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# **BOOK OF ABSTRACTS**

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## ★ STRATEGIC DEVELOPMENT OF PHYSICAL ACTIVITIES ★

### **Training of Team Spirit in Master's Students in the Field of Physical Education and Sport Through the Use of Collaborative Games**

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Any group has specific common goals accepted by all participants. When the entity has a clear goal and mission to accomplish, its members mobilize, enthusiasm increases, and the approach to success generates a constructive state of mind. Thus, each team member wants to participate in this effort and success. Starting from the principles of teamwork: joint problem solving; effective communication; cooperation and trust, as well as the declared purpose of education, namely to train efficient, rational, intelligent, responsible specialists with a civic and moral ethics, appropriate in accordance with civic and professional ethics, we can affirm that teamwork and collaborative games can successfully contribute to achieving the expected results in this direction. The proposed scientific article and the conducted research come to complete and argue the statement according to which education through collaborative games can contribute to: stimulating master's students to work in a team; to the increase in self-confidence, as a result of the challenges and confrontations to which they were subjected in research; to developing their capacities and skills to work effectively in collaboration with other members to achieve a common goal, and last but not least, to address their creativity and critical thinking in solving problems identified during the games. Moreover, real, constructive and effective communication, risk-taking and learning the vital skill of making good decisions can only be achieved through self-education, self-directing/directing others. In this context, they can assimilate knowledge, physical, social and psychosocial skills, necessary to succeed in society on their own, without family or state assistance.

**Keywords:** communication; collaborative games; teamwork; goals; results.



## **“Play Together for Integration” Project as a Mean of Integration Into Community and School Life**

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Introduction. Football Federation of Armenia Mass and Amateur Football Department together with the Armenian Office of the United Nations High Commissioner for Refugees (UNHCR Armenia) implemented the “Play together for integration” project, in which Tsaghkadzor Secondary School has participated from November 2021 to July 2022. The project aimed to unite the displaced and local children and their families around football, help them befriend each other and build stronger bonds in the host communities. The research aims to reveal the effectiveness of the implementation of the "Play Together for Integration" project in the process of integrating displaced children from Nagorno-Karabakh into community and school life in Tsaghkadzor city. The research method and implementation. 9 children displaced from Nagorno-Karabakh and 7 children from the community participated in the project. Their ages ranged from 8 to 14 years old. There were cases when more than 20 children, displaced and from the community, participated in these activities. Extra-curricular activities were conducted twice a week, lasting 60-90 minutes. Those extra-curricular activities were aimed not only at introducing children to the game of football, developing their motor skills, but mostly at stimulating the process of integration. Research results and discussion. As a result of improving the level of physical fitness, the displaced children began to perform better the normative exercises and also be more active and concentrated in other subject classes. Conversations were often organized by the teacher to find out the opinion of displaced children about extra-curricular activities. All reported that they enjoyed participating in football trainings, learning new tricks, improving their physical fitness level, and making friends. At the end of the program, Tsaghkadzor secondary school has participated in the "Solidarity Cup" tournament organized by FFA. Most of the displaced children were included in the team, but children from the community also had their place in the starting line-up. Despite the fact that they failed to pass the qualifying round, both the children and the teacher, also parents and relatives were satisfied with the game and the organization of the tournament. The fight for the victory of the team was definitely a great incentive in bringing the children closer together and activating friendship.

Conclusion. As expected, as a result of the project, the displaced children were more happy to participate in the physical education and other subjects classes, were friendly with the community children, developed their motor skills and worked together with them on topics from different subjects.

Keywords: extra-curricular activity; football; integration; displaced children; community.



## **Preservice Physical Education Teachers' Resistance to Change. The Importance of Professional Socialization Experiences**

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Preservice Physical Education (PE) teachers' resistance to change is considered as a major barrier to their understanding and implementation of new teaching practices. Previous individual and professional socialization experiences, as well as various elements of their character seem to influence both their self-esteem and their orientation towards practice. The aim of this study is to evaluate preservice PE teachers' resistance to change during their school practicum, based on their sport and instructional profiles and their self-esteem.

235 preservice PE teachers (male=118, female=117), undergraduate students at the School of Physical Education and Sport Science, of the University of Athens, Greece, participated in the study. Participants were asked to complete online the Resistance to Change Scale (Oreg, 2003) and the Rosenberg Self-Esteem Scale (1965). A Multivariate Analysis of Covariance (MANCOVA) was conducted to establish whether the between subject factors (sport, instructional orientation), showed statistically significant differences on the different dimensions of the resistance to changes scale (i.e., routine seeking, emotional reaction, short-term thinking, and cognitive rigidity, collectively), after controlling for participants' self-esteem. Results indicated a significant effect for sport on the combined variables of resistance to change, after controlling for self-esteem [ $F(4, 226) = 3.089, p < .05$ , Wilks'  $\Lambda = .948$ , partial  $\eta^2 = .052$ ]. Post hoc analyses demonstrated that individual sport participants reported statistically significantly higher levels of emotional reaction than team sport ones ( $p < .05$ ). Individual sport participants showed higher levels of short-term thinking ( $M=10.521, SE=.310$ ) than team sport ones ( $M=9.962, SE=.345$ ), higher cognitive rigidity ( $M_{indiv}=12.908, SE_{indiv}=.239$  vs  $M_{team}=12.587, SE_{team}=.265$ ) and lower routine seeking ( $M_{indiv}=14.851, SE_{indiv}=.311$  vs  $M_{team}=15.639, SE_{team}=.346$ ). However, none of these differences was significant. The effect of instructional orientation was not significant ( $p=.08$ ). Results indicated that emotional reaction, as the psychological resilience required to cope with a stressful situation, is closely related to preservice PE teachers' reluctance to lose control due to changes during practicum. Personal characteristics such as introversion and extroversion (probably related to the type of previous sport engagement), may also play an explanatory role in novice PE teachers' emotional reaction. Since professional orientation and self-esteem are crucial factors of interaction within PE environments, future studies may investigate the circumstances under which both factors may facilitate the changes in beliefs needed for the improvement of the educational process.

Keywords: physical education; self-esteem; emotional reaction; practicum.





## **The Development of the Psychomotor Skills of Primary Schools Students Through Innovative Methodology**

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Psychomotor skills occupy a very important place in children's education, as it has already been shown that especially in early childhood there is interdependence between motor, intellectual and affective development. They are based on the whole of the human being, mainly in childhood, with the core of development in the body and in the process of cognition resulting from it. In greater depth, psychomotor skills involve awareness of one's own body, the acquisition of balance, control and effectiveness of global and segmental coordination, control of voluntary inhibition and of the respiratory act, organisation of the body schema, spatial orientation, generating the greatest possibilities for adaptation to others and to the external world. The aim of this study was to develop and experimentally test a way of working in the form of phased learning units on each psychomotor component targeted, using modern and attractive means to improve the psychomotor side of young school-age children, and to identify psychomotor acquisition, i.e. improvement of upper-limb coordination.

The research included 114 children, aged 8-10 years old, students at the „Ștefan cel Mare” Secondary School in Galați and it took place during 2020-2021 school year. In the research itself, four classes were involved: 2<sup>nd</sup>, B and 2<sup>nd</sup> C, designated experimental group, and 2<sup>nd</sup> A and 2<sup>nd</sup> D, designated control group. The test to validate psychomotor acquisition was „Bruininks - Oseretsky Test” version II (BOT-2). The research demonstrated the low level of development of upper-limb coordination among primary school pupils and although a number of causes influencing this phenomenon can be presented or argued, the present research aimed to propose a practical solution that can be used to improve or ameliorate the low level of upper-limb coordination.

Keywords: psychomotricity; primary school; BOT-2; innovative methodology.

## **Reconceptualization of Physical Education Discipline in Higher Education Institutions**

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This article presents a new approach to the discipline "physical education" and aims to include all students in higher education institutions in motor activities based on interests (individually or at academic group level), to meet the needs of movement and the orientation towards the systematic practice of a sport during the whole life. The reconceptualization of university



physical education consisted in the redesign of disciplinary curriculum, taking into account modern approaches to curriculum development, where the priority role is intended for educational purposes expressed in terms of skills, but also for diversifying the forms of practicing physical education activities. The forms of organizing physical education activities proposed to students are the following: lessons - sports tests on a circle or modules/sports tests, physical education sections and motor activities/sports practised outside the educational institution. These forms of activities will intensify the focus on learner, valorizing on the principles of individualization, differentiation and personalization of the learning process.

Keywords: physical education; students; sport; discipline curriculum; specific competences; sports sections; motor activities.

## **The Impact of School Environment Factors on Children's Nutrition in Montenegro**

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The aim of this study was to determine the impact of school environment factors on overweight and obesity in children from Montenegro. The sample consisted of 694 children (367 boys and 327 girls), 4th and 5th grades grade elementary school students, with an average age of  $10.20 \pm 0.58$ . The sample of variables for assessing anthropometric parameters included the following morphological measures: body height and weight. Based on them, the body mass index (BMI) was calculated using the standard formula, on the basis of which the level of nutrition was determined. The standard COSI (WHO European Childhood Obesity Surveillance Initiative) questionnaire was used to assess school environment factors. The results indicated a very high prevalence of overweight and obesity among boys with a percentage of 36.2%, while for girls it was slightly lower at 22.9%. Logistic regression showed that there was no impact of school environment factors on the outcomes of overweight and obesity. However, these data indicate the current status of nutrition among school children in Montenegro and can be helpful for healthcare workers and experts dealing with the problem of obesity as a call for urgent intervention, not only in terms of treatment but also with a strong emphasis on prevention.

Keywords: overweight; obesity; children; school environment



## **Professiogram and the Specialist Profile in the Field of Physical Culture in the New Economy**

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The development of professionally-applied physical culture as an integral part of the general one has not lost its relevance, although the world in which we live generates essential changes in the profession of the specialist in the field of physical culture. The emergence of modern technologies, innovative scientific discoveries, the development of fields of activity, imposed, on the one hand, the approach of pragmatism in the professional training of future specialists, and on the other hand, required the acquisition of new knowledge, skills and competences. New professions appeared in all spheres of human activity, thus changing the system of professional training of specialists at different levels. Therefore, at present, the main obligation of education is the orientation towards professionalism, and which is actually part of the mission of middle and higher level institutions, respectively colleges and universities. Vocational training has become more unified and compact with the emergence and refinement of professional levels. The existence of a large number of national and international scientific works regarding the practical use of professional-applicative means and methods in the training of specialists from different fields of activity, increasing the level of their professional training, identifying new professionally oriented approaches to the realization of human capabilities represent factors that allow us to state that the most difficult problem is the compilation of a generalized description of the profession (professiogram of the efficient specialist - PES). Moreover, a process that differentiates us as individuals is highlighted by the motivation that characterizes us and by the ability to know and improve ourselves. Therefore, the reference (profile) of the specialist in the field recommends essential changes in his professional development and requalification, as the change also involves adjustments in the participants thinking way to education, the elimination of outdated stereotypes of the instructive-educational process and the transition to innovative education, focused on quality and performance.

Keywords: model; professiogram; profile, physical culture; profession; competences.

## **The Game, a Determining Factor in Socio-Affective Development for Primary School Students**

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The psychology of education, approached from another perspective, emphasizes the different design of objectives. This approach is informed by the latest discoveries regarding neurological



and biological mechanisms. It thus acquires a special particularity due to the synergistic action of education on the one hand and psychology on the other, which together generate a new phere of knowledge, enter into dialogue, sympathize and empathize, create new landmarks of the social and scientific environment, action which produces knowledge.

The games within the physical education lessons, for young schoolchildren, will be designed in such a way as to constantly reveal problematic situations, which will demand from the students the elaboration of new ideas to solve them, so as to stimulate mental processes such as: creative thinking, attention, memory, but also socio-affective ones such as helping, the spirit of sacrifice, communication, empathy. Research methods: analysis of information from specialized literature, pedagogical observation, test method, pedagogical experiment, statistical-mathematical method, graphical and tabular interpretation. General conclusions: students in general, but especially those in primary grades, are so attracted to the game with rules that they no longer think about how difficult the task assigned by the teacher is. This aspect once again proves the interrelationship between the psycho-motor and psychic intellectual capacity of the human being.

Keywords: education; emotions; psychology of education; games; students.

## **Predictable of Inhibition with Motor Competence and Physical Fitness in Kindergarten Children**

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Previous research into the relationship between executive functions (EFs) and motor competence (MC) with physical fitness (PF) in children has yielded inconclusive results about the strength and type of the association. Thus, the current study sought to investigate the association between EFs and MC with PF in children aged 5-6 years old. In total, 139 children of both sexes performed the Go/No-Go test, Physical Performance tests and Körperkoordinations Test Für Kinder (KTK3+). Model 1 indicated that age, BMI, CMJ, static and dynamic balance were not significant. Therefore, Model 2 was performed, and the results showed that the predictor agility and MC explained 22% of the variance [ $F(2,136) = 19.54$ ,  $p < 0.001$ ] of the accurate number of inhibition. In the end, Model 3 was performed using only MC as a predictor (Table 1), and the results showed that MC explained 18% of the variance [ $F(1,137) = 31.25$ ,  $p < 0.001$ ] of the accurate number of inhibition. The regression analysis also showed that MC and agility predicts the accurate number of inhibition. In short, our study suggests that it is needed to promote the development of MC, physical fitness and EFs in children.

Keywords: executive function; agility; motor coordination; balance; jumping.





## **Scuola Attiva Kids© : Primary Physical Education Italian National Project**

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Background: The project Scuola Attiva Kids © (SAK) was national sport and physical education (PE) development project in partnership with Minister of Education (IT), Sport e Salute (public company of Minister economy and finances) and Italian Paralympic Committee (CIP) till 2021-2022. Methods: case study on the governance of primary school national project for development of Physical Education Quality school based by networking of national institutional agency, financial support and introduction of the specialist PE teacher in primary school. The systemic approach was based on holistic vision: physical education activity class, active breaks, healthy days, line guide for activity family time and active life style contest with a final national event in Rome. Data: SAK 2022/2023 involved 63,205 classes, 1,500,000 students (aged 8-10 years), 3,500 Specialist PE teachers (Master in PE and Sport Science), 3,222 municipalities in Italy. Conclusion: SAK Primary Physical Education Italian national project was a governance and school based project for implementation of the Quality PE in accordance with the 4th Goals Agenda 2030 (UN) and QPE (UNESCO, 2015) and became pilot experience for introduction of the PE specialist teacher in primary school (by Italian law 234/2021 art. 1 comma 332) from 1st September 2022.

Keywords: physical education development project; primary schools; physical education specialist teacher.

## **Levels of Physical Activity and Motor Performance in relation to BMI of Children and Adolescents. The Motor Abilities Observatory in Puglia.**

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Children and adolescents do not respect the recommendations regarding daily PA levels. In fact, they have a low levels of motor performance. The purpose is: evaluate and compare PA levels of primary and middle school students, divided into two subgroups in relation to BMI, Nw and Ow-Ob; evaluate and compare strength and speed motor performance in relation to subgroups. The sample is 313 children (M, age:  $9.43 \pm 0.79$ ; F, age:  $9.48 \pm 0.60$ ) and 313 adolescents (M, age:  $11.89 \pm 0.90$ ; F, age:  $11.86 \pm 0.84$ ) divided into two subgroups in relation to differences in BMI (Nw:  $17.29 \pm 1.68$ ; Ow-Ob:  $23.93 \pm 3.13$ ; 8-10 years) (Nw:  $18.41 \pm 1.80$ ; Ow-Ob:  $24.05 \pm 2.66$ ; 11-13). Two tests have been proposed to evaluate strength and speed, and PAQ\_C self-report to evaluate PA levels of student of primary and middle schools in Puglia (Italy). The results show significant differences in PA levels ( $p < 0.05$ ) in relation to gender (males show higher scores) and BMI (Nw group shows higher scores than Ow-Ob groups). Males show superior motor performance in two motor tests compared to females ( $p < 0.05$ ); regardless of gender differences, and Nw group shows superior motor performance compared to Ow-Ob group. PA levels are determinants of health through development of motor coordination and physical fitness during childhood. Didactic interventions in PE, extracurricular motor activities are necessary to promote positive relationships between daily PA levels and motor abilities in children and adolescents.

Keywords: physical activity levels; motor development; physical education; children; adolescent.

## **Health Promotion in Physical Education in Primary School: SBAM Project. Motor Performance and Physical Self-Perception of Children in relation to BMI.**

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Promotion of children's health through physical education, physical activity and sport is an educational purpose that requires interinstitutional programs. Primary school is an ideal setting for multi-component interventions that contrast sedentary behavior and promote learning of motor competencies. In childhood, overweight and obesity are public health problems that affect motor development and psychological factors. In Puglia, regardless of gender differences, overweight children are 21.6% and obese people 15.1%. The aim is: (a) evaluate and compare motor performances (strength and speed) and motor coordination in relation to gender and BMI differences of primary school children, and (b) evaluate and compare levels of self-perception in relation to gender and BMI differences. The sample is 900 children (M, age:  $9.23 \pm 0.43$ ; F, age:  $9.12 \pm 0.36$ ) attending primary schools participating in SBAM project in Puglia (Italy), divided in relation to BMI differences in three subgroups, Nw (M:  $16.80 \pm 1.42$ ; F:  $16.45 \pm 1.53$ ), Ow (M:  $21.01 \pm 1.22$ ; F:  $20.72 \pm 1.25$ ), Ob (M:  $25.59 \pm 2.28$ ; F:  $25.49 \pm 2.91$ ). The



results show superior performance in all motor tests and self-report relating to self-perception ( $p < 0.05$ ), in both sexes, of the Nw group compared to Ow and Ob groups. Overweight and obesity affect children's motor development and learning motor skills and cause low physical self-perception. The didactic interventions in school through the use of different teaching styles promote the learning of motor competencies.

Keywords: health promotion; motor development; physical education; children; self-perception.

