at the quantitative and qualitative evaluation of fatty acids in an industrially processed egg product (pasteurized liquid mixture), by comparison with their level in unprocessed eggs. The data obtained for eggs in shell showed that the total fatty acids were 99.985 g FAME / 100 g total FAME, of which 35.525 g were saturated fatty acids, 37.855 g fatty acids monounsaturated, the difference of 26.605 g being represented by polyunsaturated fatty acids; for the pasteurized mixture a total amount of fatty acids of 99.417 g FAME / 100 g total FAME was found, of which 35.073 g were saturated fatty acids, 39.356 g monounsaturated fatty acids and 24.988 g polyunsaturated fatty acids. The ratio between saturated fatty acids and total unsaturated fatty acids (SFA / UFA) was better in the pasteurized mixture (0.545) than in eggs in shell (0.551), which is also true for the ratio between polyunsaturated and monounsaturated

---

\* Corresponding author. Tel.: +4-074-554-4062.  
E-mail address: umg@uaiasi.ro



fatty acids (PUFA / MUFA) with values of 0.635 and 0.703, respectively. For the ratio between omega 6 and omega 3 fatty acids, values of 11,639 were recorded in the case of eggs in the shell and slightly lower, of 11,291 in processed eggs (pasteurized mixture). In conclusion, it can be said that heat processing does not affect the profile of fatty acids in eggs, but only slightly their level, so we recommend consuming eggs only after prior heat processing, given their high degree of microbial contamination.

*Keywords:* eggs; heat processing; egg products; profile and level; fatty acids.

## The Value Of Functional Asymmetry When Improving Technical And Tactical Preparation Of Girls Aged 12-15 Years In The Process Of Boxing Classes At The Stage Of Basic Preparation

Vorontsov Artur<sup>a</sup>, Tyshchenko Valeria<sup>a,\*</sup>,  
Ivanenko Stanislav<sup>a</sup>, Meniailo Viktoriia<sup>a</sup>,  
Gorlach Valentyna<sup>a</sup>, Tomchenko Maryna<sup>a</sup>

<sup>a</sup>Zaporizhzhia National University, Zhukovskogo St., 66, Zaporizhzhia, Ukraine, 69600

### Abstract

The article deals with the significance of functional asymmetry (FA) and the level of influence on the construction of special movements, which will be needed during training difficult coordination exercises and in the process of improving technical and tactical training (TTS) from boxing girls 12-15 years. Purpose: Determination of functional asymmetry of girls of 12-15 years engaged in boxing at the basic preparation stage. Material & methods: The study was attended by skilled (participants, prizes and champions of regional and international tournaments and Ukrainian champions in their age groups) Boxers (n = 10), who are trained in the basis of basic training of a children's and youth sports school № 1 of Melitopol. Children and their parents were informed of all the features of the study and gave consent to participate in the experiment. Research methods were used to solve the tasks: the theoretical analysis of special and scientific literature, generalization of data, the Internet material (tests for the detection of asymmetry), methods of mathematical statistics. Results: It is determined that most girls (n = 9) corresponds to the right individual asymmetry profile (IAP), only one (n = 1) athlete – partial (mixed) with the dominance of the left limb, manual and auditory asymmetry. The influence of IAP was studied in the development, improvement of technical and tactical training

---

\* Corresponding author. Tel.: +38097-248-76-58; fax: +38097-248-76-58.  
E-mail address: valeri-znu@ukr.net.



exercises in sports in particular in sports martial arts and boxing. The recommendations for each representative with different IAPs for training, improvement of TTS are substantiated and compiled. Conclusions: Before the start of improvement of technical and tactical training, the individual profile of asymmetry should be determined. General tests for IAP definition should be connected to special boxing exercises. As a result of tests, develop an individual training model for each individual based on its IAP.

*Keywords:* women boxing; asymmetric movement; motor skill stabilization; individual profile; ambidexters; posture stability.

## Determining Lower Body Power In Junior Female Volleyball Players

Vorovenci Carmina-Mihaela<sup>a,\*</sup>, Graur Cristian<sup>b</sup>,  
Puni Alexandru-Rareș<sup>c</sup>

<sup>a</sup>"Vasile Alecsandri" University of Bacău, Department of Physical Education and Top  
Athletic Performance, 157 Mărășești St., 600115, Bacău, Romania

<sup>b</sup>University of Medicine and Pharmacy, Department of Motricity Science, Tg Mures,  
Romania

<sup>c</sup>"Alexandru Ioan Cuza" University of Iasi

### Abstract

Lower body power was and is one of the main concerns of coaches, especially during the training period. That is why, in order to correctly direct the physical training process, the parameters of power must be measured and evaluated. The test used in this paper was applied on the athletes participants in the first edition of CipVolei Camp. The subjects were females, playing volleyball at a junior level. The test chosen was the 15-seconds squat jumps, this being performed by each subject on the Optojump device for measurement and analysis of movement. This paper aims to measure and evaluate the lower body power, trying to provide the coaches information in order for them to conduct the junior female volleyball players' physical training in an effective way. The subjects' testing results were modest, so an emphasis was put on improving their physical training.

*Keywords:* power; lower body; female volleyball players.

---

\* Corresponding author. +4-074-017-7336.  
E-mail address: gorgan.carmina@ub.ro.