## **The Power of Multistation Exercise Approach in Primary School Curriculum: Enhancing Physical Activity Exposure During Physical Activity Lessons**

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**Background:** The positive effects of physical activity for children are well-known, but many children do not meet the recommended amount of moderate-to-vigorous physical activity (MVPA) daily<sup>1</sup>. Many countries have implemented interventions to promote physical activity in primary schools. Still, these interventions often focus on the amount of time dedicated to physical activity rather than the quality of the training<sup>2</sup>. This observational study aimed to determine how the exercise set-up affects the amount of active time spent during a 60-minute physical activity intervention. **Methods:** Twenty third-grade students participated in this study, and their active time was recorded during three different exercise formats. **Results:** The mean active time spent exercising was  $50.75 \pm 6.46$  seconds in the one-station format,  $100.13 \pm 10.78$  seconds in the two-station form, and  $148.71 \pm 7.26$  seconds in the four-station format. Data analysis showed a significant difference among the three formats ( $p < 0.001$ ), with the four-station design resulting in the most active time ( $p < 0.001$ ; +193%). **Conclusion:** In conclusion, the multistation exercise method may help improve physical activity interventions in primary school children. Furthermore, the study suggests that increasing the number of exercise stations can lead to a substantial increase in active time spent by children during physical activity.

**Keywords:** multistation exercise; primary school; physical activity lessons



## **Study on the Somato-Functional Development of 10-11 Year Old Students Through the EUFITMOS Test Protocol.**

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In this paper we propose to carry out a study on the somato-functional development of 10-11-year-old students from the "Vasile Alecsandri" National College in Bacau (Romania) using a standardized test battery – EUFITMOS and comparing the data obtained with the reference values established as normal indices of the World Health Organization for this age category. The research subjects are represented by a number of 54 students aged 10-11 years, 33 boys and 21 girls, voluntarily participated in the measurements. We used only 5 tests out of the 9 that make up the EUFITMOS protocol: Standing long jump; 20m run; Back-saver sit and reach; BMI; Waist circumference. Following the evaluation of the obtained results, we can state that the average of the results obtained by both categories of subjects has a value above the average of the normal fitness zone in two of the tests and the results obtained in the rest tests place both categories of subjects in the "sport" area of fitness. Although the specialized literature places Romanian children in 2nd place in Europe for childhood obesity, following the research we can affirm that the subjects have a normal body mass index in relation to the body mass index measured at the European level for this age group.

Keywords: somato-functional development; EUFITMOS protocol; body mass index.

## **Aspects Regarding the Assessment Process in the Discipline of Physical Education and Sports**

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At international level, the issue of physical education instruction is more frequently approached from many more perspectives that highlight the special interest to adapt the educational path to the developmental characteristics of each student. We also note an explicit interest in the problem of connecting instruction with a qualitative evaluation. The relatively actual definitions of the evolutionary school act are very diverse. If the old school curriculum was based on achievement the objectives, the new curriculum aims at a curricular design model focused on competencies. The purpose of the paper was to establish to what extent the success of the physical education discipline is based on a concrete system of the personal performance of the students. In practical terms, the study offers teachers the opportunity to improve and to be objective in the assessment act in the physical education discipline. The sample of subjects





consists of students from the same school, from the 7th and 8th grades. The results were recorded during three school years: 2020-2021; 2021-2022; 2022-2023. The statistical analysis had as subject of study the evolution of the performances achieved by each class of students.

Keywords: physical education; assessment; personal performance.

## **Comparative Study on the Stage of Development of the Segmental Force in the Students Admitted for the Bachelor's Program Physical and Sports Education**

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In the teenage period the muscular onus and the ability to exercise increase compared to other motor skills, all the more so as new interests appear in the motivation plan. Attention to increasing psycho-motor potential can be an end in itself for those who tend to the field of movement consumers and trainers in physical education and sport. The purpose of the research was to highlight the level of segmentary strength of the students who managed at admission for the bachelor's program Physical Education and Sport the course of 4 generations at the Faculty of Movement, Sports and Health Sciences. The hypothesis of the work assumed that the analysis of the results of the strength indicators at the level of students admitted to the specialized faculty would have a fidelity as close as possible to the values of the minimum requirements imposed. The research methods used were that of scientific documentation, comparative study, testing method, statistical-mathematical and graphic methods. The research was carried out in the years 2018-2021 and consisted in processing the results of some segmental force tests undertaken by a sample of 60 students from the first year in the first semester in the discipline General Bases of Gymnastics at the Faculty of Movement, Sports and Health Sciences in Bacau. The results demonstrated value differences at the level of the researched group, with a dynamic difference from one generation to another during the 4 years. Compared to the minimum standards imposed, there were a small number of cases in which the scales were met at all the tests, they were obtained especially by practitioners of performance sports disciplines.

Keywords: comparative study; segmental strength; students, bachelor's program; physical and sports education.



## Physical Education and Sport Between Traditional and Modern

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Society and everything that surrounds us is in constant change. Everything is moving forward. Children today know a lot more from a young age compared to the 90s. Unfortunately, there are also things that are stagnating, such as the Romanian education system and the means used. Through some places, some teachers also try to introduce new, innovative learning tools that develop the student multilaterally. Through the study we wanted to emphasize the differences between traditional and modern physical education, but also to explain one of the modern means suitable for sports classes. Unfortunately, following the application of the questionnaire, it was highlighted that a predominant number of teachers use traditional means and a predominant number of students opt for games instead of classic exercises. One of the means that helps the student to develop by his own rules is experiential education/adventure education. This method offers greater freedom in choices and is only guided by the teacher so as to achieve the objectives of the lesson. More concretely, replacing competitive games with cooperative games, gathering a plus for the students' psyche. Through them we raise adults who are able to work in groups, eliminate the fear of failure, encourage finding solutions and solving problems. Keywords: traditional; modern; adventure education; physical education and sport.

## Motivation for Exercise and Frequency of Usage of the Online Exercising Content Among High School Students During the Pandemic of Covid-19 in Serbia

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The aim of this research was to examine the connection between the motivation for exercise and the frequency of usage of the online exercising content among high school students during the pandemic COVID - 19 in Serbia. The research was conducted in February 2021. 2524 high school students (1837 female students) from the territory of the Republic of Serbia participated in the research. An online questionnaire on the regulation of exercise behavior (BREQ, Markland & Tobin, 2004) was applied, which starts from the theory of self-determination and contains 6 subscales: amotivation, external regulation, introjected regulation, identified regulation, integrated regulation, and intrinsic regulation. Also, a non-standardized questionnaire was applied which had various types of questions related to usage of the online



exercising content among high school students during during the pandemic COVID - 19 in Serbia. Descriptive statistics showed that students of both gender had the least pronounced motivation for exercise ( $M = 1.39$ ,  $SD = 0.71$ ), and the most pronounced intrinsic motivation ( $M = 3.54$ ,  $SD = 1.11$ ). T-test for independent samples showed that there are no gender differences on the subscales of amotivation, while on all other subscales male students showed significantly higher motivation compared to the female students ( $p < .01$ ). Almost half of the students (45.3%) never use exercise apps available on mobile phones/computers, 38.7% of students use them sometimes, while only 16% use them often. A statistically significant difference was obtained in favor of girls ( $p < .01$ ) when it comes to the frequency of using exercise applications on mobile phones/computers. The results show that there is a negative correlation between the scale of amotivation and the frequency of usage of exercising apps, while among the other types of motivations and the frequency of usage of exercising apps there is a significant but still negligible correlation. The results indicate that even during the COVID-19 epidemic, students mostly showed internal motivation for exercise, so it is necessary to design various exercise programs that can be applied in this and similar situations while meeting the necessary safety measures. Considering that students are increasingly using social networks, one of the tasks of physical and health education teachers is to try to use social networks to promote physical activity and exercise.

Keywords: motivation; exercise; online exercising content.

## Physical Activity and Sports Participation of Elementary School Students

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The aim of this research was to investigate the physical activity and sports participation of elementary school students. The sample included 5409 students aged 11-14 years. Physical activity was assessed using the Questionnaire for Adolescents – PAQ-A. This instrument assesses a child's self-report of typical level of activity in different settings and different times of the day (eg, physical education class, activity at lunch, activity on the weekend). Boys were more active than girls in total physical activity, also in different settings and different times of the day. Levels of physical activity decrease with age, and it is higher in girls of all ages. Students are most active in physical education classes. 59.2% of students were involved in organized sports participation. More boys (33,7%) than girls (25,5%) were involved in organized sports participation. There has been a larger decline in sports participation among girls, especially in older ages. Physical activity and sports participation of elementary school students vary according to gender. It is necessary to take certain measures in order to increase the level of physical activity of students and active lifestyle in general. Special attention should



be paid to encouraging girls to be active and exercise during the day, that would significantly contribute to their overall physical activity

Keywords: physical activity; sports; elementary school.

## **Model of Personality Traits of Physical Education and Sports Teachers**

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Modern trends in the development of education, increased professional requirements towards the personality of the teacher have necessitated forming the teacher's creative individuality and unlimited realization of his or her creative skills. Dealing successfully with the demands depends not only on the professionalism of the teacher but on his or her personality, in particular, on the teacher's personal qualities. The aim of the research provided in this article was to develop a hypothetical model of professionally valued personality traits of the physical education and sports teacher of a general education institution and its experimental verification on the Georgian population. The research has shown that there is a certain difference between the hypothetical model and the personality traits obtained through the research. The experimental study conducted on the Georgian population has revealed seven key personality traits characteristic of the physical education and sports teacher: high level of rule-consciousness, high level of self-control, relaxed, socially boldness, emotional stability, and sensitivity. It has also been found that only a small number of teachers (38.8%) are open to change. A large proportion of the participants are characterized by low (28.2%) and average (50.4%) level of creativity.

Keywords: model of professional valued personality traits; teacher of physical education and sports; 16-Personality Factor Questionnaire (16PF) by R. B. Cattell.





## **Features of Physical Development and Physical Fitness of Students from the Faculty of Physical Education and Sport, Babeş-Bolyai University**

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For students of physical education faculties, a high level of physical fitness is the basis of professional and personal formation and development. Objective: to investigating the features of physical development and physical fitness. Methods: 161 students of the Faculty of Physical Education participated in the study. The following methods were used: anthropometry, a method of testing physical fitness indicators, statistical analysis. Results. All students were divided into two clusters. Representatives of different clusters are statistically significant ( $p < 0.05$ ) differed by all indicators. Conclusion. The program of physical education for students of the Faculty of Physical Education and Sport needs further improvement based on the result of the study.

Keywords: university students; indicators; physical education; physical fitness.

## **Forms of Organization of Physical Education in Primary Education in Hybrid Education - Investigative Approach**

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Primary education is an essential stage in the training of students, both academically and socially. It is therefore important to provide primary school students with a balanced and diverse learning experience that allows them to develop their skills and potential harmoniously. The aim of the paper is to explore the different ways of organizing physical education for primary school students in the context of hybrid education. The advantages and disadvantages of different approaches to the organization of physical education, as well as their impact on



physical and mental health, student involvement and school performance, will be examined. Objectives: Identification of forms of organization of adequate physical education within hybrid education at primary school; Analysis of the benefits and challenges of using technology in the organization of physical education. Research methods: questionnaire-type survey method, observation method, mathematical-statistical method, and graphic method. Conclusion of the investigative approach: Physical education in primary education within hybrid education offers significant opportunities for the development of students, it encourages them to explore, discover and apply knowledge in a practical and interactive way, thus contributing to their holistic development and the promotion of a healthy lifestyle. Keywords: primary education; hybrid; physical education; students; questionnaire.

## Some Relationships of Elementary Games and Motor Skills in Early School Age 9 Students

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Introduction: The main objectives of the research are: determining the application of elementary games in the teaching of physical and health education;- examining the impact of games on students' motor skills;- defining parameters in the contribution of the game of the students from the early school age. Method: The population from which the sample was derived from is defined as a stratified sample, teachers - employed in primary education from the city of Skopje, as well as students from those grades. The data was collected with a Likert-type survey questionnaire, which was transformed into parametric data allowing the application of appropriate statistical procedures. The questionnaire consists of 10 questions (only for teachers). A set of standardized tests to check the students' motor skills. Standard central and dispersion statistical parameters, and a correlation matrix, were calculated for each applied variable. Conclusion: Elementary games are used in the teaching of PE, they have a significant impact on general motor skills and on the students' socialization. Teachers have the opinion that speed, coordination, balance and precision are can be developed by elementary games. We believe it is necessary to introduce additional training, conducted by professional teaching staff of the Faculty of Pedagogy.

Keywords: teachers; attitudes; motor dimensions; students



## **Teachers' Digital Competence: Catalonian Secondary Physical Education Teachers' Perception of Their Methodological Competence**

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Physical activity and movement of the body are considered fundamental aspects of Physical Education classes. Consequently, the use of technology by secondary school Physical Education teachers has been considered as non-essential and detrimental to students' engagement time in physical activity. Furthermore, few scientific studies have been dedicated to measuring and exploring the self-perception of these teachers regarding their Teaching Digital Competence (TDC). The primary objective of this study is to determine the self-perceived level of Methodological Digital Competence (MDC) among this teaching cohort. Specifically, this variable has been scrutinized in relation to gender, age, teaching experience, province and type of school, and training and utilization of digital technologies in Physical Education. A questionnaire has been employed to assess the MDC of 547 secondary school Physical Education teachers in Catalonia. The findings reveal the lack of training in digital technologies for this group, both at the initial and permanent training stages

Keywords: teacher digital competence; educational technology; physical education; compulsory secondary education.

## **Methodological Contributions Regarding the Development of the Football Game Technique in High School Students**

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The traditional practice of playing football in school, means going through the technical-tactical elements of the game according to the analytical method. Each process is practiced, in order to learn, isolated, broken by the conditions of the game. No matter how adequate the methods and means used are, the exercises will not succeed in ensuring the complete, multilateral employment of the student, so that through the immediate and subsequent effects the major objectives will be achieved, which motivated the introduction of football in school. The practice of the integral game, with some simplified rules, ensures a much greater contribution and a special contribution to the involvement of football in the tasks of physical education. In the game, students are engaged multilaterally in the bio-psycho-motor plane, and the phenomena of addiction, teacher-student is diminished. During the game, the teacher intervenes in correcting some fundamental mistakes in the technical-tactical executions, or in interpreting the game rules. Integral play, however, cannot be practiced without the students



having acquired a minimum of specific motor knowledge and skills. The teacher's mastery consists in knowing how much of the physical education lesson is given to learning the technical procedures separately, how much in conditions analogous to the game and how much time is allocated to the whole game. In addition to this time planning in the lesson, the teacher must also schedule new technical-tactical actions subject to the learning process and the consolidation of the technical procedures underlying the development of the game of football. Starting from the optimal, technical-tactical model of the graduate, the content of the training must be in accordance with this model and staggered on the requirements of their periodization and staging. This need is imposed by the practice of the game of football both in school - as a means of physical education, but also by the participation of students in school competitions reserved for them and which includes the entire mass of students. So, in the physical education lesson, the isolated learning of the technical-tactical elements and procedures will be short, insisting on their repetition and consolidation within the technical-tactical actions of the game, by practicing the bilateral game. The system of physical education and sports has a dynamic character, being subjected over time to changes and adaptations dictated by the social order, respectively by the state of society and its members, by technological progress and cultural level, by their aspirations. In the spirit of this dynamic, the steps of elaboration and revision of the school curricula in a curricular vision are revealed. This vision presupposes "a design in their interaction of objectives, contents, learning activities and evaluation principles and methods. The curriculum for physical education in secondary education reflects a new conception regarding the formation and complex development of the autonomous and creative personality of the students". The curricular area underlying the new curricula is a first step in decentralizing education, offering increased opportunities for choice, increasing the chances of an individualized teaching/learning process and increasing school autonomy in developing one's own curriculum. The methodical steps imposed by the new orientation of the physical education and sports activities in the school represent a challenge for all those involved in this process, "but the teacher will always remain the main creator of his lesson". Keywords: physical education, personality, football.

Keywords: football, physical education, gymnasium, match.

## **Contributions on the Role of Personality in the Selection of Children and Junior Football Players**

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The efficiency of the use of games in the physical education lesson is given by a series of aspects, such as: sports games, which represent for children and juniors, the most attractive global activity, through which one can act on a background of motor and mental stress. in order to fulfill the instructive-educational objectives of the physical education lesson. Thus, elements of basic sports such as football, basketball, handball, volleyball, etc. are rarely applied in physical education lessons. Applying the technical elements of these games will lead to a significant increase in the effectiveness of physical education lessons on the development of





motor skills, learning and improvement of motor skills and abilities. The means of physical education and sports are tools that help achieve both physical education and sports goals. As an organized educational instructional process, physical education is a bilateral process in which, under the guidance of specialized teachers, subjects are systematically subjected to influences in constant accordance with the objectives of education, in general and those for each stage of improving physical development and motor skills. The organization of physical education represents a complex action of orderly, rational and coherent assurance of the formative activity, of the human and material resources necessary to achieve the general and operational objectives of physical and sports education, and secondly, the educational resources we have. In the training of the specialist, the high-performance footballer, a very important role is played by his tendency towards self-affirmation as a concretization of his aspirations. By mastering these behavioural action patterns, the player becomes able to effectively resolve situations on the field of play. In this case, we can talk about the awareness of our own game and the choice of the most favourable development direction. The personality traits of high performance footballers define personality as stable indicators of behaviour, state, dynamics and performance. The qualities that distinguish one personality from another belong to the field of consistency, level of development, structure, mobility and the degree of integration of mental states. Personality is not a definitive, closed structure, but on the contrary, a dynamic one with a permanent tendency of development.

Keywords: physical education; personality; football.

## **Aspects of Speed and Agility Monitoring in Pupils who Practice Tennis as Physical Activity**

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Speed and agility are some of the main directions that can be addressed in the physical activity of pupils, knowing the fact that, at this age, the body development processes are evolving, the approaching of these qualities being done with obvious effects. The purpose of the research was to highlight the importance of monitoring speed and agility of pupils of 10 – 12 of age. In terms of monitoring the running during 15 m, the time obtained ranged between 2.91 s - 3.21 s, while in the shuttle test the time ranged between 12.25 s and 17.73 s. The agility tests expressed very good indicators regarding the ability of the pupils to react, run to an indicated point and return to the start point. It was revealed that speed and agility monitoring in pupils is a very useful and important manner to achieve an adequate, objective and proper physical activity, especially at this age. The monitoring tests and hardware that were used proved to be



motivational tools for the pupils having the chance to interact with some devices that gave them an objective and smart feedback.

Keywords: ability; motor cognitivity; reactivity; tennis.

## **Effect of an Optimized Motor Program on Physical Abilities of Twelve-Year-Old Students**

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The problem about physical activity among the adolescents is important social phenomenon. Many studies have concluded that the quality and quantity of physical activity of adolescents is lower recently. Based on this conclusion, our aim was to improve the physical fitness of twelve-year-old students by optimizing their physical activity in physical education lessons. In order, to achieve the aim, we set the following tasks:

- 1.To study the scientific and methodological literature based on the problem;
- 2.To develop and approve a motor program, based on motor qualities on twelve-year-old students;
- 3.To analyze the dynamics of indicators of physical fitness on twelve-year-old students

We fulfilled our study tasks by statistic processing the achievement of the twelve-year-old students, having participated in the tests, included in the National system for assessment the physical fitness of students. We applied a variation and comparative analysis which allowed us to specify the impact peculiarities of the developed motor program on motor qualities in its age aspect. After the experiment and the analysis, we found statistically significant improvement in physical fitness of twelve-year-old students, which allows us to make recommendations to teachers of physical education.

Keywords: physical education; physical abilities; students.

## **Assessing Physical Fitness in Children: Towards an Evidence-Based Didactic Model in PE?**

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National trends in Italy showed the progressive increase in the percentage of overweight and obese children with the consequent reduction of physical fitness development (strength, speed



and aerobic fitness), considered as an important health indicator during the developmental age. The objective of the present paper is to present the results of Regional Observatory of Motor Development— an Italian project aimed at assessing health status and physical fitness in children and adolescents. The purpose is (a) to interpret the monitoring data and address specific Regional intervention policies aimed at promoting active lifestyles and the practice of motor activities, and (b) to highlight some evidence-based methodological and didactic implications for physical education teachers. In fact, the assessment of physical fitness in children and adolescents allows the acquisition of transversal and longitudinal information on the development and evolution of motor abilities as health indicators. Furthermore, it allows to acquire and periodically compare quanti-qualitative data on the evolution of physical fitness and motor abilities in different geographical areas, evaluating the effectiveness of school, institutional and sports interventions for health promotion.

Keywords: physical fitness; adolescents; regional observatory; health promotion; didactic evidence-based.

## Health-Oriented Interventions in Primary School: The “Physical Snack” Project

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This study aims to assess the effects of the “Physical Snack” Project (Apulia, Italy) for the development of physical fitness in primary schoolchildren. The sample consist of 765 children (399 males, 11,20±1,72 age; 366 females, 11,32±1,76), recruited from three primary and secondary schools. The intervention protocol was applied from March to June 2022, as follows: active breaks, physically active lessons and active breaks before and after school. The assessment (t0 and t1) involved anthropometric characteristics and physical fitness test (standing long jump, medicine ball throw 2Kg, 6-minutes walking test, sit ups, 10x5 shuttle run and hand grip). The results of physical fitness showed a significant improvement in standing long jump ( $p < .05$ ) and 6-minutes walking test ( $p < .01$ ). The preliminary results of the “Physical Snack” project highlighted that motor tasks (and the ways in which they are proposed by teachers) should be based on a solid methodological-didactic structure to intentionally develop some components of physical fitness. The improvement of physical fitness - as a health status indicator - through active breaks and “active” school interventions in schoolchildren can promote further opportunities to encourage and expand the time spent in physical activity.

Keywords: active breaks; active lessons; health promotion; physical fitness; primary school children.



## **Study on the Development of Coordination and Rhythm in Primary-Schoolers Through the Use of Aerobic Exercise**

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The benefits of physical exercise are numerous and well-known, being essential in the harmonious development of physical attributes in pupils. Numbering among the favorite physical activities of pupils are gymnastics(aerobics, acrobatics, rhythmic, artistic), all of which have elements found in school programmes at all levels of education(primary, secondary, highschool). With the chosen theme, we attempt to use elements generally found in aerobics and determine their effects on the coordination and rhythmic capacities of primary schoolers - 3rd grade. The sample consists of 46 children (23 pupils - experiment group and 23 pupils - witness group) with ages between 9 and 10, part of an educational institution in Galați. The experiment spanned 5 month between the months of February and April of 2023, the witness group using gauging systems specific to the objectives proposed. The use of the experimental programme involving exercises specific to aerobics proved beneficial on the development of coordination and rhythm, concluding that the early implementation of such programmes in the schedule of primary schoolers can potentially improve their physical capabilities and theoretical knowledge.

Keywords: aerobics; coordination and rhythm; primary school.

## **The Manifestation of the Knowledge-Based Approach in the Physical Education Lesson in Romania**

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The knowledge-based approach to the physical education lesson is one in which the aim is to achieve a mix between a practical and a theoretical component. This work aimed to critically analyze the specialized literature from Romania in order to highlight the extent to which the knowledge-based approach finds support. In the first phase, a process was carried out to identify works dealing with the knowledge-based approach. Then, following their analysis, the main themes defining this approach were highlighted. In the second phase, the works that approach the teaching methodology of the physical education lesson in Romania were studied, with the aim of identifying the themes established in the first phase. Both the curriculum and the works that deal with the methodology of teaching the physical education lesson in Romania have references to all the themes that make up the knowledge-based approach. Also, the





implementation of a specialized textbook for the 5th and 6th grades leads to the idea of achieving a mix between theory and practice. In conclusion the knowledge-based approach is supported by the specialized curriculum and methodology, but it needs more experimental research to prove its effects in the medium and long term.

Keywords: knowledge-based; physical education; curriculum; conceptual physical education.

## **The Effects of Technology on Health and Physical Activity: A Qualitative Study**

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This study aims to provide insights into the effects of technology on health and physical activity and develop strategies to help people maintain a healthy lifestyle. The study included 45 participants, 25 females and 20 males, aged between 18 and 45. The data for this study were gathered through semi-structured face-to-face interviews, which lasted an average of 30-45 minutes each. The participants were selected using the convenience sampling method, a qualitative research technique that allows researchers to comprehend and evaluate the perspectives and experiences of participants. The interviews were transcribed into plain text and analyzed using content analysis. The analysis identified four themes: Effects, Methods of Reducing and Preventing Negative Impacts, Role and Benefits in Increasing Physical Activity, and Proper Use. The study results show that the participants acknowledged the benefits of technology for a healthy lifestyle. However, they also recognized that excessive use of technology could lead to physical and mental health problems. Therefore, participants emphasized the importance of regular physical activity and moderation in technology to increase physical activity levels. Seeking guidance and support from healthcare professionals can also be beneficial.

Keywords: technology; health; physical activity.



## The Positive Impact of Using Modern Teaching Methods on Improving Pupils' Performance in Physical Education

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The use of modern technology in the physical education lessons is limited on account of insufficient funding, improper space, and mainly the teachers' reluctance to use it. However, using new technology may increase the learning process' efficiency and attractiveness to pupils, generating interest in new and different aspects, which has been shown during the Coronavirus pandemic. The purpose of research is to prove the importance of using new modern technology in teaching the physical education lesson, so that to elicit the pupils' active and mindful participation in the lesson and the enhancement of their performance. The subjects of research, who tested and used modern teaching means (tactile sensors, motion sensors, telephone and computer), are 82 pupils (age=10.48±2.505) divided and examined in two groups/ education levels (N 45 primary, and N 37 secondary). The non-parametric tests Mann-Whitney U and Wilcoxon W were applied, and the significance thresholds, i.e. the values Asymp. Sig. (2-tailed), were set at the level 0.05 in order to see if the differences between the two data groups (primary, secondary) are statistically significant for five variables (execution time of the exercise, theoretical assessment, preference for modern method, option for traditional or modern methods, degree of involvement in the physical education lesson). The values Asymp. Sig. (2-tailed) are all at or below the 0.05 level, pointing to the existence of significant differences between the groups under study for each variable (execution time of the exercise, theoretical assessment, modern method preference, and the learning method), and non-significant differences for the "involvement degree" variable.

The results obtained show that the use of modern methods is essential to pupils, as well as teachers, in improving the quality of the teaching process.

**Keywords:** modern technology; physical education; degree of involvement; teaching process; performance.



## **Quality Physical Education: Italian prospective in according with the Physical Education Worldwide Survey (UNESCO, 2020)**

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In Italy, the epistemological and methodological evolutions of physical education have been reflected in the ministerial regulatory documents that regulate the curricula of primary schools to improve the quality of teaching. The aim of this research is to offer a description of physical education teaching in Italian primary schools. In the study, a methodology of a predominantly quantitative nature was used through the administration of an adapted version of the IV version of the Worldwide Survey of Quality Physical Education (QPE) by Unesco (2020). The sample consists of 155 students attending the fourth year of the degree course in Childhood and Primary Teachers Education at the University of Turin (North West Italy) in the academic year 2021/22. The data processing highlights: low regard for discipline (39% of responses), other professionals teach the subject (specialist teachers 28%, external experts 19%), 60 min or less of motor activity per week (54%). The main critical issues are related to the little experience that trainees have with physical education and a strong gap between the normative prescriptions plan and daily school teaching observed by trainees.

Keywords: physical education; primary schools; physical education teacher training.

## **Increasing the Level of Physical Activity Intensity with Child-Designed Games and Creativity of 6-8 Year-Olds during Gymnastics Lessons in Physical Education**

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**Abstract.** Higher levels of physical activity (PA) during physical education (PE) are important for 6- to 8-year-old children because it can improve their physical health, cognitive skills, academic performance, and social development. The purpose of the study conducted was to determine the effects of incorporating child-designed games and student creativity while waiting for teacher supervision during gymnastics lessons in PE on the quantity and intensity of PA among 1st and 2nd grade students. The sample included 91 1st and 2nd grade students (53 boys) from a Slovenian school, of which 48 (age =  $6.8 \pm 0.7$ ) participated in the experimental teaching program that included child-designed games and student creativity, while 43 (age =  $7.0 \pm 0.6$ ) belonged to the control group where traditional teaching continued. They were taught three gymnastics elements that had to be supervised by the teacher: the squat



jump on the vault box, the backward roll, and the cartwheel. The results of the nonparametric Mann-Whitney test showed statistically significant differences between groups (EXP vs. CON) in terms of light physical activity (LPA) and moderate to vigorous physical activity (MVPA) for all three gymnastics elements taught: the squat jump on the vault box (LPA:  $p=0.001$ ; MVPA:  $p=0.001$ ), the backward roll (LPA:  $p=0.001$ ; MVPA:  $p=0.001$ ), and the cartwheel (LPA:  $p=0.002$ ; MVPA:  $p=0.001$ ). Statistically significant differences between groups in terms of vigorous physical activity (VPA) did not occur for any gymnastics element: the squat jump on the vault box ( $p=0.462$ ), the backward roll ( $p=0.833$ ), and the cartwheel ( $p=0.636$ ). The results show the effectiveness of incorporating child-designed games and student creativity to reduce inactivity while waiting for teacher supervision and to increase the amount of LPA and MVPA in 1st and 2nd grade elementary school during gymnastics lessons in PE..

Keywords: sport; students; school; group work.

## **Temporary Changes in the School Curriculum for Small Classes of Pupils. How the Practical Disciplines were Influenced and what were the Consequences**

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Education in general, and some disciplines in particular, suffered temporary imbalances due to the restrictions imposed at the national level, three years ago. One of this, is Play and Movement discipline integrated in the Physical Education, Sports and Health curriculum area. This discipline completes the influences that Physical Education has on children's personality, contributing to their physical, mental and socio-emotional development. It also gives them the opportunity to know, understand and learn to control their behavior in a balanced way in school and outside it, developing their emotional intelligence. The legislative requirements, for a certain period of time, restricted the development of this activity in the classroom, therefore the entire contribution of the content of the discipline could not be materialized, the tasks aimed at the development and education of children were not fulfilled, and the educational goals could not be concretized. The study carried out continues an investigation carried out immediately after the pandemic and includes middle school pupils who, during that period, accumulated behavioral changes. Thus, the subjects found a decrease in the level of values that the Play and movement discipline would have had if this category of pupils had not had restrictions during their development at that age. More than that, 45% of pupils show, in various forms, a refusal to carry out physical exercises, compared to the period before the restrictions.

Keywords: school curriculum; play and movement; abilities; physical education.





## Tasks and Responsibilities of Teachers in PHE Tandem Teaching

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The effectiveness and quality teaching in PE is determined by many different factors. When it comes to tandem teaching in PE in North Macedonia, the quality of PE teaching process is/should be equally responsibility to both generalist teachers and PE specialist involved in the tandem. Yet, in practice, many times the situation can be quite different. Therefore, the aim of the presented study is to determine the tasks and responsibilities of teachers involved in tandem teaching in PHE. Particularly we were interested in their involvement in different activities during planning, content delivery, maintaining discipline, learning outcomes, socio-emotional climate, holistic learning, extracurricular activities, communication with parents etc. The study was conducted on a sample of 198 teachers, involved in tandem teaching, using specially designed survey, applied online. The results suggested greater involvement of PE specialists in selection of contents, demonstration, and actual delivery of PE contents. Generalist teachers are more involved in maintaining discipline, socio - emotional climate and behavior of student. Differences are noted in organization and involvement in extracurricular activities, activities with parents and on school level. Following the results, several suggestions for improvement of tandem work are provided. Use short, direct, and complete sentences. It should be concise and as brief as possible. It is recommended presenting essential aspects including: type of research design, research subjects, and methods used main results and the general conclusion. Keywords: physical and health education; responsibilities; involvement; quality teaching.

## Study on the Improvement of Coordination Capacities Through the Implementation of Specific Means to the Handball Game to Gymnasium School Children

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At the level of the young generation, physical education represents a well-organized subsystem, being an important component of global education. On the one hand, physical education has a varied palette of means that can be used in the instructive-educational process. On the other hand, the leader of the instructive-educational process must take into account the improvement of the already existing means as well as the implementation of other new means



in order to fully the general and specific objectives of physical education in contemporary education. The purpose of this research is to identify and experimentally apply some means in order to improve coordination capacities. In this direction, we selected and applied a series of means specific to the game of handball in the physical education lessons, at the gymnasium cycle. The identification of the efficiency of these means will be achieved by analyzing the motor effects and by comparing the results with the values of some students for whom standard means were used in order to improve the coordinative capacities. In the experiment, two groups of subjects aged between 11-12 years were engaged. The research methods used during this study were: the method of analyzing specialized and interdisciplinary literature, the pedagogical observation method, the statistical-mathematical method, the graphic method and the tabular method. Analyzing the results of the two groups of subjects within the research, we can see that the values obtained after the final testing are superior to the values obtained during the initial testing, however, in the case of the experimental group, the progress recorded between the two tests is much better, compared to the group control.

Keywords: coordination capacities; handball; physical education.

## **Comparative Analysis of Classical Methods in Relation to Modern Ones for Determining Laterality, the Component of Psychomotricity**

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Background: Psychomotricity, as defined by Mihai Epuran, represents "the expression of the maturation and integration of motor and mental functions at the level required by the good functional integration of the individual in the environment". Laterality is a component of psychomotricity, along with body schema, segmental and general dynamic coordination, static coordination - balance, perceptual-motor coordination, rapidity of movements and ideomotricity as a dynamic synthesis of the body schema and perceptual-motor coordination with motor load. Laterality refers to the existence of the functional predominance of one part of the body over another, the dominance of one part of the body over the other. Purpose: The purpose of this study is to reflect the importance of the methods used in determining a component of psychometrics, namely, laterality, in relation to the results obtained following their application. Method: We used a series of classic methods such as the Tapping Test, throwing an object at a target, the Diadochokinesis Test, the To Clasp Hands Test, the vertical plane test, etc. followed by a series of modern methods, namely, the MGM test (modified Miron Georgescu), the Kinect sensor, the Lateratest system and the modified Batak system. All these tools were used within the Human Performance Research Center in Galati with secondary school students (grades V-VI). Results: As a result of this research, differentiated results were obtained by the 2 categories of methods used, revealing the fact that modern methods are more efficient and generate more accurate results compared to classical methods. Conclusion: The results of this research can contribute to a better selection of work methods when it comes to laterality measurement.

Keywords: psychomotricity; laterality; method; classical; modern.



## Basic Motor Competencies in 6- to 7-Year-Old Children with ADHD

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The aim of the study is to identify the level of basic motor competencies in 6- to 7-year-old children with attention deficit and hyperactivity disorder (ADHD) and compare them with the standard population. Data were collected from 233 children attending the first grades (45.9% girls) with an average age of  $7.06 \pm 0.58$  years. The research sample consisted of a subset of 103 children diagnosed with ADHD and a subset of 130 children from the standard population. Motor competence testing was conducted using the MOBAK-1 test battery, assessing 4 self-movement skills and 4 object movement skills. Differences in motor competencies between the compared sets were evaluated using an independent samples t-test. Research results imply that children with ADHD score significantly lower than their peers without ADHD in self-movement skills, object movement skills, as well as in the overall test score. Diagnostic identification of children's motor deficits is a prerequisite for effective intervention and may lower the risk of later problems related to physical inactivity. The study is supported by the Grant Scientific Project of the Slovak Republic no. 1/0162/22 with the title: Learners' motor competencies in the context of primary education – determinants and possibilities of stimulation.