# Descriptive Study Regarding The Incidence Of SARS-Cov-2 Virus Among The Romanian Population. Strategies To Reduce The Infection Rate/Mortality In High-Risk Groups

Vrabie Diana<sup>a,\*</sup>, Abalașei Beatrice-Aurelia<sup>a</sup>,  
Iacob George-Sebastian<sup>a</sup>

<sup>a</sup> "Alexandru Ioan Cuza" University of Iași, Doctoral School in Sport Science and Physical Education, Toma Cozma street, no. 3, 700554, Romania

## Abstract

Acute respiratory syndrome coronavirus 2 is a new type of coronavirus that appeared in 2019 and causes coronavirus disease 2019 (COVID-19). Patients who have successfully recovered from acute COVID-19 pneumonia will need long-term follow-up to quantificate the consequences of the disease. They will also need specific rehabilitation programs depending on their long and short-term sequelae as well as methods to prevent the disease. The aim of this study was to identify the most exposed group of people to COVID-19 in my country and to elaborate some strategies for prophylaxis of the disease among them. In Romania, public records about the situation of the coronavirus pandemic started to be published on the website of the Ministry of Internal Affairs on June 10, 2020. The total number of cases registered at that time was 50 times smaller than the number registered on April 27, 2021. On October 10, 2021, the total number of cases registered in Romania was 1.356.640. In our country, mortality associated with SARS-CoV-2 virus infection is higher among males, with a total number of deceased men of 15.216 compared to 11.116 women (on April 27, 2021). To date, October 10, 2021, the total number of deaths was 14.544 women and 19.318 men. The conclusion is that people aged between 70 to 79 years are at a high risk of death due to SARS-CoV-2 infection, with a total number of 11.626 deceased aged 70-79. The second most exposed category includes people over the age of 80 (9682 deaths), followed by the 60-69 years category (8777 deaths). People who have other comorbidities represent 95.38% of total deaths by May 2021, having a 20 times higher risk of death compared to others. To date

---

\* Corresponding author. Tel.: +4-076-412-5992.  
E-mail address: vrabie.diana@uaic.ro.



approximately 94.91% of deaths are related to comorbidities. This emphasizes the importance of maintaining an optimal health and prophylaxis of SARS-CoV-2 infection by implementing an age and biological-appropriate exercise program. Knowing that hypoxia can appear in intense efforts, it is important to avoid to exceed the limit that characterizes moderate intensity training (70% of HRmax) because that can predispose people to develop severe forms of COVID-19 through over-expression of ACE2.

*Keywords:* Covid-19; ACE; prophylaxis; exercise; SARS-CoV-2; incidence.



# Comparative Study Regarding The Benefits Of Using Medical Flossing In Lateral Epicondylitis

Vrabie Diana<sup>a,\*</sup>, Abalașei Beatrice-Aurelia<sup>a</sup>,  
Iacob George-Sebastian<sup>a</sup>

<sup>a</sup>University Alexandru Ioan-Cuza of Iași, Doctoral School in Sport Science and  
Physical Education, Toma Cozma street, no.3, 700554, Romania

## Abstract

Although there are multiple published reviews about the effects of the most common techniques, such as stretching or the use of foam roller on the range of motion or performance parameters, there is no analysis on the effects of medical flossing. To date, two reviews have been published about effectiveness of using ankle flossing to improve dorsiflexion amplitude or jump performance. This study aimed to investigate the effectiveness of medical flossing added to routine treatment in patients with epicondylitis, compared to conventional physiotherapy treatment. The study included 6 subjects who showed localized pain in the area of the lateral epicondyle exacerbated with the Cozen test. The other criteria for selecting patients were the duration of the symptoms, less than 3 months from the onset of the disease and pain intensity more than 5 on the Visual Analog scale. To monitor the evolution of the subjects involved, we used a visual analog pain scale to assess the intensity of pain at different times during the application of therapy, before and after the end of the treatment. Another tool used to measure the degree of pain and dysfunction was the PRTEE Questionnaire (Patient-Rated Tennis Elbow Evaluation). The rehabilitation program took place between August and September 2021, for 30 days, with a frequency of 3 times per week. 6 patients with lateral epicondylitis were included and medical flossing was used only in the case of 3 patients at each therapy session. The differences between groups at the time of the initial assessment, in terms of pain intensity were statistically insignificant ( $p=0.288$ ,  $p>0.05$ ). The results obtained in terms of decreasing pain were in favor of the use of medical flossing as an adjuvant method in specific pain existing in lateral epicondylitis. Although in both groups

---

\* Corresponding author. Tel.: +4-076-412-5992.  
E-mail address: vrabie.diana@uaic.ro.



there was a decrease in pain after 4 weeks of treatment, the intervention group recorded significant reduced values compared to the control group ( $p=0.024$ ;  $p<0.05$ ). Regarding PRTEE Functional Score, at the final assessment there was a decrease in both groups, which means the functional condition of the patients has improved.

*Keywords:* medical flossing; lateral epicondylitis; physiotherapy.

## Effects Of Body Position During Walking Incline On Oxygen Consumption

Vukić Željko<sup>a,\*</sup>, Gerdijan Nikolina<sup>a</sup>, Zrnić Radomir<sup>a</sup>,  
Trivun Milomir<sup>b</sup>, Nikolić Siniša<sup>c</sup>

<sup>a</sup>*Faculty of Physical Education and Sport, Bulevar Vojvode Petra Bojovića 1a,  
78000 Banja Luka, BiH*

<sup>b</sup>*Faculty of Physical Education and Sport, Alekse Šantića 3, 71420 Pale,  
Bosnia and Herzegovina*

<sup>c</sup>*Department of Physical Medicine and Rehabilitation "Dr Miroslav Zotović",  
Slatinska 11, Banja Luka, Bosnia and Herzegovina*

### Abstract

The paper investigates the effects of longitudinal dimensions on oxygen consumption of two different models of walk along the slope. For this purpose, 28 students of faculties of physical education and sport were tested (ages  $21.4 \pm 1.27$ ). It measured 6 longitudinal dimensions and oxygen consumption (VO<sub>2</sub>max) of two different models of walking along the slope. After the first measurement, in which the participants walked with the self-selected walk model (Model 1), another measure was applied at which respondents walked with the given model (Model 2). On both measurements, a sub-maximal test "Chester treadmill walk test" was used (Birks, 2015). There is a difference in the descriptive parameters of oxygen consumption (Table 1) and the correlation of some longitudinal dimensions with oxygen consumption. According to the statistical significance, the variables TV (.017), SV (.020) of the first and TV (.049), SV (.021) and DUŽSTO (.014) of the second measurement stand out. Regression analysis has determined the influence of longitudinal dimensions (.048), ie body height (TV), seat height (SV) and foot length (DUŽSTO) as a predictor system, as part of the entire system, participate in the explanation of the phenomenon, in this case the variable of oxygen consumption of the other measurements. The set model of the walk along the slope showed a statistically significant effect on the consumption of oxygen.