Keywords: physical education; MOBAK test; motor development

## Examination of the Effect of Affective Neuroscience Personality Characteristics

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Affective neuroscience represents a promising new field in neuroscience for understanding the basis of many types of psychopathology. In the literature, it is examined as the scientific investigation of the neural basis of emotions and feelings. From this perspective, this study aimed to examine the effect of exercise on affective neuroscience personality characteristics considering various factors and test the relationship between these variables. The study group consisted of 386 people aged between 22-28 (mean age=  $24.16 \pm 4.32$ ), and selected by convenience sampling method. "Affective Neuroscience Personality Scales" short form was used for data collection. The hypotheses formed within the study were tested with t-test,



ANOVA and Pearson correlation analysis methods for independent samples. According to the results of the analyses, the mean scores of the participants did not differ statistically significant according to the gender variable ( $p > 0.05$ ). Moreover, a statistically significant relationship was determined between the participants' exercise participation levels and affective neuroscience personality characteristics ( $p < 0.01$ ). In conclusion; the results of the study revealed some new perspectives to understand the effect of exercise on affective neuroscience personality. It is thought that it will be beneficial to examine the reasons for the results obtained with qual

Keywords: exercise, affective neuroscience and individual

## **National Project "Gymnastics Game", a Playful-Physical-Emotional Pathway in Kindergarten and Primary School**

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International bodies recommend the daily practice of physical activity from developmental age, emphasizing the priority of enhancing levels of motor-sport activity (Who, 2010; 2015; 2020). In this sense, physical and sports education in the school setting represents an educational opportunity to increase awareness of the importance of Health Enhancing Physical Activity. The aim of this contribute is to present the national project "The Gymnastics Game" promoted by the Ministry of Education, University and Research (MIUR) and the Gymnastics Federation of Italy (FGI) with the purposes of: facilitating a lifestyle-oriented healthy, cognitive and relational approach from kindergarten onward; preventing deviant behavior; and developing both useful problem-solving skills facing with a creative approach and adaptable and transferable skills to everyday life. The pilot project, implemented in all regions of Italy's national territory, involved No. 40 schools, a total of 222 classes, 4500 pupils attending sections 3-4-5 years of kindergarten and the first and second classes of primary school (6-7 years old), with an additional 285 classes that only received the educational kit without being able to participate in the pilot project. The initiative involved the active participation of curricular and support teachers of the affected classes, 40 FGI specialists and families. The pathways-guidelines have started a nationwide comparison aimed at developing research and educational-methodological innovation in the physical and sport science, improving over the years, participation in motor and sports activities and opposing the early abandonment.

Keywords: gymnastics; health promotion; physical education; school context; teaching and learning.





## Physical Activity and Sports Program Adapted for Health Promotion in Senegal

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**Introduction.** The 100th anniversary of the FIEPS in 2023 will mark the end of a century of mobilisation and action to promote the quality of physical education in the five continents and the world. However, the consequences of the global epidemic COVID-19 still exist in 2023. This is an opportunity for FIEPS to take stock of the situation and the resources shared and to identify the perspectives with its partners such as the Conference of Ministers of Youth and Sports of the Francophonie (CONFESJES). For the relaunch of quality PES post-Covid-19, CONFESJES organised an international symposium on the theme "Youth, Sport and Leisure as factors of post-Covid-19 relaunch in favour of sustainable development" on the fringes of the 39th Ministerial Conference of La Francophonie in March 2023 in Brazzaville, Republic of Congo. This has enabled a vision and values for PES to emerge around the shared language of French, in order to allow the expression of a motivated and mobilised world youth for development, peace, health and the economy in a sustainably preserved environment.

**Méthodology.** An inclusive and integrative methodology was adopted in order to include all actors, experts and decision-makers for a common vision around the support of women and youth. An active approach has allowed the collection of data from the exchange of ideas, sharing of experiences, presentations, discussions and reports on: a) the practices and political projects of States and governments and; b) scientific insights through communications from teachers, researchers and field actors. The work also focuses on three sub-themes: a) youth, a player in the post-Covid-19 revival in favour of sustainable development; b) sport, a factor in the post-Covid-19 revival in favour of sustainable development; and c) leisure, a vector for economic and social development in the context of the post-Covid-19 revival. **Results and Discussion.** This work allowed to identify the needs and to produce practical recommendations to be concretised in the quadrennial programming 2024-2027 of CONFESJES with its partners such as FIEPS and actions to be carried out in sciences and techniques of physical activity and sport, youth and leisure (STAPS JL). It is an opportunity to underline the importance of the role and the animation of the Network of National Institutes of Youth and Sport (RINJS) of Africa which share the French language for research, education and training for employability, employment of women and youth and gender equity. **Conclusion.** Thus, on the occasion of its centenary, the vision of FIEPS, its orientations, recommendations and planning for the future, shared with those of CONFESJES, could be integrated into the agenda of the Francophonie towards the Olympic Games in France in 2024 and the Youth Olympic Games in Senegal in 2026 (YOG 2026)

**Keywords:** networking; physical education; sport; youth olympic games; quality.



## Physical Activity and Sports Program Adapted for Health Promotion in Senegal

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The not contagious chronic diseases constitute the first cause of hospitalization and handicap at the adult in Dakar and come to be added to infectious diseases. A program (APAS) with aim of prevention, hygiene and accompaniment of presenting subjects of the specific needs was set up. The objective is to present the state of the coverage of the subjects presenting at least a disease chronicles contagious and technically framed for the practice of physical activities by a multidisciplinary team. Retrospective study was realized with people who have a practice in a regular way for one year at least and at the rate of three hours at least a week in fitness rooms and sports courses. Prevalence of the overweight and the obesity brought up and concerns more the women. The most frequent pathologies are: the diabetes of type2, the HTA, the hypercholesterol level, the cancer, the asthma, the degenerative osteoarthritis of the knee. The implementation of an evolutionary program, supervised well by multidisciplinary team contributes to raise brakes in the change and allows to bring assistants to the practice of physical activities adapted by the therapeutic physical education.

Context and Justification: Chronic, non-transmittable illnesses are the number one cause of hospitalization and handicap in adults in Dakar, adding to the infectious diseases already present. Non-transmittable chronic illnesses constitute the number one cause of hospitalization and handicap in the adult population of Dakar. Those with full health insurance coverage represent only 20% of the population. And yet, Senegal assures, in its social policy, universal health coverage nation-wide. An APA-endorsed program covering hygiene and prevention, adaptable to topics related to specific needs that arise was put in place.

Objective: Introduce the current state of handling patients presenting at least one chronic, non-transmissible illness and who are being followed by a multi-disciplinary team in their physical activities practice. Materials and methods: A retrospective study of women and men who, for at least one year, and for at least three hours per week, regularly engage in physical activity in fitness clubs and sports arenas. Results and Discussion: The prevalence of excess weight and of obesity is high, especially with women. The most common pathologies are: Type 2 diabetes, HTA, high cholesterol, cancer, asthma and arthritis in the knee. Indeed, the prevalence of excess weight and obesity in urban settings – as much in schools as in the adult population – is alarming. The most vulnerable targets are girls and women. Considered a serious public health problem by the WHO, these illnesses create morbidity and mortality risks in adult Senegalese, with multiple complications such as cardiovascular disease, Type 2 diabetes and osteoarthritis. The type of physical activity recommended for all groups and different profiles consists of regular practice, at least three hours per week, between 30 minutes and one hour each session. Oversight and monitoring are handled by a multidisciplinary team composed of physicians, physiotherapists, Sports and Physical Education teachers, internal martial arts instructors (tai-chi, qi gong) and fitness monitors. In addition, prescribing adapted physical activity has



become a common occurrence in Dakar. Conclusion: Set up of an upgradeable program, one that is well supervised by a multi-disciplinary team, contributes to the removal of impediments to behavior change, and allows sport and physical education to buttress the practice of adapted physical activities. Practicing sports by way of organization sports is encouraged, above all, in regard to teenage girls and women, so that they might stay active over time.

Keywords: adapted physical activity; sports; therapeutic physical exercises; chronic illness - internal martial arts.

## Assessment of Exercise Intensity Using the Mobile Application Phyphox

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The aim of study was to assess exercise intensity using mobile application Phyphox. In one participant case study short physical activity program (PAP) was designed, duration 3x3 minutes with one-minute break, consisting of Burpee performing on a sound signal at regular intervals. Depending on the number of repetitions performed, three variants of PAP were developed. B7 (26 repetitions per round, 78 repetitions per PAP), B6 (30/90 repetitions), B5 (35/105 repetitions). Each variant was performed 3 times with varying intensity (Burpee performing slowly, quickly, with maximum effort). 9 training units were completed in research. Acceleration values, heart rate and jump height during the Burpee were recorded. Burpee intensity and fatigue index were determined. Burpee intensity when performed slowly, ranged from 3.5 to 3.8 ms<sup>-2</sup>, when quickly from 9.2 to 10.6 ms<sup>-2</sup>, and with maximum effort from 10.9 to 12.9 ms<sup>-2</sup>. The fatigue index was slightly noticeable during less intense variant, but in B5 maximum effort reached 25%. Depending on the intensity heart rate ranged from 120 to 168 bpm, jump height varied from 2 cm to 11.9 cm. Significant correlation was found between the Burpee intensity, heart rate and jump height. The mobile application Phyphox, when set to measure acceleration values, can reliably assess exercise intensity.

Keywords: Burpee; assessment; exercise intensity; mobile application.



## **The Relation Between Group Cohesion and Anxiety in Basketball School Representative Team**

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The purpose of this study is to examine the relationship between task cohesion and competitive state anxiety among 100 students from Galați, Romania. The participants are both male and female students aged between 12 and 15 years old who are members of the basketball school representative teams from 12 different schools. These students are not playing in any other basketball club except for their school team. The study aims to identify whether a decreased level of task cohesion relates to increased cognitive anxiety and decreased confidence among these students. To measure task cohesion, the Group Environment Questionnaire (GEQ) will be administered to participants before their basketball game. The GEQ contains 18 items that measure individual perceptions of task cohesion, social cohesion, and attraction to the group. To measure competitive state anxiety, participants will fill out two questionnaires: the Competitive State Anxiety Inventory-2 (CSAI-2) and the Sport Competition Anxiety Test (SCAT). This indicates that a higher level of task cohesion may lead to positive emotional outcomes, such as higher confidence and lower anxiety. We consider that a decreased level of task cohesion among the students correlates with increased cognitive anxiety and decreased confidence. Utilizing the GEQ, CSAI-2, and SCAT, the results can contribute to the understanding of the relationship between task cohesion and emotional outcomes in students before and during basketball classes and games.

Keywords: cohesion; anxiety; basketball; GEQ; SCAT.

## **The Experimental Program Made Up of the Basic Gymnastics Means**

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**Abstract.** The field of physical education is continually evolving and adapting to ensure that its primary objective of maintaining overall health is achieved. Within the curriculum, basic gymnastics plays an important role and is accessible to students throughout the school year. By facilitating the development of motor skills, physical coordination, and organizational abilities, basic gymnastics promotes the holistic growth of students. In this research study, we present an experimental curriculum dedicated to 5th-grade students. The program consists of various models and structures of physical exercises within the framework of basic gymnastics. We implemented this program on a test group of 236 students during the 2021-2022 academic year,





with 54% residing in urban areas and 46% in rural areas. To evaluate the effectiveness of the program, we conducted 4 tests from the national evaluation system. The results showed significant progress in all four tests used ( $p < 0.001$ ). The program also aimed to foster class integration and active participation of all students, while identifying and presenting alternative means for special situations that may arise throughout the school year.

Keywords: physical education; basic gymnastics; curriculum.

## Development of a Theoretical Knowledge Evaluation Tool for The Physics Education Discipline at the 5th Grade

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Starting from the imposing role that theoretical knowledge has in the instructional-educational process in any discipline of study, the present work aims to present the development of a standardized, consistent and constant evaluation tool in the sense of validity and reliability, with the help of which it is possible to establish the level of theoretical knowledge of 5th grade students in the Physical Education discipline. The research took place between November 2021 and June 2022. Considering the multitude of forms through which theoretical knowledge can be evaluated in the PE discipline, the form we chose was the "questionnaire". It was based on the existing specialized manual for the 5th grade. The questionnaire development methodology was based on specialized literature that provides guidelines for questionnaire development (Kishore et al., 2021; Trakman et al., 2017; Frary, 2003; Parmenter & Wardle, 2000). The development of this tool followed a sequence of 9 stages. In stage 0, the representativeness of the items was substantiated in the sense of their agreement with the thematic area tested. Considering the maximum range of attention and concentration that 5th grade subjects can devote to the test (Ito & Yokoyama, 2019), of approximately 1 minute of maximum concentration for each item we established as the maximum number of questions of the questionnaire or 25. In stage 1, based on the manual, the thematic areas and the corresponding number of questions for each of them were identified in the evaluation tool. In stages 2 and 3, questions were generated and selected. The final selection of questions was made with the determination of the Cronbach's alpha coefficient, through which we identify the consistency of the answers provided by the evaluator. Stage 4 followed the pre-testing of a number of 38 selected questions with 5th grade students to later determine the 25 questions in the final version. In stage 5, an interview was held with the students who completed the questionnaire in the previous stage, which sought to identify the degree of understanding of the questions, the degree of understanding of the correct answer options, the degree of difficulty of the questions and the relevance of the tested knowledge. In stages 6 and 7, the version with the final 25 items was applied twice, 21 days apart, on 30 5th grade students. The "paired" Student's



t test applied to the test-retest scores ( $t(30) = -5.375872022$ ,  $p = 0.000000403$ ) indicates that there are no significant differences between the two sets of results, from which we can determine that in fact the results obtained at the final retest are equivalent to those obtained in the first test with the final instrument. The last stage was represented by the design of a guide for the application of the evaluation tool.

Keywords: theoretical knowledge; evaluation tool; physical educations; students.

## **Spatial-Temporal Orientation and Balance Ability Among Primary School Pupils: Comparative Analysis According to Gender**

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Spatio-temporal orientation and balance ability at certain ages show the superiority of a certain gender type in terms of the level of performance recorded. The aim of this study was to investigate whether performance in spatial-temporal orientation and balance ability differs by gender. In order to determine the differences between genders, an analysis was carried out on a sample of 120 primary school pupils who were divided by gender into two groups: 58 girls ( $M=27.13$ ,  $SD=6.50$  kg;  $M=129.07$ ,  $SD=6.58$  cm) and 62 boys ( $M=29.39$ ,  $SD=7.90$  kg;  $M=130.92$ ,  $SD=7.02$  cm). The following tests were applied: Matorin and Flamingo Test. For the interpretation of the results the *Independent Samples T Test* was used. According to the results of the research, in the case of the Flamingo Test - the handy leg, the values ( $M=4.48$ ,  $SD=4.21$ ) are significantly higher ( $t=2.21$ ,  $DF=118$ , two-tailed  $p=0.28$ ) than those of boys ( $M=3.06$ ,  $SD=2.62$ ). Regarding the Matorin Test - skill part, boys' values ( $M=283.06$ ,  $SD=82.04$ ) are significantly higher ( $t=3.50$ ,  $DF=118$ , two-tailed,  $p=0.001$ ) than girls' ( $M=232.55$ ,  $SD=75.35$ ). It is recommended to develop spatial-temporal orientation and balance skills because these skills play a considerable role in sports and technical games where they are in high demand.

Keywords: static balance; general coordination; primary school; physical education

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## **Study Regarding the Observance of Ethical and Deontological Norms in the Physical Education Activities of the Students of Transilvania University of Brasov**

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The research aims to perform a questionnaire addressed to the students of the Transilvania University of Brasov, who participate in physical education activities in their faculties. The study aims to survey the students' opinion on the respect of ethical and academic rules during these activities. The 74 students surveyed answered a number of 15 items covering the main issues that occur in practice in direct relation to the specific activities in Physical Education classes. The questionnaire focused on the main issues related to the respect of professional ethics and deontology in the activities.

Keywords: students; teacher; ethics; deontology.

## **Expert Opinion Study Regarding the Efficiency of the Rugby Methods Implementation During the Physical Education Classes for the High School Students**

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This article analyses the results of the opinion questionnaire applied to physical education teachers who carry out the teaching-learning-evaluation process with high school students. The research being oriented towards the improvement of the educational system in the discipline of Physical Education and Sport, by diversifying the means of the physical education lesson, it is absolutely necessary to find out the experts' opinions regarding the formative and motivational effects in high school students by applying those in the game of rugby. The answers obtained from the teaching staff who completed the questionnaire highlight several methodical and organisational aspects related to the educational process in the discipline through the application of methods from rugby. The relevant aspects for us are those that answer the questions of how often they can be used, in which moment of the lesson, oriented towards the development of which general drive qualities and what are the impediments to the application of rugby tools in the physical education class. The conclusions formulated following the application of the opinion questionnaire method allow us to correctly orient the



research direction, the results of which must have an applicative-formative character and ensure an effective educational process of the physical education class for high school students.

Keywords: high school students; physical education and sports class; rugby means; general motor skills.

## **The Importance of Sports Games in Physical and Sports Education in Achieving Optimal Physical Condition at Young Age**

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Through the proposed study, I want to highlight the importance of sports games in physical and sports education, but also their connection with the level of development of physical condition at young age, a condition that is based on the level of manifestation of motor qualities. The present study was conducted on a sample of 50 students, carrying out two tests that targeted the physical condition from the point of view of the development of the abdominal muscles, namely: lifting the trunk from a dorsal lying down position (30") and from hanging at fixed scale - raising of the stretched legs but also of the back muscles based on the extension of the trunk from a facial lying down position for 30". From the point of view of the legs' muscles we refer to the standing long jump, standing vertical jump and the long jump with sprint takeoff. At the level of the upper limbs, the test used was that of tractions through which the level of development of the muscles was tested. The motor quality of speed was tested by means of the 50m sprint test from a standing start. Regarding the 50m sprint, an improvement of 0.1 sec can be observed, while the standing long jump is characterized by an evolution of 12 cm, in the long jump with sprint takeoff we notice an improvement of the results by 20 cm and in the standing vertical jump the progress recorded was of 3.5cm. From the point of view of the arm traction test, an improvement in the initial value is observed by 1,5 repetitions. In the tests that targeted the abdominal muscles, we notice that lifting the trunk from a lying down position had a progress of 1.85 repetitions and that in the hanging leg lifts there was an improvement of the initial value by 1.4 repetitions. Regarding the strength of the back muscles, a progress of 2.3 repetitions is observed at the end of the academic year. The use of sports games as basic means in physical education is a certainty on the improvement of physical condition at young age, demonstrated by the fact that in all targeted tests there have been improvements in results, the use of means specific to sports games being characterized by an increase in explosive strength, strength endurance and speed of the subjects, this being aimed at improving the physical condition.

Keywords: sports game; physical education; physical condition; young age.





## Physical Activities and Their Impact in the Burnout Syndrome

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**Introduction:** The burnout or syndrome of being burned, is the response that a worker gives when he perceives the difference between his own ideals and the reality of his working life, generally developing in the helping professions and frequent social interrelation. Saborío Morales, L., & Hidalgo Murillo, L. F. (2015). The main objective of this research is to analyze the impact of burnout syndrome in recreational physical activities. **Methodology:** Type of quantitative, correlational and cross-sectional research (June to December 2022); Where 179 workers participated belonging to the Public Security Secretary of the State of Durango, Mexico. (C5), (86 men and 93 women) of an age of 25 to 50 years old, where the exclusion factors were Subjects who do not wish to participate, who have some motor impediment that prevents them from performing physical activities. Having as main results according to the perception of the subjects, the level of work stress decreases significantly from the implementation of recreational physical activities, as well as the increase in the level of job satisfaction. Concluding it is important to establish recreational physical activities that contribute to the reduction of work stress and with it, a better work environment where they feel valued for the performance of their duties in daily tasks.

**Keywords:** burnout; stress; job performance; physical activity.

## Differences Between 6th and 8th Grade Elementary School Students in Some Basic Motor Skills Assessment Tests

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The aim of this study was to estimate motor and functional abilities among sixth and eighth grade (N=135) elementary school students aged  $13.09 \pm 0.99$  years from the City of Zagreb. The research was conducted during physical education class using the battery of four tests which assess motor skills: Standing long jump, Lifting/elevation (of upper body), 600 m run for females and 800 m run for males and Transfer run. Statistica 14.0 was used for statistical analysis. T - test for independent groups determined that there is no statistically significant difference between male and female 6th grade students but given groups of 8th grade students significantly differ from each other in assessed motor skills with exception in repetitive core strength assessment test. To conclude, 6th grade male and female students can be included in the same exercise program to develop agility, explosive leg muscle strength and repetitive core



muscle strength while 8th grade male and female students should be conducted in different training programs for development of agility and leg muscles explosive strength.  
Keywords: training program; agility; explosive power; repetitive power.

## **Comparison of University Students' Self-Efficacy, Resilience, And Self-Confidence Based on Their Physical Activity Levels and Gender**

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The purpose of the study was comparison of university students' self-efficacy, psychological resilience and self-confidence levels based on their gender and physical activity levels.

The sample of this study was composed of 1405 female and 1463 male (2868 total) undergraduate students who were studying in 10 different faculties of Çanakkale Onsekiz Mart University, Turkey. Survey research method was used for this study. Participants were asked to fill out the international physical activity questionnaire (IPAQ Short Form), General Self-Confidence Scale, Psychological Resilience Scale and Self-Efficacy Scale. Findings showed that students having high physical activity level has significantly higher general self-efficacy score than students who have medium and low physical activity level scores. Moreover, males have significantly higher general self-efficacy score than females. Regarding psychological resilience, students having medium and high physical activity levels have statistically higher resilience score than students who have low level physical activity. In addition, female students' resilience scores significantly higher than males. Regarding Self-confidence status of the participants, there was a progressive structure in which both internal and external self-confidence scores for the low, medium, and high physical activity groups. In terms of gender, self-confidence scores of male participants had significantly higher scores than female students.

Keywords: physical activity; self-efficacy; resilience; self-confidence.



## **FIEPS: Education – Physical Education**

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After the education reform in Austria in 1920 that introduced a convenient term, native gymnastics, a group of enthusiasts gathered in Brussels in 1923 to establish an association in charge of school physical education that is, gymnastics, or physical exercise, as the school subject used to be widely known. The idea that emerged at that time has survived for a following hundred years, up to 2023. The process was driven by an urge that is still apparent nowadays that is, to use healthy benefits of physical exercise, needed as much as food by every human being, to help a child develop and become an individual fully aware of his or her spiritual and bodily values and capabilities. This meaning of school physical education, grounded in education as a pedagogical process, leads together with other forms of education toward a common goal, always indicating that the model and love of an educator are the most important on the way. Among a number of approaches, biocentrism, ethnocentrism, egocentrism, anthropocentrism and theanthropocentrism, the theanthropocentrism approach focuses on a view of a student as a person – individual and unique. And the model and love are outlined as the most important in the pedagogical approach to education.

Keywords: FIEPS; physical exercise; theanthropocentrism.



## ★ YOUNG PEOPLE ACTIVITIES AND SPORT PERFORMANCE ★

### Study Regarding the Correlation Between the Olympic Education Level and the Graduate Students' Professional Results

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Olympism is a life philosophy that exalts and combines in a balanced way as a whole the qualities of the body, will and mind. By combining sports with culture and education, olympism aims to create a lifestyle based on the joy of effort, the educational value of a good example, social responsibility and respect for the fundamental universal ethical principles. Essential for understanding olympism is the focus on its educational side - "the Olympic idea cannot be understood without understanding its educational mission" (Gessman, 1992). The curricular development tied to value-based education can be found starting with the 1960s in the USA - Lawrence Kohlberg's theory of moral development, who in his book, "Fair Play for Kids", describes the pedagogical and theoretical framework based on how children develop morality and moral reasoning. Starting from these premises, the author tried to fully capitalize the inclusion of the discipline "Sportive and Olympic Education" in the curriculum of the "Curricular and Leisure Time Motor Activities" program, starting from the hypothesis that by getting very good results in this discipline, the students will get very good results also in the other curricular disciplines. The study comprised 35 graduate students from the FMHSS Bacau. The research resulted in correlation coefficients that are significant for 90% of the disciplines in the students' curriculum.

**Keywords:** olympism; curriculum; students; correlation.





## **Study Regarding The Fitness of the Students Enrolled in the Physical and Sportive Education and Physical Therapy and Special Motor Skills Academic Programs, in the Context of Future Professions**

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The development of motor capacity implies a higher level of awareness in the youths, which leads to a fitness that is adapted to the future work place. From the viewpoint of the future professions, both the physical education teachers and the future physical therapists need a high level of motor skills and an increased physical endurance to fatigue. A prime objective of this research was to see how much the vertical spring and repetition speed can develop in the lower limbs over the course of a semester, and at the same time, how much this is or is not influenced by the subjects' height. The study contained 36 students that were not professional practitioners of a sport (18 from Physical and Sportive Education and 18 from Physical Therapy and Special Motor Skills). The tests were performed using the MGM-15 Miron Georgescu jumping platform. Two tests were conducted 14 weeks apart, recording the subjects' vertical take-off capacity using both legs, and separately using the right and the left leg, as well as their repetition speed for both legs and separately for the right and the left leg. The recorded and statistically analyzed results have shown that there is a linear correlation between these motor actions, with a Pearson coefficient between 1 and -1. The calculated regression model, with an adjusted r square of .401 indicated that the independent variables (the subjects' height and repetition speed) had an influence of 40.1% on the vertical spring using both legs.

Key words: spring; height; repetition speed; students.

## **Rhythm Capability Evaluation by Specific Dance Sports Test**

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The main purpose of the paper was testing the rhythm perception and the musical memory by reproducing syncopated rhythmic fragments, a specific test for dancesport. The study covered a group of 46 dancesport athletes, 23 girls and 23 boys, aged 6 to 8 years. The test we used is



a specific dancesport test that we create to discover the evolution of dancers for rhythm in Slow Walts dance and contains specific elements and structures of our sport. The test was driven individually by feet percussion, alternate beats, rhythmic themes in the  $\frac{3}{4}$  musical measure of Slow Walts, with emphasis on the first beat. We set our sights in our approach, to highlight the importance of rhythm involved in all 10 dances specific for the training dancesport. The result of a systematic and rigorous training has an influence on the rhythm ability of the sportsman, development of his abilities and processes and leads to attainment of higher levels in assimilation of figures involving complex musical structures. These are reflected in the above average results attained by our subjects and their high grades in all tests. And also dancers were able to maintain a consistent pace and flow through the dance while also incorporate variations in tempo and dynamics to create a sense of expression and musicality. Keywords: dancesport; rhythm; musicality; expression; specific test.

## Biomechanics in Dancesport

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Biomechanics is an important area of study in dance sport, as it can help to optimize technique and prevent injury. The main purpose of the paper has focused on analyzing the movements of different dance styles, such as Latin, Ballroom. For example, biomechanical analysis has been used to investigate the hip and knee joint angles, muscle activation patterns, and ground reaction forces involved in different dance movements, such as the Jive or the Tango. This information can be used to develop training programs that aim to improve technique and reduce the risk of injury. The study covered a group of 60 dancesport athletes, 30 dance couples, aged 16-18. Overall, biomechanics research can provide valuable insights into the mechanical principles that underlie dance sport performance, and can help to optimize technique and reduce the risk of injury for dancers. For example, it has been found that proper alignment and stabilization of the hip and knee joints can help to reduce the risk of knee injuries in dancesport athletes. In addition to technique optimization, biomechanical research has also investigated the effects of footwear and floor surfaces on dance performance and injury risk. For instance, research has shown that high-heeled shoes can affect balance and stability, and that hard and slippery dance floors can increase the risk of joint loading and injury.

Keywords: biomechanics; hip actions; knee joints; balance; stability.



## **Study on the Ability of Psychomotor Resistance in Students Aged 8 to 10 Years Practicing the Game of Chess**

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Psychomotor training through exercises specific to the physical education of children, aged 8 and 10 years, who practice chess, requires its functions, which decisively influence the mastery of psychomotor executions and of mental resistance, respectively. The aim of the paper is to evaluate and understand the development of this ability in the context of the practice of the game of chess and its impact on the students' performances. The objectives of the paper: Evaluation of the level of development of the psychomotor resistance capacity of the students through specific tests; Analyzing the relationship between the capacity for psychomotor resistance and physical and cognitive performance; Identification of specific strategies and interventions of physical education to improve the capacity of psychomotor resistance. Research methods: observation method, experimental method, mathematical-statistical method, tabular and graphic method. Conclusions: Students between the ages of 8 and 10 who practice the game of chess manifest a more developed capacity for psychomotor resistance compared to those who do not practice this sport. The development of psychomotor resistance capacity among chess students can be improved through exercise programs specific to physical education.

Keywords: students; chess; endurance; psychomotricity.

## **Objectives of the Technique of Hitting the Ball on the Right Hit (Forehand) in the Game Of Tennis**

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I chose this theme, out of the desire to evolve professionally, to understand and effectively solve the problems encountered in field tennis observed throughout the career of a performance athlete, as well as that of a teacher. Also, I want to bring news regarding the technique of hitting the ball for the right shot in the game of tennis. The sample investigated in the research will be represented by subjects between the ages of 10-12 years from the High School with Sports Program "N. Rotaru" from Constanța. The main research methods are studying specialized



literature, diagnostic method – SWOT analysis, tests of the tennis federation (general and specific physical training), statistical method (arithmetic mean), graphic representation method. At the end of my doctoral studies, I will propose a model in tennis training of players aged 10-12, by designing technical training programs that positively influence the game both at training as well as in competitions, also determining a significant improvement of the right shot. The preparation plan will contain exercises in the form of competitions, tests, control rules, verification and official games that will significantly improve the results of the subjects in the tests and the results of the proposed tests will be analyzed within the preliminary research.

Keywords: forehand; methods; technique; competitions; tests.

## **Impact of Quality Sleep on Training Load And in Injury Prévention**

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The theme of my research subject is oriented in the scientific field. Specifically on the impact of sleep in the process of adaptation to different types of training loads and in the prevention of injuries. This study was carried out with the players of the national men's basketball team of Senegal. The objective of my research was to demonstrate that sleep has an impact on injury prevention, but also on the process of adaptation to different types of training loads. In order to demonstrate the veracity of my remarks, I should take into account three parameters that will allow me to validate the hypothesis that sleep has an impact in the prevention of injuries and in the adaptation of all training loads. Among those parameters we have the intensity of the training sessions and the perception of pain evaluated on a scale of 1 to 10 by the players and also the number of hours of sleep of each player. After 13 training sessions, I made the comparison between the first training session and the last session of the team, and the observation that I had to make was that, from the first session, there there was almost no difference between players who slept enough and those who did not sleep enough, and yet when comparing with the last session I noticed that players who slept enough (8 hours of time and more) did not experience nor pain in previously injured places and supported almost all the loads imposed on them without excessive fatigue. And unlike this group, those who slept less than 8 hours a day found themselves with very high pain thresholds and had difficulty adapting to the training loads imposed on them. This allowed me to affirm the idea that sleep has an impact in the process of adaptation to different types of training loads and in the prevention of injuries.

Keywords: quality sleep; injury prévention; basketball team.





## The Relationship Between Smartphone Addiction and Academic Self-Efficacy Levels in University Students

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The aim of this study is to examine the relationship between smartphone addiction and academic self-efficacy levels of university students during the Covid-19 pandemic period. The research group consists of 518 (144 female, 374 male) volunteer students who studying at Bingöl University, Faculty of Sport Sciences. As a data collection tool in the research; personal information form, smartphone addiction scale and academic self-efficacy scale were used. SPSS package program was used in the analysis of the data. Skewness and kurtosis values were checked to determine whether the data showed a normal distribution. In this context, it was determined that there were no extreme values in the data, and Independent sample t-test One-way ANOVA and Pearson Correlation analysis were performed in the analysis of the data. According to the research findings; a statistically significant difference was found between students' academic grade point average, daily free time and time spent on the phone, and smartphone addiction and academic self-efficacy ( $p < 0,05$ ). In addition, a midlevelly positive relationship was found between smartphone addiction and academic self-efficacy ( $p < 0,01$ ). In conclusion; It was observed that students' smartphone addiction increased their academic self-efficacy level. This situation is thought to be related to the pandemic period.

Keywords: student; smartphone; addiction; academic self-efficacy.

## Post-Modern Leisure: Metaleisure

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Metaleisure is a concept put forward with the claim that the metaverse will make radical changes in our leisure habits. In the literature, Metaleisure is defined as leisure activities that can be attended through digital twins (avatars, holograms, etc.) and wearable technologies in three or more dimensional virtual universes. In these virtual universes, many different leisure activities can be done, such as playing games, visiting museums, attending concert events or meeting friends in virtual cafes. In this virtual universe, which is defined as the metaverse, participants can do many leisure activities. Metaleisure claims to provide people with an experience beyond the current leisure time participation experience with the help of wearable technologies. It is possible to consider these experience opportunities in different dimensions. The first of these is the opportunity to socialize in your living room without leaving your home.



Metaverse offers you the opportunity to spend your leisure socializing with your friends in a cafe without leaving home with wearable technologies. You will be able to experience the feeling of being shot or holding your partner's hand in a war game you participate in through clothes such as the "Tesla Suit" developed by the Tesla company. These experiences help you to experience a feeling beyond the current leisure time experiences. The word "meta" in the concept of metaleisure was used because it means "beyond". In addition, compulsory activities such as training, business meetings, etc. will be held in the metaverse. It will be enough to wear wearable technologies to participate in an activity in the virtual world. Difficulties such as getting ready to go out or getting into heavy city traffic will disappear. Wearable technological products will be important for people how their avatars look and use. The process of living on virtual platforms, which we can describe as another revolution or technological threshold, may cause an increase in the time period that people allocate for themselves. This increase may lead to new searches in leisure habits.

Keywords: metaleisure; metaverse; leisure; digital twins; vitrual world.

## **The Olympic Philosophy of Education. Cultural Heritage and Echoes Over Time**

**Gheorghe BRANIȘTE<sup>a\*</sup>**

The history and evolution of the Olympic Games over the centuries has demonstrated the major impact and permanence of the Olympic principles founded since antiquity and passed on, from generation to generation, with great perseverance by brand supporters of Olympism. The present article proposes a review of the famous personalities who channeled their efforts to keep alive the Olympic spirit and contributed to the dissemination of the principles of Olympism, so that, nowadays, we come to speak of the inestimable value of the Olympic heritage and the fundamental role it has in the education of new generations of learners, as long as education in the 21st century cannot be inextricably dissociated from the philosophy of strengthening integrity and fair play among young people.

Keywords: Olympic philosophy; education; young people.

## **The Olympic Movement as a Balance of Intellectual Instruction, Cultural Development and Physical Education**

**Gheorghe BRANIȘTE<sup>a\*</sup>**

It has already been engraved in the collective mind the fact that the Olympic movement is a complex concept to the definition and shaping of which both the athletes who participated in the competitions, throughout the approximately 3000 years of Olympic history, as well as all the promoters of the Olympics - visionary spirits, who campaigned for the preservation of the tradition of the Olympic Games over the years - contributed. The diversity of social spheres as



well as the domains that are involved in the running of the Olympic Games, i.e. sports, economic, artistic, legal, environmental, educational, etc., in the contemporary era, demonstrates the complexity and extent of the phenomenon. The present article proposes the analysis of the Olympic phenomenon from three convergent perspectives, in our opinion: the role of Olympism in strengthening confidence in one's own strength as a means of intellectual self-education, the contribution of the Olympic Games to the development of the universal cultural heritage, as well as the physical and mental education of young people.

Keywords: olympic movement; olympic games; cultural development.