In general, it is concluded that the change in the position of body parts during walking along the slope may affect the status of functional abilities.

*Keywords:* walking uphill; walking models; longitudinal dimension.

---

\* Corresponding author. Tel.: +38765562599; fax: +38751312280;  
E-mail address: zeljko.vukic@fvvs.unibl.org.

# Pilot Study On The Influence Of Dynamic And Postural Reflexes In Children Diagnosed With Scoliosis

Vutan Ana-Maria<sup>a</sup>, Pantea Corina<sup>a,\*</sup>, Motoc Andreea<sup>b</sup>

<sup>a</sup>West University of Timișoara, Bd. Vasile Pârvan no. 4, 30022, Romania

<sup>b</sup>Physiotherapist, Timișoara, Romania

## Abstract

Introduction. Spinal deviation in the frontal plane, scoliosis, is more common among preadolescents. Studies show that 2-3% of the world's population is diagnosed with this condition (Romano et al 2012). The cause of the appearance and evolution of scoliosis is not fully elucidated, 91-92% of all scoliosis are idiopathic and occur around puberty (Jianu, 2010). It is also known that the normal development of children is directly related to the development of the central nervous system (CNS). Therefore, postural tone, the stability of the whole body in space, balance and harmonization between mobility and stability is given by the nervous system. The abnormal functioning of the CNS is reflected in postural and motor patterns as well as in the parameters that characterize postural tone. Aim. The aim of this study was to identify the link between the onset of scoliosis and the integration of dynamic and postural reflexes in school children. Material and method. A group of 20 subjects, aged between 7 and 12 years, was formed, all diagnosed with scoliosis by the pediatric orthopedic specialist. We analyzed: the arrangement of the lines of the 4 articular stations (the line of the temporo-mandibular joints, the line of the 2 acromions, the line of the two iliac crests, the line of the internal ankles), Barre's vertical (frontal and sagittal), vertebral rotation with the scoliometer and the integration of the dynamic and posture reflexes (Masgutova MNRI method). Results. Analyzing the results of the evaluations from Barre's vertical, the test of the 4 joint stations and the vertebral rotation at the trunk (measured with the scoliometer) was observed, in all subjects, changes in posture of the body in the 3 planes (frontal, sagittal and transversal). Also, the analysis of the results after testing the integration of dynamic and posture reflexes showed poor coordination in the movement

---

\* Corresponding author. Tel.: +4-072-262-9829.

E-mail address: corina.pantea@e-uvt.ro.



patterns between the right and left side of the body, the upper and lower body or the front and back side of the body. Conclusions. Posture changes observed in classical assessments correlate with the lack of full integration of dynamic and posture reflexes. Subjects who have incompletely integrated or non-integrated posture reflexes are not aware of the symmetryaxis of their own body and thus have an asymmetric load on the lower limbs, rotations of the scapular and / or pelvic girdle and asymmetries of the asticular stations. The study should be extended to a larger number of children in order to see if there is a pattern (certain reflexes that do not fully integrate) that is repeated in the population that develops scoliosis.

*Keywords:* scoliosis; dynamic and postural reflexes; evaluation.

## Effect Of The Isometric - Isotonic Exercise On Ligaments Rupture Injury Of Knee And Rehabilitation For Athletic

Waleed Adnan<sup>a,\*</sup>, Rusu Ligia<sup>b</sup>, Bediwy Ali<sup>a,b</sup>

<sup>a</sup>University of Craiova, Faculty of Physical education, Sports & Kinesiology ,  
Diwaneyah, Iraq

<sup>b</sup>University of Craiova, Faculty of Physical education, Sports & Kinesiology, Craiova,  
Romania

"University of Al-Qadisiyah" - Physical education, and Sports scientific, Diwaneyah,  
Iraq

### Abstract

Introduction. Rehabilitation is a program of treatment with some sport exercises targeting the lower body. The aim: of the study is to develop the work of the knee joint after the ligament rupture injury and to rehabilitate it by preparation of the (PTP) proposed training program. Material and Method: The study included 4 injured athletes who were selected from a total of 10 injured. The tools used to measure the angle of flexion and extension of the knee joint before and after rehabilitation are tape measure, anthropometric measurements and squat equipment. Statistical analyses: which used included MEAN, STD, MAX, MIN, MEDIAN to explain the results. Anthropometric is used to measure the (TCUIL) Thigh circumference of upper injured limb and (CBIL) Circumference of bottom injured, Flexion and extension angle of the knee joint and isometric - isotonic exercises with Pre-test–post-test for 4 injures athletes. Results: using the intensity of 30-35% until it reached 95-100% after the end of the training program with 9 -10Kg weights in the first week until 30-35 Kg on squat equipment at the end of the fourth week and it was cured and Anthropometrics of Pre-test was (TCUIL) was 49 and Post-test was 50 cm with increase 1cm and the Pre-test of (CBIL) was 34.5 and Post-test 34.7 cm with increase (0.2mm). Conclusions: The (PTP) developed muscle strength of the femoral muscle groups working on the knee joint after used isometric isotonic exercise.

*Keywords:* Rehabilitation; ligament break; knee; isometric and isotonic.

---

\* Corresponding author. Tel.: +9-647812699326.  
E-mail address: aliazobade@yahoo.com.