## **Efficiency of Tactical Training Through Tennis 10 at Beginners.**

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The tactical preparation in the game of tennis is essentially the moment when the training becomes demanding. Practically, when as a coach you start adding elements of a strategic nature to the athletes training program. During this period, many unknowns appear that will have to be clear in the next period. In the classical methodology, the learning process is staggered over several years, constituting a long activity (6-8 years). Tennis 10 is a program that was created and implemented by the International Tennis Federation (ITF) in the early 2000s, as an integral part of a campaign entitled Tennis Play and Stay, officially launched in February 2007, having as aim to increase the number of tennis players throughout the world. The Tennis Play and Stay campaign aimed to promote tennis as an easy-to-play, fun and healthy sport and to ensure that all beginners can serve and rally from their first lesson.. Through this paper, I want to observe differences in the tactical training of athletes caused by the 2 methodical means: Tennis 10 and the classical method. At the same time, I should conclude which of the two training methods is more effective for this category of athletes from the point of view of tactical training.

Keywords: tennis 10; tennis methodology; tactical training; adapted rackets; adapted court.

## **Professional Training of the Coach-Specialist Depending on the Current Requirements of the Modern Sport**

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The high professional training of the specialist-coach at the present time is conditioned by the alert dynamics of modern sports at all Olympic events and has become a direct dependent of this phenomenon. Nowadays, the professional competence and the coach's ability to support the requirements of the athletes' training for the competition program are highlighted by the



maximum possible and correct utilization of all the information and forms of training in all the directions that the respective sports event takes. Thus, the coordinates of the professional training of the coach propagate a clear definition of the training/education of the performance athlete, all of which are oriented towards the highest possible result. The professional training process itself, determined by its complex character, implies the functionality of a much more creative and well-defined instructional system. The structure of the specialist trainer's skills training program, at the present time, requires the clear expression of all knowledge actions, which should be able to subordinate the training schemes in order to develop and improve the full bio-psycho-motor potential of the athlete. In the context of the above, it should be mentioned that in front of higher education, in which the high professional training of the future specialist-coach takes place, the problem of developing and establishing modernist didactic strategies, which propel the realization of the set of educational standards and specialized objectives to obtain a high quality product. In this case, the educational unit, which educates a well-trained professional coach, must exercise all its instructional activities at an excellent level, aiming at the high degree of acquisition of pedagogical skills and the education of the highest possible sports mastery. The present study provides the determination of the set of skills characteristic of a high degree of professional training of the specialist-coach, which, being coupled and systematized on modules, would be able to complete the vast arsenal of knowledge of the subject for the most effective centralized training of the athlete. Certainly, such a classification can complete the specialist-coach's professional profile with those characteristics, which must necessarily be consistent with the needs of training athletes depending on the current requirements of modern sports.

Keywords: professional training; modern sport; instructional activities.

## **The Impact of Physical Exercises on the Quality of Life of University of Craiova Students**

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The purpose of the present study is to emphasize the relationships between the appreciation of physical exercises and the psychological well-being of students. Students of the University of Craiova were invited to participate in the research and 118 students aged between 19 and 54 responded positively,  $M = 23.84$ ,  $AS = 7.50$ . The objectives of the research were to establish the relationships between the appreciation of physical exercises and the satisfaction and frustration of basic psychological needs among students, on the one hand, and on the other hand, their level of self-compassion. Methods: Basic psychological need satisfaction and frustration was measured with the Basic Psychological Needs Satisfaction and Frustration Scale (Chen et al., 2015), and self-compassion was measured with the Self-Compassion Scale





(Neff, Kirkpatrick, & Rude, 2007). Results: The results showed that students who practice physical exercises in their free time report higher levels of basic psychological need satisfaction, but not self-compassion. Acknowledgements. This work was supported by the grant POCU/993/6/13/153178, "Research performance", co-financed by the European Social Fund within the Sectorial Operational Program Human Capital 2014-2020.

Keywords: physical exercises; students; self-compassion; basic psychological needs.

## Evaluation of the Effect of Regular Sports Activities on Attention in Adolescents

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\*This study was prepared on the basis of the doctoral thesis titled "Evaluation of the Effects of Regular Sports Activities on Motor Skills, Attention and Physical Fitness Parameters in Adolescents" under the supervision of Assoc. Prof. Fatih Mehmet UĞURLU.

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This study was made with the aim of to compare the improvement of attention levels of students who participated and did not participate in regular sports activities. The study includes 57 male students in the 2022-2023 academic year in Bingöl Province. While 15 of them do not participate in any sports, 42 are students playing in Basketball (n=10), Badminton (n=10), Futsal (n=12) and Table Tennis (n=10) branches. The age range of the students is between 15 and 17 and the average age is 16,05. We initially applied an attention test. We played games regularly for one hour, three days a week for 8 weeks, in our four sports groups, and at the end of these 8 weeks, we applied the attention test for the second time and compared the first and last test inputs. In this study was applied to determine the level of attnetion "Bourdon Attention Test" which developed by Benjamin Bourdon in 1955. The analyzes of the obtained data were made with the SPSS program. Since the data did not show normal range, nonparametric "Mann-Whitney U Test" was used. As a result, a significant difference was not observed between the attention levels of high school students ( $p>0.05$ ) in first test however, a significant difference was observed in the last test ( $p<0,05$ ). This difference is in favor of students participating in regular sports. According to the research, sports increase the attention level of the student. The student with high attention is expected to have a high level of listening and reading comprehension. In this sense, we can say that sports have a positive effect on academic achievement.

Keywords: students; sport; sport activity; attention.



## Methods and Means of Learning the Basic Shots of the Game of Tennis at the 8-10 Years Age Category

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I chose this theme, due to the interest that I developed during my university training, for educating, training and learning the basic strokes of the game of tennis for beginner children. Through the present work we aim to make a useful contribution and relevant to existing practice regarding the benefits of learning the correct ball striking technique for the forehand, forehand and service stroke. The sample investigated in the research will be represented by subjects between the ages of 7-10 years from the High School with Sports Program "N. Rotaru" from Constanța. The current game of tennis is characterized by great dynamism, the player being put in the position to think and act quickly for the effective application of the technical-tactical arsenal, in the diversity of adversity situations. Thus, beginner players at the age of 8-10 need to learn the most correct technique in order to be able to carry out any tactical plan in order to win matches in competitions. The general objective of the research is to observe to what extent the new methods and means proposed for improving the basic shots help to make the learning process more efficient for children in training and to improve the tennis game at the mentioned age.

Keywords: forehand; backhand; serve; technique; learning process.

## Specific Elements of Weightlifting Technique Appreciation for Juniors 9-12 Years Old

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When dealing with Olympic weightlifting, we appreciate the weight lifted by the athletes, but especially the technical aspect. In weightlifting training, the weightlifting technique is the most important. In practice, the technical level of training of weightlifters is not always given sufficient importance. Therefore, the purpose of our work is to give greater importance to the specific characteristics, the components and the acquisition of the technique of lifting weights in weightlifting, a criterion that helps us understand and appreciate the importance of technical training. The training of beginner weightlifters requires a very attentive and meticulous activity



regarding the development and construction of an optimal technique in accordance with the age of the beginners as well as the degree of difficulty of the technical training.

Key words: training; technical training; weightlifting; kids performance.

## **Challenges Determined by the New Trends in Handball Communication**

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The act of communication plays an important role in all aspects of social life and is an inevitable link in the normal functioning of sports organizations. Therefore, the research theme aims to explore how communication is viewed in the game of handball, highlighting the main problems encountered. The purpose of the study is to analyze communication problems within handball teams. Communication has always represented a fundamental element in the game of handball, but nowadays it is much more important, due to the fact that society is characterized by a continuous diversification of cognitive domains and the effective involvement of the act of communication in all activities carried out. Therefore, it is well known that handball is the basis of the physical and mental development of young athletes, which should be a sign created by healthy individuals, so communication within handball teams can greatly influence the achievement of these young people athletes, developing their image and sport, especially increasing the efficiency of the handball game. Thus, communication is a fundamental condition in handball, for the instructional process to be carried out under appropriate conditions, communication being what constitutes the bond that holds together the members of a handball team.

Keywords: new trends; handball communication; instructional process.

## **Football Fans Culture a Multifaceted Phenomenon**

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Football fans culture is a multifaceted phenomenon that encompasses various beliefs, rituals, and behaviours associated with the sport of football. Abstractly, it can be seen as a subculture with its own norms, values, and symbols that distinguish it from mainstream culture. At the core of football fan culture is a deep passion for the game, which often manifests itself through highly emotive displays of support for teams, such as singing, chanting, and flag-waving. Fans also demonstrate their allegiance through the wearing of team colours and the display of team logos and other symbols. Beyond this, football fan culture is characterised by a sense of



community and belonging among fans, with social interaction playing a key role in the fan experience. Fans gather together before, during, and after matches to share their love of the sport and support for their team, creating a shared sense of identity and camaraderie. The culture is also influenced by a long and rich history of the sport, with particular clubs and rivalries often having deep-rooted historical significance. This historical context often informs the rituals and traditions associated with specific clubs and fan groups. Football fan culture is not without its controversies, however. Some fans have been known to engage in violent or anti-social behaviour, leading to negative stereotypes and perceptions of football fans more broadly. Nonetheless, for the majority of fans, football is a positive force in their lives, providing a sense of community, identity, and shared passion.

Keywords: football fan; culture; passion; clubs.

## **Physical Training Planning for Weightlifters Beginners in a Weekly Training Microcycle**

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Weightlifting training requires a high level of physical preparation, and this concept became essential at all activity cycles. As the results of participation in competition are increasingly in demand, optimal work output can only be achieved in the presence of superior indices of special physical preparation. Physical training planning throughout the training period is particularly important, but especially at the initial stage. Thus, the forms of planning the physical preparation of beginner weightlifters in a weekly training microcycle are based on significant concepts and theoretical-practical approaches essential for the effective preparation of weightlifters at this stage. The planning of the physical preparation of beginner weightlifters in a weekly training microcycle is designated by the complexity of the development of the functional and motor capacities of an athlete and is carried out within a well systematized and organized training process, this process being represented by a set of theories, concepts, notions, methods, principles and legalities. Therefore, the process of planning the motor activity of weightlifting athletes at the early stage is represented by certain scenarios of training lessons, being developed depending on the main objectives of forming a strong functional base and requires permanent increase of efforts in order to achieve high sports results. The planning of physical training in a weekly training microcycle is reflected in the number of training sessions per day (morning and afternoon training); the number of training sessions per week (total of 11 training sessions: for Monday, Tuesday, Wednesday, Thursday and Friday two training sessions (morning and afternoon) and for Saturday only the morning session. The total number of hours is represented by the 60 min ceiling for one hour of training (one astronomical hour) where the morning training constitutes 1.5 hours, and the afternoon training constitutes 2.5 astronomical hours. In the structural architecture of the planning of the training process a





significant role is played by the experimental didactic project of the training lesson. The didactic project contains in a detailed form the whole scheme of the programme of actions that are planned to be learned. This planning unit is also notable for the fact that the respective compartments also describe the method of action which influences the execution of the planned movements. In their content, the didactic projects of the training lessons preserve the essence of the instructional approach in order to form the motor skills and the set of previously acquired skills, mastered at the moment, and with a future perspective, giving the didactic project a system status, on the basis of which the multiannual training process is built.

Keywords: planning; physical training; beginner weightlifters; weekly microcycle; training.

## **The Impact of Age and Body Composition on Physical Fitness and Soccer Skills Among Pre-Pubertal Players in "Mixed-Age" Teams**

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The main objective of this research was to examine how age impacts physical fitness and soccer skills among players in mixed-age teams. Additionally, the study aimed to explore the connection between body fat percentage, BMI, and physical performance. Methods: The researchers selected 43 pre-pubertal children from an amateur soccer school and placed them in the "Under 10" or "Under 12" groups based on age. To evaluate the players, the researchers conducted tests such as the standing long jump, 20-meter sprint, shuttle dribble, and Yo-Yo Intermittent Recovery Test level 1 modified for Children (YYIR1C). Results: The results indicated that older and more experienced children performed better in physical and soccer-specific evaluations ( $p < 0.0001$ ). Moreover, higher body fat levels harmed physical exertion and soccer-specific performance ( $p < 0.001$ ). Conclusion: Therefore, mixed-age teams may not be the most effective solution for maximizing soccer school schedules, and nutritional guidance should be incorporated into soccer school programs.

Keywords: body composition; physical fitness; soccer.



## **A Comparative Study for Explosive Power, Speed and Agility by Age Categories in Youth Female Volleyball Players**

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Explosive power, speed and agility are important attributes if you're a volleyball athlete. While the importance of agility training or speed is clear and widely accepted, also explosive power training is as much important in volleyball. The aim of this study is to examine comparison for explosive power, speed and agility by age categories in youth female volleyball players. 84 young female volleyball players of different group-ages from 14-17 yrs were participated into this study research. Participants youth female volleyball players were divided in three age categories (14-14.9 yrs, 15-15.9 yrs and 16-16.9 yrs). The tests assessed in this study were: anthropometric parameters like: body mass, height measured with Health-O-meter equipment. Also test as standing broad jump, speed 20m and agility T test were performed. Data comparison (ANOVA test) showed: explosive power  $F=1.059$ ,  $Sig= 0.351$ ; speed 20m  $F=0.555$ ,  $Sig= 0.576$  and agility T test  $F= 1.596$   $Sig= 0.209$ . Data from this study research found no statistical difference for motor abilities in youth female volleyball players by age group with regard to explosive power, speed and agility.

Keywords: volleyball; youth; female; agility; speed; explosive power.

## **The Importance of Using Modern Technologies in Improving the Running Technique of Elite Athletes**

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Everything that exists today in biomechanics field can be used to improve running techniques. Using modern technologies we have the possibility of objectifying the evaluation process in sports training. Real needs of training stages and competitions require a mix of motoric skills, which are analyzed using energetic and control parameters (Mereuta C., Ganea D., Mereuta E., 2013). In order to optimize performances, coaches must perform a qualitative and quantitative analysis of athletes training using advanced mechatronic systems. The purpose of the research is to determine how the moments of the middle-distance running step are conditioned in the support period using analysis of variance (ANOVA) and the R test (Hopkins) to obtain correlations between the kinematic parameters studied on the video recordings processed in Kinovea on five elite athletes in the middle-distance running. Based on the results, technical



aspects of middle -distance track running will be highlighted, which, in case they are improved, could contribute to significantly increase the performance in this type of trials.

Keywords: running techniques; mechatronic systems; kinematic parameters.

## **Comparative Study on the Stage of Development of the Segmental Force in the Students Admitted for the Bachelor's Program Physical and Sports Education**

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In the teenage period the muscular onus and the ability to exercise increase compared to other motor skills, all the more so as new interests appear in the motivation plan. Attention to increasing psycho-motor potential can be an end in itself for those who tend to the field of movement consumers and trainers in physical education and sport. The purpose of the research was to highlight the level of segmentary strength of the students who managed at admission for the bachelor's program Physical Education and Sport the course of 4 generations at the Faculty of Movement, Sports and Health Sciences. The hypothesis of the work assumed that the analysis of the results of the strength indicators at the level of students admitted to the specialized faculty would have a fidelity as close as possible to the values of the minimum requirements imposed. The research methods used were that of scientific documentation, comparative study, testing method, statistical-mathematical and graphic methods. The research was carried out in the years 2018-2021 and consisted in processing the results of some segmental force tests undertaken by a sample of 60 students from the first year in the first semester in the discipline General Bases of Gymnastics at the Faculty of Movement, Sports and Health Sciences in Bacău. The results demonstrated value differences at the level of the researched group, with a dynamic difference from one generation to another during the 4 years. Compared to the minimum standards imposed, there were a small number of cases in which the scales were met at all the tests, they were obtained especially by practitioners of performance sports disciplines.

Keywords: comparative study; segmental strength; students; bachelor's program; physical and sports education.



## Physical Efforts of Maximum Intensity and their Influence on the Judoka Body

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This research allowed to determine the degree of influence on the judokas' body, of different qualification and weight category, standard effort with specific character of maximum intensity and of force-speed character, namely: the reaction of the body to the effort of maximum intensity of judokas 'different weight and qualification category: HRF, respiratory rate after effort and speed of recovery processes, indices of physical work capacity, as well as to perform a comparative analysis of judokas' efforts of different weight and qualification category during a physical effort with specific character of maximum intensity. It has been established that the judoka's special strength indices as the qualification grows, will gradually increase from one category to another, and that there is a great difference both between the resting HRF indices and after reaching a maximum physical effort, such as between the HRF after effort and the speed of return to the initial level, which demonstrates slowed-down tempos of the adaptation processes to physical efforts with force and force-speed character, which take place in the body of the examined female athletes.

Keywords: sports training; maximal test; specific throwing effort; force and force-speed strength; heart rate frequency; duration of recovering processes; throw cycle duration.

## Determination of Nutrition Knowledge Levels of the Individual and Team Sport Athletes

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This study aimed to determine the nutritional knowledge levels of individual and team sports athletes. The study was quantitative research and 96 athletes of Artvin Provincial Directorate of Youth Sport participated the study voluntarily. In the questionnaire form, there were 39 questions, including 8 demographic characteristics questions and 31 questions on the Nutrition Knowledge Scale (NBS). Independent groups t-test, one-way analysis of variance (ANOVA) and Pearson correlation analyses were used in the statistical analysis. As a result of the analysis, no significant difference was found between the nutritional knowledge scores of the students and the variables of gender, age, amount of daily liquid consumption and sports experience; however, significant differences were found according to BMI, sports branch and daily food consumption ( $p < .05$ ). According to the results of Post-Hoc (SCHEFFE), which was conducted





to determine the source of the difference, it was determined that the nutritional knowledge level of individual with normal weight was significantly higher than overweight individuals, nutritional information measurements in individual sports are higher than team sports and the nutritional knowledge level of those who took 3 meals a day was significantly higher than the nutritional knowledge level of those who took 5 meals a day.

Keywords: nutritional knowledge level; team sports; individual sports.

## **The Relationship Between Vertical Jump and Anthropometric Parameters in Youth Male Basketball Players in Tirana**

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The aim of this study is to examine the relationship between anthropometric parameters and vertical jump in youth basketball players by age categories. 98 young basketball players of different group-ages from 14-17 years were part of this study divided in three age categories (14-14.9 years, 15-15.9 years and 16-16.9 years). The tests that were made are: vertical jump with vertec equipment and anthropometric parameters (body mass, body height) with Health-O-meter equipment. Data from this study showed no significance difference by age categories for jumping performance, body weight and body height (ANOVA test). Results from correlation data analysis showed for jumping performance with body height (14-14.9 years  $r = -0.160$   $p = 0.337$ ; 15-15.9 years  $r = -0.215$   $p = 0.140$  and 16-16.9 years  $r = 0.051$   $p = 0.815$ ). Also for correlation between jumping performance with body weight showed (14-14.9 years  $r = -0.378$   $p = 0.019$ ; 15-15.9 years  $r = -0.250$   $p = 0.141$  and 16-16.9 years  $r = -0.285$   $p = 0.178$ ). The statistical significant relationship was found only between jumping performance with body weight in 14-14.9 age years' category ( $r = -0.378$   $p = 0.019$ ). No statistical relationship significance between vertical jump and anthropometric parameters (body height, body weight) in youth male basketball players in other age group categories were found.

Keywords: basketball; youth; male; jumping; height and weight.

## **Encouraging Sport Among Young People Is Therefore an Investement**

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Encouraging sport among young people is therefore an investment for the hole society both in terms of health and education. Exercising is good for the body and mind, but we don't always find time to think about ourselves. Luckily basketball takes care of that! Currently there are hundreds of scientific studies that highlight the benefits of physical activity for our health, the



maximum benefit of which in terms of preventing serious diseases is achieved by practicing sports continuously and starting from early age. "This is what we want to teach citizens who seem to underestimate these benefits. Not forgetting the importance of awareness on this topic even among young doctors: there is still a lack of adequate training in undergraduate courses on these issues," FOCE president Francesco Cognetti. A major initiative that aims to value a winning combination such as sports and health would be a collaboration between medical specialists through the indirect involvement of families and can make a major contribution to relaunch of full physical activity.

Keywords: sport; basketball; health; young people.

## Physical and Psychological Preparation in Rhythmic Gymnastics

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Passion for this sport, rhythmic gymnastics, led every day my steps and my heart, in my everything career as a competitive gymnast and allowed me then to undertake another important road, different, but equally satisfying that of a trainer. Later, I will present the physical training in rhythmic gymnastics with its major importance, then the psychological training with an emphasis on the feedback with the coach, the motivation of the gymnast and the relationship created between the gymnast and the coach. An interesting and very important chapter will be the one about the preparation of team exercises, more than that, the transition from individual sport to team sport, this being a discipline that allows this development. The conclusion of this work will be focused on the question: "Is rhythmic gymnastics a female sport?" Rhythmic gymnastics is a complete combination of art and sport, very feminine and the synergy between delicacy and strength. Rhythmic gymnastics is a female sport. It remained, in Italy, the only sport that did not allow male competition. In fact, in 2015 even synchronized swimming has approval of mixed teams with the blue couple Flamini – Minisini. Men's rhythmic gymnastics is not recognized by the International Gymnastics Federation, although there are World Championships.

Keywords: gymnastics; female; expressive; feeling.



## Fitness Index of Medical Students

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The transition from high school to student life can be a real challenge for some young people, therefore maintaining optimal health and an adequate fitness status is a priority for university physical education teachers. The purpose of the study was to evaluate the level of fitness correlated with the health status of students from the University of Medicine, Pharmacy, Science and Technology "G.E.Palade" from Targu Mures. The research took place in the first semester of the academic year 2021-2022 and conducted under the Helsinki Declaration. The participants were students from the first and second year of medical specializations (general medicine, dental medicine, nursing, and pharmacy) who voluntarily participated in this study, 300 students between 18-24 years old participated in the research, who were given anthropometric measurements (height, weight, abdominal girth, waist girth) and who participated in physical tests to determine muscle strength and capacity of effort. The data were processed using the SPSS22 program for windows. Pearson's correlations were used to assess associations between variables. Our results indicates that medical students involves in the study have a good health status and a good fitness index. Those who consider themselves active people obtained superior results in physical tests compared to those students who lead a sedentary lifestyle.

Funding: This research was cofounded by the European Social Fund through the HUMAN CAPITAL OPERATIONAL PROGRAM 2014–2020, Program for increasing performance and innovation in excellence doctoral and postdoctoral research—PROINVENT, agreement no. 62487/3 June 2022- codSMIS:153299.

Keywords: fitness; health; students.



## **The Perception about Physical Training in Handball Romanian Nation League**

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The purpose of the study was to compare the perceptions of handball players active in the first female handball league in Romania, regarding the importance of physical training. 62 Romanian handball players and 40 foreign handball players, who are active in the national league, aged between 17 and 40 years, with at least 5 years of experience in performance sports, participated in the research. We were interested in investigating how important physical training is for them and what are the similarities and differences between Romanian and foreign players regarding the frequency of the physical trainings in the pre-competition and competition period, the means used mainly in the physical training and their level of satisfaction with their level of physical training and also with their team level. Methods In this sense, we used a semi-structured questionnaire that was translated and applied in the same way for both Romanian and foreign players. Results The Romanian players stated that they are much more satisfied with the level of the team, compared to the foreigners, but they all consider that the physical training in the handball players training is very important. Acknowledgements. This work was supported by the grant POCU/993/6/13/153178, "Research performance", co-financed by the European Social Fund within the Sectorial Operational Program Human Capital 2014-2020.

Keywords: physical training; handball; questionnaire.

## **Investigation of General Self-Efficacy Levels of Faculty of Sports Sciences Students**

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In this study, it was aimed to examine the general self-efficacy levels of the students of the faculty of sports sciences. The research group of the study consists of 150 students, 49 female and 101 male, studying at Tekirdag Namık Kemal University Faculty of Sport Sciences. In the study, the survey model, which is one of the quantitative research approaches, was used. In the study, the 'Personal Information Form' prepared by the researchers and the 'General Self-Efficacy Scale' developed by Jarrusselam and Shwarzer (1979) and adapted into Turkish by





Yeşilay (1993) were used as data collection tools. The scale is in 4-point Likert type and consists of 10 items in total. In the study, the Cronbach Alpha internal consistency coefficient of the scale was calculated as 0.90. SPSS 21 package program was used in the analysis of the data. The t-test and one-factor analysis of variance (One-Way ANOVA) tests were applied by looking at the skewness and kurtosis values of whether the data provided the assumption of normality. Statistical significance level was accepted as  $p < 0.05$ . When the findings of the study were examined, no significant difference was found in the general self-efficacy levels according to the variables of gender, department, class, frequency of doing sports and being licensed ( $p > 0.05$ ).

Keywords: sports sciences; student; general self-efficacy.

## **Investigation of Perception Levels of Athletes' Use of Wearable Technological Sports Products**

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In this study, it was aimed to examine the perception levels of athletes using technological sports products. The research group of the study consists of a total of 101 athletes, 47 women and 54 men, who are active sportsmen. In the study, the survey model, which is one of the quantitative research approaches, was used. In the study, the 'Personal Information Form' prepared by the researchers as a data collection tool and the 'Wearable Technological Sports Products' developed by Song, Kim and Cho (2018) and adapted into Turkish by Yüce, Aydoğdu, Katırcı and Gökçe-Yüce (2020). The 'Usage Perception Scale' was used. The scale is in 5-point Likert type and consists of 6 factors and a total of 30 items. In the study, the Cronbach Alpha internal consistency coefficient of the scale was calculated as 0.79. SPSS 21 package program was used in the analysis of the data. The t-test and one-factor analysis of variance (One-Way ANOVA) tests were applied by looking at the skewness and kurtosis values of whether the data met the assumption of normality. Statistical significance level was accepted as  $p < 0.05$ . When the findings of the study were examined, no significant difference was found in the perception levels of use of wearable technological sports products, scale total and factors according to the variables of gender, age, branch and wearable technology usage time ( $p > 0.05$ ).  
Keywords: sport; athlete; wearable technology; sports technology products.



## Estimation of Maximum Oxygen Consumption by Reference to Maximum Heart Rate

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Measuring and assessing maximum exercise capacity and anaerobic resistance is an essential tool for performance selection and prediction. The  $VO_{2max}$  and  $FC_{max}$  values are the starting points for determining the intensity of training or competition, depending on the proposed goals. The methods by which it can be determined are either direct or indirect, both during exercise and during the recovery period after exercise. 30-15 intermittent fitness test (30-15<sub>IFT</sub>) was used to determine maximal oxygen consumption ( $VO_{2max}$ ) and maximal heart rate ( $FC_{max}$ ), the main indicators used to assess maximal aerobic capacity. Twelve elite female players ( $n = 12$ ; age,  $31.9 \pm 4.05$  years; weight,  $66.1 \pm 5.8$  kg; height,  $173 \pm 3.8$  cm and body mass index,  $2.2 \pm 0.2$  kg/cm<sup>2</sup>) from a team in the best Romanian Female Team Handball League participated in the study. The team  $VO_{2max}$  average was  $52 \pm 2.06$  mL·kg<sup>-1</sup>·min<sup>-1</sup>, with the lowest result being 48.99 mL·kg<sup>-1</sup>·min<sup>-1</sup>, while the best-trained player has 55 mL·kg<sup>-1</sup>·min<sup>-1</sup>  $VO_{2max}$  recorded. For  $FC_{max}$  the team average was  $186 \pm 4.45$  ppm, ranging from a minimum of 179 ppm to a maximum of 194 ppm. Strict adherence to test procedures, calibration of instruments, and increased attention to physiological measurements are recommended to ensure data quality and accuracy. All of this carries the risk of misinterpreting the data.

Keywords: maximum exercise capacity; maximum heart rate; 30-15 intermittent fitness test; female handball.

## The Psychological States an Athlete May Experience in Handball Competitions

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Psychological preparation for an important tournament or game is one of the main directions of psychological training in handball. The game itself is a very important event for a player,



because it is a special psychological load. By applying and analysing the flow concept from psychology to competitive sport, we can see that the psychological states an athlete can go through during a competition are highly dependent on their skill level and the level of stress they are subjected to. For example, a well-trained athlete can experience a state of flow in major sports competitions, while low-impact competitions can bring the same athlete into a state of mental relaxation. On the other hand, low-skill athletes may experience apathy, worry, or anxiety depending on the level of competition demands. The State of Flow is seen as a feeling of mental fluidity, characterized by the power of focusing on the most important tasks to be done in order to mobilize all abilities. This attitude is actually the optimal psychological experience that the athlete must go through in major competitions. Of all the psychological stresses that athletes experience in major competitions, research has found the most common is that of competition anxiety.

Keywords: sport psychology; sports performance; Flow concept; competition anxiety.

## **Study on Optimizing the Physical Training of Junior Hockey Players During Non-Specific Working Periods**

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Hockey, like all sports disciplines, represents a wide field of scientific, pedagogical, biological, psychological and sociological investigation. The current level of the hockey game is placed between high coordinates of skill, strength and speed with the continuous tendency of increasing physical effort in direct combat with the opponent, of increasing technical virtuosity on the basis of a harmonious physical development. The players, regardless of the position, will have to participate with all their capacity for effort in a total commitment, both in attack and in defense depending on the needs of the phases of the game, beyond the classical limits of the positions.

The purpose of the research is to improve the physical training of junior hockey players during non-specific work periods. For the present research, the research subjects were 16 junior I players from the Dunărea Galați team. The experimental research took place in the strength room of the skating rink and on the Dunărea II field in Galati. The training program was applied in the year 2022. To evaluate the physical training, we used the tests imposed by F.R.H.G, tests held at the beginning and end of the experiment. To measure the differences between the initial testing and the final testing we used the t-test (Student) and the Wilcoxon test for dependent or "paired" samples. The statistical data for the comparison of the means were made using the SPSS for Windows program. Results: Optimizing the physical training of junior hockey players



can be achieved by rationalizing the means of non-specific training on land, something verified by the results recorded in the control tests.

Keywords: physical training; hockey; juniors; non-specific periods.

## **Comparative Study Between the Results Obtained in Running Tests, at The Junior Level, in the Preparatory Period**

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This study presents the level of athletes from the Municipal Sports Club in Bacău who train on the lowland compared to the level of athletes from the Rarău Sports Club in Câmpulung-Moldovenesc, Suceava who train in the mountains. The comparison was made by analyzing the common means used and then the results obtained in three running tests - endurance running over the distance of 1000m, speed running over the distance of 50m and Anderson test. In this study, we included a number of 20 athletes registered at the two clubs in the cities of Bacău and Câmpulung Moldovenesc, aged between 14 and 17, who performed speed running and endurance running tests, tests that were analyzed and interpreted. The purpose of this study is to see the level of junior athletes at the end of the preparatory period in order to obtain some beneficial benchmarks to continue training so as to obtain the peak of form at the objective competitions. The hypothesis from which we started was that the test of speed running over the distance of 50 m and the endurance run over the distance of 1000 m can show us the level of the athletes in the analyzed period, after which we can make an analysis for the next period. The methods used in the research were: the bibliographic study method, the conversation method, the observation method, the testing method, the data analysis and processing and the graphic method. From this study we have come to the conclusion that there is a value difference between the two groups. The results of the athletes from the Rarău Sports Club in Câmpulung-Moldovenesc, Suceava who train in the mountains are better compared to the results of the athletes from the Municipal Sports Club in Bacău, who train on the lowland.

Key words: tests; juniors; sports club; preparatory period.





## **Study on the Use of Dynamic Games in the Lesson of Sports Training, in Beginner Children, to Learn the Elements of Running School**

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The role of dynamic games in sports training is a valuable and very attractive one because it ensures the consolidation of motor skills and contributes to the development of general motor skills, especially in the first part of the sports selection. The little ones see the games as a very serious task, putting it before any other activity. Taking advantage of this, we, the athletic trainers have initiated various games through which beginner children learn the elements of the school of running. The purpose of this paper is to highlight some dynamic steps used by athletics coaches that helped to acquire the elements of running school as quickly and efficiently as possible, especially at the beginning of sports training through the following methods: the study of specialized literature (documentation), observation method, data analysis and processing, graphic method. The research has taken place at the athletics track, in Bacau and Targu Mures, where the training sessions with the beginner groups took place. The subject of the research are athletes selected for the formation of the performance groups. The research was carried out over a period of 3 months, on 4 groups (2 groups of girl and 2 boys), 2 groups where dynamic games were introduced and 2 groups where learning the elements from the running school was done classically. The coaches gave the children an initial test and a final test for the 50m running, start from the feet (initial test in October and final test in February). The final conclusions showed that the athletes who learned the elements of the running school through dynamic games improved their running technique faster, gaining 0,05 seconds less compared to the athletes who were worked with classically method.

**Keywords:** dynamic games; training; children; running.



## **Highlighting the Aspects of Differentiation Between the Tactics and the Specific Technique of the Football Game**

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Football is a complex sport of teamwork and competition, a shared space whose objective is to kick the ball into the opposite goal more times than the opposition. The fact that several players share a space, fighting over possession of the ball gives the sport one of its most defining characteristics: spontaneity and, therefore, makes it more difficult to predict events. This reality is recognised by coaches and new sport professionals who understand that training environments should resemble those that are found in a real competitive contexts. As a result, Small Sided Games (SSG) have become a widely used training tool in football. SSGs are down-sized situations where one, several, or all phases of the game can be trained in a smaller space and where there are fewer players than in a real situation.

Keywords: tactical aspects; technical knowledge; football players.

## **The Incidence of Lower Extremity Injuries in Netball Players – A Literature Review**

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Netball is a popular multidirectional, high-intensity team sport. Given the high-intensity, stochastic nature of the sport, it is not surprising to find that netball players exhibit a substantial injury count that approximates to ~11.3-14 injuries per 1000 player hours. Aims and objective: The aim of this study is to explore the current available literature on the incidence of lower extremity injuries in netball players in order to better identify possible gaps in research in this popular sport, as well as to ultimately create awareness amongst rehabilitation specialists, netball players and coaches, in order to lower the risk of injury, occurrence of re injury and improved individual and team performance. Method: A typical PRISMA benchmark is followed. An electronic literature search was conducted using the Google Scholar search engine, with the following key search terms “netball”, “ground reaction force”, “isokinetic knee strength”, “lower extremity injuries”, “landing kinetics”, “time to stabilisation”, “force plate”, “dynamometer”, “eccentric”, “injury mechanics”. Results and discussion: 111 peer reviewed articles made the inclusion criteria, 43/111 articles pertaining to injuries, 10/111 articles



pertaining to netball, 10/111 articles pertaining to injuries in netball and 10/111 articles concerning with performance, 14/111 articles concerning with sport biomechanics 14/111. Themes evolved from search the nature of netball, netball injuries, mechanisms and risk of injuries, biomechanics. Literature shows high incidence of ankle- and knee joint injuries in netball. This includes match play as well as practice, as well as all level of competition. Biomechanical factors play a high role. Isokinetic knee joint and ankle joint strength ratio very important. Conclusion: This literature review of lower extremity injuries in netball players will aid valuable information towards conditioning protocols, training loads, rehabilitation- and prehabilitation protocols, lowering the risk for injuries, as well as re-occurrence of previous injuries and finally optimising individual- and team performance.

Keywords: injuries; netball players; netball injuries.