# Indicators of Heart Rate in the Context of the Competitive Activities of Badminton Players 10-12 Years

Yu Lyuwei<sup>a</sup>, Pityn Maryn<sup>a,\*</sup>, Karatnyk Ivan<sup>a</sup>,  
Hnatchuk Yaroslav<sup>b</sup>, Koloskova Iryna<sup>c</sup>

<sup>a</sup>*Lviv State University of Physical Culture named after Ivan Boberskyk, 11 Kostushko Str., Lviv, Ukraine, 79007*

<sup>b</sup>*Khmelnyskyi National University, 11 Instytutska Str., Khmelnytskyi, Ukraine, 29016*

<sup>c</sup>*Admiral Makarov National University of Shipbuilding, av. Heroes of Stalingrad, 9, Mykolaiv, Ukraine, 54025*

## Abstract

For the practice of monitoring the health and functional fitness of athletes in most sports, the first priority is to determine the rate of resting heart rate. However, this indicator at rest indicates the presence of long-term adaptation of the body to loads of a certain direction. At the same time, it is not so objective to determine the level of functional capabilities of children by resting heart rate indicator. More informative in working with this contingent is to focus on heart rate in the dynamics of competitive and training activities. Purpose. To establish heart rate indicators within the competitive activities of badminton players 10-12 years at the stage of preliminary basic training. Material and methods. Heart rate was determined during training and competition activities using the «Polar OH1» device. It was taken into account the areas of work, the duration of the phases of rest and work, the minimum and maximum indicators recorded during the competitive activities of badminton players 10-12 years. Results. When holding badminton competitions, the duration of the games and the general confrontation between the two athletes can significantly depend on their qualifications and level of preparedness, the condition of the organism at the time of the competition, the tasks for the respective competitions, etc. Therefore, we divided the main indicators into two groups of games. Representatives of the first group were characterized by the end of the match within two games and the second - three games to determine the winner. As a result, athletes who spent two games to get a result in the competitive process met with less resistance from the opponent, which allowed them to

---

\* Corresponding author. Tel.: +38096-879-88-58; fax: +38067-879-88-58.  
E-mail address: pityn7@gmail.com



form a better advantage. Accordingly, at certain points in the game, the heart rate decreased more markedly, compared to athletes who were held competitive and more emotionally and physically intense competitive activities in three games. Badminton players aged 10–12 spend the most time in competitive conditions in the fourth and fifth heart rate zones (24.63–38.01% of the total playing time for matches that ended with two games and 27.21–38.04% total game time for meetings that ended with three games).

*Keywords:* badminton; children; preparedness; competitions; stage of preliminary basic training.



## Participation Tactics Of Elite Greco-Roman Wrestlers In Competition System In 2013-2016 Olympic Cycle

Zadorozhna Olha<sup>a,\*</sup>, Perederiy Alina<sup>a</sup>, Kozhokar Maryna<sup>b</sup>,  
Semeryak Zoryana<sup>a</sup>, Stefanyshyn Markiiian<sup>a</sup>

<sup>a</sup>Lviv State University of Physical Culture named after Ivan Boberskyj, Lviv,  
Kostyushko, 11, 79007, Ukraine

<sup>b</sup>Yuriy Fedkovych Chernivtsi National University, Department of Physical culture,  
Chernivtsi, Kotsyubyns'kogo, 2, 58012, Ukraine

### Abstract

The article presents the peculiarities of tactics of elite Greco-Roman wrestlers in competition system in Olympic cycle. The analysis of the performance's dynamics and results of 24 elite athletes allowed to reveal the specifics of their participation tactics in the official events during 2013-2016. The number of competitions held by elite Greco-Roman wrestlers during four seasons changed in each season. In the 2013 season, the average group number of competitions in which 24 athletes participated was  $3.89 \pm 2.28$ , in 2014 –  $4.45 \pm 1.77$ . In the 2015 season, those indicators slightly decreased to  $3.75 \pm 1.67$ , but in 2016 they were higher –  $3.88 \pm 1.60$ . The participation tactics in the competition system in Greco-Roman wrestling during each season and the whole Olympic cycle also differed depending on the dynamics of sports results. In 2013-2016 elite Greco-Roman wrestlers used four types of participation tactics: leadership holding, gradual improving of results, combined, leadership coming back. The highest results at World Championships and other official events were demonstrated by wrestlers who used tactics of leadership holding. In other groups those results were different in each season.

*Keywords:* competitions; Olympic Games; calendar; season; results.

---

\* Corresponding author. Tel.: +38067-476-28-14; fax: +38067-476-28-14.  
E-mail address: ozadorozhna@ukr.net

## The Key Role Of Pedagogy In Enhancing PE Teachers' Professional Development

Zoriy Yaroslav<sup>a</sup>, Kyselytsia Oksana<sup>a</sup>, Moseichuk Yurii<sup>a</sup>,  
Moroz Olena<sup>a</sup>, Bohatyrets Valentyna<sup>a,\*</sup>

<sup>a</sup> *Yuriy Fedkovych Chernivtsi National University, Kotsiubynskoho, 2, Chernivtsi, 58012, Ukraine*

### Abstract

For decades, one of the most popular ideas in the academic literature is the idea that Physical Education is defined as a process through which an individual obtains optimal physical, mental, social skills and fitness through physical activity. The supremacy of one type of knowledge (declarative knowledge of motor skill or sport specific textbook techniques) has arguably long constrained the knowledge base of sport in physical education. The examination of teaching effectiveness, within educational domains such as sport pedagogy, remains an important focus on matching the demands of students. Drawing on a broadly critical pedagogical perspective, it is the purpose of this paper to draw the attention on effectiveness of students' quality professional education at a higher educational institution, in particular the Department of Physical Culture and Public Health Sciences (PC&PHS) of Yuriy Fedkovych Chernivtsi National University. The researchers' focus revolves around the factors that influence PE teachers' performance and professional development, based on forming a holistic-interactional paradigm frame that encompasses the research of the dynamics of the relationship between hypothetical constructs. Consequently, the present study has been developed in two stages and makes use of qualitative methods. The first phase of the research was based on the study of bibliographic materials and sources of secondary data (official studies, evaluation reports, websites and papers), by eliciting the process through which knowledge is (re)produced, teachers can place their work in a broader context and this can help in setting realistic expectations for student. The second stage uses the case study approach, so we explicitly accounted for the accumulated experience with sport teaching for several groups of students, in particular the

---

\* Corresponding author: Tel.: +3-8056188405; fax: +3-80372520058.  
E-mail adress: v.bohatyrets@chnu.edu.ua.



1-6-year-students of the Faculty of PC&PHS. More specifically, we consider the impact of this re-objectification of pedagogical construct in PE teachers' formation. The optimal scientific and methodological support of the educational process is available through technologies, methodological developments and curricula that facilitate improving students-teachers' rapport and have positive implications for further students' academic and social development. Accordingly, it is suggested that the outcomes of the application of pedagogical approaches and renewed PE curriculum, including teacher and students' feedback, and curriculum further tailoring should be reported and further discussed. To our knowledge, training activities for PE teachers concerning the new curriculum and new cutting-edge teaching approaches and methods should be addressed more frequently.

*Keywords:* PE teacher; quality physical education; pedagogical process; pedagogical technology; pedagogical culture; curriculum development and evaluation.

## TABLE OF CONTENTS

| Authors / Paper title   | Page |
|---|------|
| Abalășei Beatrice-Aurelia, Popescu Lucian<br>Modelling Valences Of Physical Education And Sport   | 1    |
| Agapii Eugeniu, Racu Serghei, Savitchi Svetlana<br>Recovery Balance Disorders In Virtual Reality Therapy  | 2    |
| Albu Adriana, Onose Raluca-Mihaela, Abdulan Irina, Abalășei Beatrice-Aurelia<br>The Time Allocated Daily To Physical Activity And The Eating Habits Of A Lot Of Students From Iasi  | 3    |
| Balatska Larisa, Moseychuk Yuriy, Moldovan Andriy, Nakonechnyi Ihor, Goriuk Petro, Dotsyuk Lidiia, Vaskan Ivan<br>Education Of Students Majoring In "Physical Education And Sports" On The Knowledge Of Olympic Education (On The Example Of Yuriy Fedkovych Chernivtsi National University)  | 4    |
| Balushka Lyudmyla, Khimenes Khrystyna, Briskin Yuriy, Torlo Olena, Chychkan Oksana<br>Improvement Of The Physical Education Content Of Students Lyceum With Enhanced Military And Physical Preparation By Using Wrestling Means   | 5    |
| Bartíková Bianka, Daubnerová Jana, Bendíková Elena<br>Qualitative Level Of Posture In High School Girls During The Covid-19 Pandemic  | 7    |
| Bendíková Elena, Iovákova Michaela, Jančoková Ludmila, Rozím Robert, Daubnerová Jana<br>Organized Leisure Physical Activity In Terms Of Consolidating The Quality Of The Musculoskeletal System Of Pupils   | 8    |
| Bilavych Halyna, Vlasii Olesia, Kohanovska Olena, Iliichuk Liubomyra, Blavt Oksana, Kondur Oksana, Oliiar Mariia, Matishak Marianna, Malona Svitlana, Savchuk Borys<br>Development Of Motor Activity Of Primary School Students Under Conditions Of Digitalization Of Education And Distance Learning Caused By The Covid-19 Pandemic | 9    |
| Bogdan Mihaela, Mardare Ioana, Moraru Cristina-Elena<br>Study Regarding The Level Of Strength As A Motor Quality Among High School Students In The Context Of The COVID-19 Pandemic   | 11   |
| Bulduș Codruta-Florina, Bloj Cristian-Emil<br>Basketball Players Articular Lesions Prophylaxis Through Neuromuscular Training   | 12   |
| Calotă Nicoleta-Daniela, Munteanu Camelia, Ionescu Elena-Valentina, Petcu Damian, Georgescu Adrian, Popescu Răducu<br>The Efficiency Of The Nirvana System In The Recovery Of Scapulo-Humeral Periarthritis   | 13   |
| Cebotaru Nina, Racu Serghei, Cebotaru Vasile<br>Training Communication Competence In Students With Mental Retardation Through Physical Education Activities (Pedagogical Model)   | 14   |
| Chirazi Marin<br>Developing Possibilities Of The Psychomotor Capacities By Practising Judo  | 15   |
| Cîtea Mihai-Alexandru, Cordun Mariana<br>Relationship Between Posture Deviations In The Sagittal Plane And Plantar Weight Distribution In Adolescents   | 16   |
| Cojocariu Adrian, Abalășei Beatrice-Aurelia, Ungurean Bogdan-Constantin, Martinăș Florentina-Petruța<br>The Effect Of A Five-Week Training On Upper Limbs Specific Endurance-Speed Motor Ability In Elite Athletes Of Qwan Ki Do Martial Art  | 17   |
| Cojocar Adin-Marian, Cojocar Marilena<br>Perfecting Through Game, Of The Technical-Tactical Actions At Juniors, In Volleyball   | 18   |
| Corman Mariana, Zavalisca Aurica<br>Incidence of obesity in young school-age students in the Republic of Moldova  | 19   |
| Croitoru Horia, Teodorescu Silvia-Violeta, Ene-Voiculescu Carmen, Ene-Voiculescu Virgil<br>Evolution Of Heart Rate Following Exercising In Postpartum Women   | 20   |
| Deak Grațiea-Flavia, Boros-Balint Iuliana, Irimia Alexandru<br>Effects Of Circuit Training On General Strength In 7-10 Year Olds Basketball Players   | 21   |
| Doană Amalia, Stepan Amalia- Raluca, Popescu Daniela, Cosma Germina<br>Dance As A Means Of Social Inclusion For People With Down Syndrome   | 23   |

| Authors / Paper title   | Page |
|---|------|
| Dobreanu Ioana-Bianca, Solomon-Pârțac Sergiu<br>Study On The Efficacy Of Extracorporeal Shock Wave Therapy In The Rehabilitation Treatment Of Patients Diagnosed With Jumper Knee'  | 24   |
| Domokos Cerasela, Dragomir Andrei, Mirica Silvia-Nicoleta, Domokos Martin, Negrea Cristian, Bota Eugen, Argeșanu Veronica, Nagel Adrian<br>The Role Of Spine And Hip Joint Flexibility In Free Aerial Forward Walkover -Danilova- Element Performance | 26   |
| Drosescu Paula, Honceriu Cezar, Trofin, Florin-Petrut, Puni Alexandru-Rares<br>The Post-Pandemic Eating Behavior  | 28   |
| Dumitru Iulian-Marius<br>Local Active Tourism - A Hybrid Perspective Of Reconfiguring A Healthy Lifestyle And A Sustainable Tourism During Pandemic Context   | 30   |
| Fagaras Pia-Simona, Ursanu Adela, Petrea Renato-Gabriel<br>Study Regarding The Injuries Rate In National Basketball League From Romania   | 31   |
| Farzat Sara-Maria, Avram Claudiu, Nagel Adrian<br>Review Study On Different Methods Of Influencing Fatigue In Tennis Players  | 32   |
| Gidu Diana-Victoria, Mușat George-Cosmin, Cazan Florin, Neumann Oana-Verona, Oltean Antoanela<br>The Importance Of Recovering Grip Of Handball Players After Hand Injuries – A Case Study   | 33   |
| Glazer Ciprian, Avram Claudiu, Jurju Nicolae-Adrian<br>Personalized 3D Printed Hand Orthosis For Chronic Pain: A Case Study   | 34   |
| Grădinaru Csilla, Popescu Silvia, Strava Cristian, Stainer Brigitte-Alexandra<br>The Impact Of The COVID-19 Pandemic On Sports Games  | 35   |
| Hăgiu Bogdan-Alexandru, Dumitru Iulian-Marius<br>Can HIIT Be Used For The Prophylaxis Of Severe Forms Of COVID-19?  | 36   |
| Hakman Anna, Duditska Svitlana, Medvid Anzhela, Tymchuk Liudmyla, Koshura Andrii, Huliaieva Mariia, Yachniuk Maksym, Mykyteichuk Khrystyna<br>Comorbidity And Life Quality Of The Elderly   | 37   |
| Hisham Abu Taha, Amro Mohamed, Rusu Ligia<br>The Effect Of Covid-19 Pandemic On The Body Mass Index (BMI) And Physical Efficiency Index For High Schools Students   | 39   |
| Hluchkov Ivan, Drobot Katerina, Hluchova Hanna<br>Effectiveness Of The Content Of The Personal Motivation Levels Of The Swimming Education System In The Development Of The Strength Quality Of Students Of Higher Education Institution              | 40   |
| Honceriu Cezar, Oprean Alexandru, Jurcău Ramona, Drosescu Paula<br>Analysis Of Haematological And Biochemical Indicators Among Professional Soccer Players  | 42   |
| Hrițcu Bogdan, Mirica Silvia-Nicoleta, Negrea Cristian, Domokoș Martin, Bota Eugen, Nagel Adrian, Avram Claudiu<br>The Importance Of Sleep Quality In Running Training: A Case Study  | 43   |
| Iacob George-Sebastian, Pantyo Valerij, Vrabie Diana, Zelenovic Milan, Măzăreanu Alexandru<br>Short-Term Therapeutic Effects Of Bioptron Light Therapy And Dry Needling For The Treatment Of Low Back Myofascial Pain In Amateur Sport Players        | 45   |
| Iacob Mihai-Radu, Meticaru Eugen, Budescu Emil, Puni Alexandru-Rares<br>Aspects Regarding The Kinematics Of Direct Free Throwing At Young People Between 10 And 18 Years Old  | 47   |
| Iancu Augustin, Stepan Amalia- Raluca, Cosma Alexandru, Cosma Germina<br>Job Satisfaction And Romanian Athletes' Commitment   | 48   |
| Iconomescu Teodora-Mihaela, Olaru Bogdan-Sorin, Talaghir Laurentiu-Gabriel, Berdila Anamaria, Rus Cristian-Mihail<br>Guidelines For The Physical Education And Sport Lesson In Romania  | 49   |
| Ionescu Anca, Ionescu Vlad<br>Predicting Figure Skaters Jump Performance Using Neural Networks Based On Anthropomorphic Measurement   | 50   |
| Ionescu Anca-Maria, Stănescu Monica<br>Attracting European Funds In Sport – A Comparative Analysis Of Good Governance In Romania And Italy  | 51   |
| Iordăchescu (Elena) Marina, Georgescu (Bărtăgău) Carmen Mariana, Orțănescu Dorina<br>The Level Of Motor Skills Development Compared To The Requirements Of The National Evaluation System In Grade 4 Students   | 52   |

| Authors / Paper title  | Page |
|--|------|
| Jurjiu Nicolae-Adrian, Avram Claudiu<br>Review Study On Posture Analysis With Digital Optic System In Visual And Infrared Spectrum   | 54   |
| Khimenes Khrystyna, Pityn Maryan, Lynec Mykhajlo, Antonov Sergij, Kharchenko-Baranetska Ludmyla<br>Structure, Contents And Efficiency Of The Modern Competition System In American Football                          | 55   |
| Larion Alin, Popa Cristian, Melenco Ionel<br>Taxonomy Of Study Programs In The Interference Of The Physical Education And Sports Profile   | 57   |
| Lepciuc Gabriela<br>Aspects Of The Analysis Of Motor Capacity According To Positions In The Game Of Rugby Seven's Female   | 58   |
| Liute Ștefan-Octavian, Inciulescu Marius-Julian, Pantea Corina, Vutan Ana-Maria<br>Review Study On The Efficiency Of The Use Of Kinesiologic Tape In Performance Athletes  | 59   |
| Lucaçi Paul, Neculăeș Marius, Drosescu Paula<br>Physical Therapy Approaches In The Recovery Of Patients With Cerebellar Infarction   | 60   |
| Macra-Oșorhean Maria-Daniela, Crișan Cristian Sebastian, Boroș-Balint Iuliana, Ciocoi Pop Dumitru-Rareș, Radu Paul-Ovidiu<br>Study Regarding The Benefits Of Managerial Coaching In Sports Organization              | 61   |
| Maniu Dragos-Adrian, Maniu Emese-Agnes<br>The Influence Of Open And Closed Chain Movements On Postural Balance In Visually Impaired Children   | 62   |
| Maniu Emese-Agnes, Maniu Dragos-Adrian, Grosu Vlad-Teodor, Grosu Florina-Emilia<br>The Effect Of Climbing And Swimming Activities On Self-Esteem Of Visually Impaired Children                                       | 63   |
| Martinaș Florentina-Petruța, Cojocariu Adrian<br>Evaluation Of Conscientiousness Among Rugby Players During Puberty  | 64   |
| Muntean Raul - Ioan<br>Study On The Efficiency Of Finalisation Specific To 9-Meter Handball Players, Seniors   | 65   |
| Muntean Raul-Ioan<br>Handball Player's Recovery After The Injury Of The Anterior Cruciate Ligament   | 66   |
| Muntianu Vlad-Alexandru, Abalașei Beatrice-Aurelia, Trofin Florin-Petruț, Vizitiu Maria-Emilia (Romania)<br>2D:4D Ratio Of Junior Handball And Football Players In Correlation With Somatic Measurements             | 67   |
| Muresan Dorin-Alexandru, Apostu Dragoș, Ordean Mircea-Nicolae, Arghir Mariana, Grosu Emilia-Florina<br>Initial Assessment Of Basketball Player Performance To Study Movement Stability And Balance                   | 68   |
| Mykytyuk Zinovy, Blavt Oksana, Kozibroda Larissa, Andres Andrii, Stadnyk Volodymyr, Gurtova Tatyana<br>System-Information Support Optimization Of Control Of Physical Preparedness In Physical Education Of Students | 70   |
| Nakonechnyy Roman, Okopnyy Andriy, Neroda Neonila, Zadorozhna Olha, Ivanska Olena<br>Psychophysiological Properties And Mental Processes Of Football Players 11-12 Years   | 71   |
| Neculăeș Marius, Lucaçi Paul<br>Methodical Aspects In The Functional Recovery Of Patients With Complex Humerus Fractures   | 73   |
| Negru Ioan Niculaie (Romania)<br>Level Of Physical Activity And Perception Of Anxiety  | 74   |
| Nemček Dagmar<br>Satisfaction With Life Of Female Athletes And Non-Athletes With Physical Disabilities According To Differentiated Levels Of Assistive Technology Use  | 75   |
| Nemček Juraj, Nemček Dagmar<br>Subjective Well-Being Of Elite Junior Racket Sports Players   | 76   |
| Nichifor Florin, Muntianu Vlad-Alexandru<br>Comparative Study On Cultural Differences In Sport Camp In Romania   | 77   |

| Authors / Paper title  | Page |
|--|------|
| Onose Ionuț, Onose Raluca-Mihaela, Abalaeși Beatrice-Aurelia<br>Dual Career - Concept and Representation for a Group of Students of the Faculty of Physical Education and Sports   | 78   |
| Onose Raluca-Mihaela, Popescu Lucian, Onose Ionuț, Albu Adriana<br>Correlation Between Body Mass Index And Perception Of Body Weight In A Lot Of Students From The Faculty Of Physical Education And Sports From Iasi      | 79   |
| Oprean Alexandru<br>Body Composition Evolution Of Romanian Professional Rugby Players – Backs  | 80   |
| Ormenişan Vasile-Septimiu, Radu Paul-Ovidiu, Rozsnyai Radu-Adrian<br>Plyometric Training – A Method For Improving Speed Running For Junior Football Players  | 81   |
| Patsiaouras Asterios, Nounos Georgios, Stirbu Ilie-Catalin<br>Cross-Cultural Adaptation of the STARS Questionnaire for Greek-Speaking Athletes   | 83   |
| Pop Nicolae-Horațiu, Ilisei Irina<br>The Role Of Motor Control And Proprioception In Enhancing Sports Performance. Review Of The Literature  | 84   |
| Popa Catalin, Sakizlian Eduard-Robert, Miron Doina, Sandu Oana-Alis, Marin Mihnea, Rusu Mihai-Robert, Rusu Ligia<br>Evaluation Of Specific Spine Mobility During Functional Activities                                     | 85   |
| Popescu Silvia, Gradinaru Irinel-Sorin<br>A Study Of How Worldwide Basketball Was Influenced By The Pandemic   | 86   |
| Popovici Ileana-Monica, Lepciuc Gabriela, Radu Liliana-Elisabeta<br>Traumatology and sport injuries in professional athletes   | 87   |
| Prystupa Yevhen, Briskin Yuriy, Neroda Neonila, Perederiy Alina, Svistelnky Iryna<br>The First Stage Of Development Of The Modern Olympic Movement According To The Author's Complex-Factual Periodization                 | 88   |
| Prystupa Yevhen, Tyshchenko Valeria, Omelianenko Halyna, Bessarabova Olena, Dyadachko Igor<br>Complex Control Of Special Readiness In High Performance Sports  | 90   |
| Puni Alexandru-Rares, Merticaru Eugen, Budescu Emil, Iacob Mihai-Radu<br>The Kinematics Of The Serving Of The Ball In Volleyball   | 91   |
| Purcaru Mircea, Jari Sabri, Teodorescu Silvia-Violeta<br>The Link Between Heart Rate Variability And Endurance In Swimming   | 92   |
| Rata Bogdan, Larion Alin<br>The role of physical exercises in improving coordination in 6-7-year-old children  | 93   |
| Rațu Roxana-Nicoleta, Onose Ionuț, Postolache Alina-Narcisa, Usturoi Marius-Giorgi, Usturoi Alexandru, Radu-Rusu Răzvan-Mihai, Veleșcu Ionuț-Dumitru<br>Milk - An Important Source Of Nutrition And Hydration For Athletes | 94   |
| Roșca Alin Cristian<br>Physical Training, Support Of The Technical Training For Dancers, Juniors II  | 96   |
| Roșca Vladimir, Mihailov Natalia, Pogorlețchi Ala<br>The Influence Of The Kinetic Program On The Quality Of Life In Elderly Patients With Physical Deconditioning  | 97   |
| Rusu Oana<br>Strategies And Tools For Intervention And Prevention Of Volleyball Injuries   | 98   |
| Savițchi Svetlana, Agapii Eugeniu<br>Social Integration Of Children With Special Educational Needs In The Context Of Kindergarten – Family Educational Partnership   | 99   |
| Smyrnovskyy Serhiy, Smyrnovska Sofiia, Ivchenko Anastasiia, Chervonoshapka Maryna, Potapova Olena<br>Psychophysiological Criteria Of Talent In Martial Arts  | 100  |
| Solomon-Pârțac Maria-Ștefana, Cojocariu Adrian, Solomon-Pârțac Sergiu<br>Study Regarding The Importance Of Physical Therapy In The Recovery Of Vestibular Deficit In Patients With Vertigo Syndrome                        | 102  |
| Solomon-Pârțac Sergiu, Cojocariu Adrian, Solomon-Pârțac Maria-Ștefana<br>The Importance Of Balance Assessing Of Patients With Anterior Cruciate Ligament Reconstruction-Pilot Study  | 104  |
| Ștefan Neonila-Gabriela, Moraru Cristina-Elena<br>Influence Of The Recovery Program On The Treatment Of The Upper Limb Lesions Among Athletes  | 106  |
| Stegariu Vlad-Ionuț, Abalaeși Beatrice-Aurelia<br>The Role Of Chess In The Development Of Attention In Primary School Children   | 107  |

| Authors / Paper title  | Page |
|--|------|
| Sterea Anita-Diana, Nica Alexandra, Tabără-Amânar Simona, Ababei Radu, Radu Liliana-Elisabeta, Vanvu Gynetta-Ionela<br>Five Decades Of Olympic Education In Romania  | 108  |
| Stințel Oana-Ruxandra, Oravițan Mihaela, Lazăr Cristian, Nicoară Vlad<br>Analysis Of High Speed Running And Sprint Running In Elite Female Football Competitions   | 109  |
| Stoian Iulian, Burchel Lucian<br>The Enhancement Of Effort Capacity, Particular To Soccer, Through Integrated Training Process   | 111  |
| Stupar Radu-Cristian, Monea Gheorghe, Șanta Cristian<br>U17 Romanian Volleyball Player's Approach Height Analysis, Related To The Jump Index As A Performance Indicator  | 112  |
| Talaghir Laurentiu-Gabriel, Coja Daniel-Madalin, Georgescu Luminita<br>The Use Of Virtual Reality In Inhibiting And Modulating The Perception Of Pain In Different Medical Contexts  | 113  |
| Tanasă Anca-Raluca, Moraru Cristina-Elena<br>Study On The Motor Capacity Of Female Gymnasts Aged 10-12 In The Pandemic Context   | 114  |
| Timofte Mihai, Leuciuc Florin<br>Toward A Strength Training Approach At Male Handball Players  | 115  |
| Toma Andreea-Carletta, Grosu Vlad-Teodor, Ordean Mircea-Nicolae, Grosu Emilia-Florina<br>Optimizing The Performance Behavior Of Junior Skiers Through Motivational Techniques  | 116  |
| Tomozel Razvan-Andrei, Moraru Cristina-Elena<br>The Differences In Reaction Values At Start In Sprint Trials During The Tokyo Olympic Games – Case Study   | 118  |
| Trofin Petruț-Florin, Puni Alexandru-Rareș, Ungurean Bogdan-Constantin, Dumitru Iulian-Marius, Tanasă Anca-Raluca<br>Corelations Between Food Education And Body Composition Among Students Aged 16 – 18   | 119  |
| Ungurean Bogdan-Constantin, Cojocariu Adrian<br>The Benefits Of Exercising And Sports Practicing For Young People With And Without Intellectual Disability   | 120  |
| Usturoi Alexandru, Rațu Roxana-Nicoleta, Usturoi Marius-Giorgi<br>Fatty Acid Egg Content - A Functional Food For Athletes  | 121  |
| Vorontsov Artur, Tyshchenko Valeria, Ivanenko Stanislav, Meniailo Viktoriia, Gorlach Valentyna, Tomchenko Maryna<br>The Value Of Functional Asymmetry When Improving Technical And Tactical Preparation Of Girls Aged 12-15 Years In The Process Of Boxing Classes At The Stage Of Basic Preparation | 123  |
| Vorovenci Carmina-Mihaela, Graur Cristian, Puni Alexandru-Rares<br>Determining Lower Body Power In Junior Female Volleyball Players  | 125  |
| Vrabie Diana, Abalasei Beatrice-Aurelia, Iacob George-Sebastian<br>Descriptive Study Regarding The Incidence Of SARS-Cov-2 Virus Among The Romanian Population. Strategies To Reduce The Infection Rate/Mortality In High-Risk Groups  | 126  |
| Vrabie Diana, Abalasei Beatrice-Aurelia, Iacob George-Sebastian<br>Comparative Study Regarding The Benefits Of Using Medical Flossing In Lateral Epicondylitis   | 128  |
| Vukić Željko, Gerdijan Nikolina, Zrnić Radomir, Trivun Milomir, Siniša Nikolić<br>Effects Of Body Position During Walking Incline On Oxygen Consumption  | 130  |
| Vutan Ana-Maria, Pantea Corina, Motoc Andreea<br>Pilot Study On The Influence Of Dynamic And Postural Reflexes In Children Diagnosed With Scoliosis  | 131  |
| Waleed Adnan, Rusu Ligia, Ali Bediwy<br>Effect Of The Isometric - Isotonic Exercise On Ligaments Rupture Injury Of Knee And Rehabilitation For Athletic  | 133  |
| Yu Lyuwei, Pityn Maryn, Karatnyk Ivan, Hnatchuk Yaroslav, Koloskova Iryna<br>Indicators Of Heart Rate In The Context Of The Competitive Activities Of Badminton Players 10-12 Years  | 134  |
| Zadorozhna Olha, Perederiy Alina, Kozhokar Maryna, Semeryak Zoryana, Stefanyshyn Markiiian<br>Participation Tactics Of Elite Greco-Roman Wrestlers In Competition System In 2013-2016 Olympic Cycle  | 136  |
| Zoriy Yaroslav, Kyselytsia Oksana, Moseichuk Yurii, Moroz Olena, Bohatyrets Valentyna<br>The Key Role Of Pedagogy In Enhancing Pe Teachers' Professional Development   | 137  |