## **Analysis of the Efficiency of Service Reception in the Players of the National Volleyball Team of Romania at the Cev European Silver League 2022**

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The analysis of the playing efficiency of the volleyball players through the latest technological methods is widely used by the volleyball coaches in Romania, which has led to a considerable increase in the play level in the Romanian championships. The aim of this paper is to analyse the service reception efficiency of the players in the Romanian national volleyball team by means of the statistic analysis software Data Volley. The analysis involved 8 matches played by the national team as part of the European Silver League. As a result, the present study has taken into account the serve reception from a quantitative point of view (number of executions), as well as from a qualitative perspective (efficiency) at team level, discussing each player's efficiency (8 subjects), and a differentiated analysis of the efficiency of the service reception performed from a jump serve, as compared to the efficiency of service reception performed from the float serve. The research methods used in the present study have been the study of bibliographical material, the statistical-mathematical method, the video analysis and the graphical representation. The results obtained after the detailed analysis of the data provided by the Data Volley software have pointed towards the lower efficiency compartment. Thus, at the initial stage of research, it may be noticed that the national team's efficiency in point of the serve reception is 15%, and the differentiated analysis according to the serving procedure showed an efficiency of 11% for the jump serve reception, and 19% for the float serve reception. According to these objective data provided by the statistical analysis software, the findings show that the efficiency is 8% higher for the float serve, which point out to the weak points in the defense system of the national volleyball team. All these data help the coach and assist him/her in the decision-making process during play or even during training practice, to



the purpose of improving the serve reception efficiency, and consequently the play level of the team.

Keywords: statistics; analysis; reception; software; efficiency.

## **Application of Special Physical Training in General Educational Institutions of Ukraine**

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This article presents the results of scientific research conducted to assess the effectiveness of the elements of special applied training of students in physical education classes in educational institutions in Kiev, as well as Kiev and Chernihiv regions. In the process of conducting this study, special individual programs of applied physical training were used for primary school students of educational institutions of these regions of Ukraine. The purpose of applying individual programs of applied physical training was the primary development of those physical and psychological qualities in schoolchildren that are extremely important for professional activities in the future. Methods of pedagogical observation and pedagogical experiment, interviews, questionnaires, study of medical and educational documentation, as well as modern methods of statistical processing of the obtained data were used. In the course of the study, it was found that the most important qualities that ensure a sufficiently high level of efficiency of physical work in the future are the ability of recipients to quickly adapt to a variable intensity of physical activity while redistributing this load to responsible muscle groups, as well as the ability to distribute energy the resource of the body to maintain the optimal level of muscle tone in the body. The results of this work confirm the assumption that the use of special individual programs of applied physical training for students of primary and secondary grades of educational institutions in Ukraine is appropriate and provides high-quality training of young people for work in the future.

Keywords: applied physical training; educational institutions; period of adaptation; distribution of muscle tone; level of work productivity.





## **Sleep Quality in Competitive Endurance Athletes During the COVID-19 Lockdown**

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Due to coronavirus disease (COVID-19), training plans and competitions had to be canceled, with travel restrictions, and closure of sporting facilities. This leads athletes to experience increased stress and anxiety, which has a negative impact on athletes' sleep quality, which is crucial to their competitive performance. This study aims to investigate the impact of the COVID-19 lockdown on sleep quality towards sports participation in competitive endurance athletes in Malaysia. A convenience sample of endurance athletes totaled 86 [mean age: 25.1 years, 76.7% males and 23.3% females, 61.6% having more than 5 years of competing experience, 68.6% are international level athletes] completed Pittsburgh Sleep Quality Index (PSQI). The scores of the Pittsburgh Sleep Quality Index ( $6.5 \pm 2.6$ ) with 67.4% having low sleep difficulties. However, athletes with 5 years and below of competing experience were affected by habitual sleep efficiency ( $p < 0.005$ ) and sleep disturbance ( $p < 0.005$ ). Sleep latency ( $p < 0.020$ ) in different age categories and in between gender, sleep quality ( $p < 0.006$ ) was also affected. In conclusion, COVID-19 has caused athletes to have an adverse effect on their sleep quality due to anxiety, stress, and financial issues. In light of these findings, coaches and athletes should be aware of the critical responsibilities that families and society play in supporting athletes as well as how to manage athletes in the event of a future limitation order. Keywords: COVID-19; sleep quality; competitive endurance athletes.

## **The Relationship Between Body Image and Self-Esteem Among University Students: a Comparison of Bmi and Gender**

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Self-esteem was suggested as a basic human need or motivation and body image represents a large part of self-concept. While body dissatisfaction and self-esteem are known to be linked particularly during adolescence and puberty, limited number of studies focus on young adults. Therefore the purpose of this study was to examine the associations between body image and self-esteem, as well as to understand the resulting difference between gender and body mass index (BMI). Approval to carry out this research study was obtained from The Ethical Committee of Tunku Abdul Rahman University College (TARUC). Convenience sample of



210 students age (18-26 years old) of Tunku Abdul Rahman University College participated in this study by completing Rosenberg Self-Esteem Scale-10 (RSES-10) and Body Self Image Questionnaire Short-Form (BSIQ-SF). The results of this study shows that there was a positive with moderate strength of relationship between self-esteem and body image (negative affect, attractiveness evaluation and physical functionality) at  $p < 0.01$ . There were significant differences ( $p < 0.05$ ) in the mean score for self-esteem according to gender, male ( $M = 13.38$ ,  $SD = 5.68$ ) and female ( $M = 13.44$ ,  $SD = 4.37$ ). For body image scale, there were significant differences ( $p < 0.05$ ) according to gender where the negative affect between male ( $M = 21.82$ ,  $SD = 7.91$ ) and female ( $M = 24.88$ ,  $SD = 6.14$ ) and BMI group respectively to negative affects, attractiveness evaluation and height dissatisfaction ( $p < 0.001$ ). As a conclusion, findings supports that body image dissatisfaction has an impact on self-esteem among young adults. It is suggested for future effective interventions to help in educating on ideal body weight and to promote self-esteem in regards of the negative effects of body image concerns.

Keywords: body image; self-esteem; young adult; dissatisfaction; BMI.

## Experienced Stress of Elite Athletes and Perspectives of Dual Career Development

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Elite athletes spend most of their time in training and have difficulties with academic career development and stress management (Ryan et al. 2015). The Council for Education, Youth, Culture and Sports came up with the dual career concept in 2007, the aim of which was to link sports training and education, and to create optimal conditions for student-athletes so that they achieve sports success and at the same time have an adequate academic education for jobs after the end of the career (European Commission 2012; Lupo et al. 2015; Costa et al. 2021). Finding a balance between sports and academic careers, even after a long time, turns out to be a difficult task that negatively affects the mental health, and experienced stress of student-athletes and can even lead to the occurrence of burnout syndrome (Baron-Thiene et al. 2015; Guidotti et al. 2015; Conde et al. 2023). The objective of the study is to know the impact of the academic career of the ESTPORT model on the sports career of student-athletes, to identify the difficulties of a dual career, and to bring perspectives for its development in Slovakia. The research was carried out within the ERASMUS+ project "*Dual Career Concept - Transfer of Experience, Synergy of Knowledge*". It involved 311 student-athletes ( $M = 16.69$ ,  $SD = 3.15$ , of which 142 men and 169 women) and 43 members of sports organizations/unions, who



answered questions regarding a) quality of education, b) quality of practice, c) interest in additional knowledge and skills, e.g. certificates, courses, seminars, conferences, webinars, etc. d) financial assistance, and e) personnel assistance. The innovative ESTPORT model (Sánchez-Pato et al. 2016) was used to determine the experienced stress and current difficulties in the academic career of elite athletes. We found that up to 37.2% of members of Slovak sports/organizations rate the quality of education of student-athletes in a dual career as very low removal of current cyclical recurring difficulties. 44.2% of them register a low interest among student-athletes in supplementing their knowledge and skills in the form of certificates, courses, seminars, conferences, or webinars. Up to 84.1% of members of sports/organizations would accept more financial assistance for student-athletes and 65.2% would also accept better personnel assistance in dual careers and support of competent persons. A total of 311 student-athletes reported the following as the biggest barriers to a dual career: distance from the residence or training center, low flexibility of the school/training schedule, insufficient school support, loss of social contacts, fatigue, exhaustion, etc. In addition, women reported that they are willing to invest their free time to obtain excellent academic results ( $p = .018$ ), it is important for them to acquire knowledge and skills ( $p = .003$ ) and they mainly lack the regularity and routine of learning ( $p = .010$ ). While men reported that they do not put much effort into studying ( $p = .001$ ). The current concept should therefore reflect on the prospects for developing the dual career of student-athletes in Slovakia. To eliminate the difficulties that elite athletes encounter in the academic system, thereby contributing to the elimination of experienced stress and improving the mental health of student-athletes.

The study was supported by The Scientific Grant Agency of the Ministry of Education, Science, Research and Sport of the Slovak Republic (VEGA) with number 1/0786/21 with the title "*Psychological and psychophysiological changes during a stay in the REST Chamber*"

Keywords: dual carrer; students-athletes; sport; study; stress management.

## Examining the Relationship between Mental Well-being and Sports Engagement in Athletes

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The research aims to investigate the relationship between athletes' level of mental well-being and sports engagement of athletes along, along with some demographic variables. The research is a descriptive study conducted in a survey model. The research sample comprises 181 active athletes selected through the accessible sampling method. The athlete group participating in the research comprises 35.9% ( $n=65$ ) female and 64.1% ( $n=116$ ) male athletes. The mean age of the athletes participating in the research is 21.24, and the mean duration of their athletic career is 7.49 years. 55.8% ( $n=101$ ) of these athletes engage in team sports, while 44.2% engage in individual sports. Additionally, 11.6% ( $n=21$ ) of the athletes are national athletes. In the research, a personal information form, the Warwick-Edinburgh Mental Well-being Scale (WEMWBS) developed by Keldal (2015), and the Sports Engagement Scale developed by



Sirganci et al. (2019) were used as data collection tools. Data analysis was conducted using the SPSS 25 software. Pearson's Product-Moment Correlation Coefficient and t-test were used to determine the relationships between variables and for pairwise comparisons. The significance level was set at  $p < .05$ . No significant differences were found between the genders, types of sports practised, and national representation of athletes regarding their mental well-being and engagement in sports. However, there was a positive and significant correlation between the duration of athletes' involvement in sports and their engagement in sports. Furthermore, a positive and significant relationship was found between athletes' mental well-being and their engagement in sports. Therefore, athletes' good mental health positively influences their engagement in sports, and high engagement in sports affects their mental well-being.

Keywords: sports engagement; athletes; mental well-being.

## **Positional Differences in Body Composition of Elite Football Players: An Investigation of FC Red Star, Serbia**

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The research aimed to determine anthropometric characteristics and body composition of elite football players, and identify differences in morphology based on their playing positions. The sample of respondents consisted of elite football players ( $n=25$ ,  $26.32 \pm 4.72$  yrs) who played for FC Red Star, Serbia. Morphological characteristics and body composition were evaluated by a battery of five variables: body height (BH), body weight (BW), body mass index (BMI), body fat percentages (BF), and muscle mass percentages (MM). Football players were categorized based on their positions into goalkeepers, defenders, midfielders, and forwards. For the entire sample, the average values of BMI ( $23.65 \pm 1.14$ ), BF ( $9.82 \pm 2.32$ ), and MM ( $41.27 \pm 4.34$ ) are at the appropriate level for the given level of competition. Also, it is noticeable that midfield players have lower values of BW, BH, and MM than all other sub-groups. ANOVA showed no significant differences between groups except for body height ( $p=0.015$ ). Although there are some differences in the values of morphological parameters, their significance has been eliminated due to the small sample size in subgroups. However, further investigations on a larger sample of elite football players should be conducted, which will provide better insight into the morphological characteristics of football players regarding their positions in the team.

Keywords: soccer players; playing position; anthropometric characteristics; body fat; BMI.





## Relationship Between Helicopter Parenting Style and Psychological Abilities of Young Athletes

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Helicopter parents usually hover over their children, have high expectations of success and are ready to solve the problems of their children. Children of any overparent are more likely to develop childhood anxiety, have low self-efficacy, and believe that personal success or failure is not something they have control over. Helicopter parenting may lead to increased self-doubt and narcissism since children believe that they deserve more than their peers. The aim of this study was to determine the relationship of helicopter parenting and some psychological abilities of athletes. A total of 398 athletes aged between 13-15 years were included in the cross-sectional quantitative study. Data was collected via the Challenge and Threat in Sport Scale and Helicopter Parenting Scales. Statistical analysis was performed with Wilcoxon test and Kruskal-Wallis test due to the lack of normal distribution. Findings of the study showed that 31.4% of the mothers of athletes have helicopter parenting style, whereas only 14.3% of the fathers were helicopter parents. Both helicopter mother and fathers had significantly higher median scores for basic confidence and life skills, emotional skills and academic skills compared to normal mother and fathers ( $p < .001$ ), while ethical-moral issues were not significantly different for parents with and without helicopter parenting attitude ( $p > .05$ ). It can be concluded that helicopter parenting has a significant effect on academic and basic life skills, but not on athletic skills and success.

Keywords: young athletes; helicopter parenting; psychological abilities; gender; challenge.

## Considerations for Strength Training in Children

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The aim of the study was to determine the advantages and the disadvantages of the strength training for children. It's important to know, what the effects are, of this type of training program, on the preadolescents and adolescents. Rumors and misinformation have helped persuade many to disapprove of preadolescent strength training. This is changing, however, as new knowledge replaces old misconceptions. Finally, we can concluded, that the children strength training program is efficient and without risks, if it is conducted with proper supervision after the principles of gradually loading.

Keywords: children; excercises; strenght.



## Brief Literature Review on Rumba Movement Analysis

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The analysis of sports dance mechanics is a topic of interest among researchers in recent years. Pengping Zhu (2004) studied classical ballet training combined with biodynamics and analyzed its correlation. Xiling Deng (2001) discussed mechanical issues in aerobic gymnastics. Latin dancers have radically different biomechanical demands than standard dancers (McCabe, T. R., Wyon, M., Ambegaonkar, J. P., Redding, E., 2013). In Latin American dances, both men and women follow a similar step pattern and often mirror each other's movements (Laird, W. & Laird, J., 2003). In order to be able to understand the motor content that supports the technical executions specific to sports dance, we need to be guided by the movement analysis models. In this sense Bota A. (2007), citing Rasch and Burke, presents stages of the model of biomechanical analysis of movement. Due to the complexity of dance steps and specific combinations, sports dance is an extremely demanding field, being approached by the performance field, so it requires many hours of training to achieve general and specific physical training.

Keywords: rumba; literature review; mechanics analysis.

## A Methodical and Technical Approach Regarding the Stretching Methods in Futsal Training

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These stretching methods include firstly the muscle contraction, secondly its partial relaxation through self – braking, and thirdly the passive stretching. Thus, stretching starts from passive elongation of a muscle group which has previously undergone an isometric contraction. In this way, the braking effect of sensitive corpuscles reacts over the stretching effect, which leads to the muscle relaxation. Taking into account the idea that the continuous movement on the field related to football plays an important part in the optimal handling of technical and tactical tasks, the sets of exercises used should aim to the development of endurance in the speed regime, strength in the speed regime, other driving abilities and also strength and endurance of the lower limbs. Any body movement, thus athletic performance, is realized by and with the help of the muscular system. That is precisely why the muscular system comprises a specific anatomical structure and is related to the feeding and communication systems, the blood



circulation and the nervous system. To achieve movement, the bones change their connections and their position in space, therefore maintaining a static position happens without making a movement - both of these actions are made by certain muscles of the body, which have particular features. Mobility and flexibility can be achieved through stretching, just as in the case of power, strength and elasticity.

Keywords: football training; programm stretching; theoretical approach; methodical approach.

## **A Sociological Survey Based on Questionnaire Regarding the Individualized Training of the Opposite Player in Performance Volleyball**

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**Aim.** The hereby research aims to develop and apply a questionnaire to a number of 20 male A1 division coaches and 20 female A1 division coaches in order to find out their opinion on the specific physical training of volleyball players, and in particular, those acting as the opposite (universal), the scientific means used in their preparation, particularly targeting the scientific investigation methods applied. The work also intends to highlight differences when approaching some specific physical training of players in the two divisions. **Method.** The applied questionnaire contains 10 items, with a single answer option, the purpose being that of rendering objective data on the current working methodology in the volleyball game in terms of the specific physical training component, especially of the specific physical training of the players playing as opposite (universal). The questionnaire survey involved identifying the place and role of muscle training in senior physical training. We mention that within the questionnaire we used the best phrases that emerged from the discussions (conversations) held in advance with decision makers, coaches, managers, specialists in the field of physical education and sport (volleyball). **Result.** 67% of the answers look at the level of training of the volleyball players from the national team as being high, the rest think that the training of the athletes members of the national team is good or average.

**Conclusions:** Most coaches consider it is important to train individual volleyball players at senior level.

Keywords: questionnaire; volleyball; individualized training; opposite player.



## **The Level of Physical Training Specific to the Opposite Player in Performance Volleyball**

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In the training of players, the premise is that sportives are trainable and that their performance capacity level can be influenced in a positive way. Generally speaking, training in the field of a sports game, particularly in volleyball, it is considered as a specialized process of development and formation of the personality of the player regarded both individually and as a member of the team. The training activity acts in the direction of increasing the player's performance capacity. In the process of a physical training, we aim to develop at a higher level the basic physical qualities as well as those specific to the respective sports branch. As a remark we can say that with the improvement of sports mastery, the ability to reciprocally supplant motor qualities tends to be restricted and as a result all motor qualities must be developed, with emphasis on the dominant ones. Method: Motor and functional tests applied to the 8 volleyball players playing as a opposite player (universal). Discussions: Looking at the most important opposite player in the A1 Male Volleyball Division, we could see that there are many situations where the lack of specific physical training at high level or at the level that is observed in stronger championships also betrays the level of training of our coaches. This can be regarded as one of the factors for which the level of playing and thus the performance recorded in our championship is often lower than the level of performance practiced in the strong championships of other countries, especially in Europe. Conclusions: The analyses carried out in the hereby research, as well as the clear proof of the potential that the players in the internal championship display, by improving their specific physical training, can constitute a lever, which, together with others, properly researched, manages to identify the right recipe for recovering the prestige of volleyball in our country.

Keywords: specific physical training; opposite player; performance volleyball.





## The Effect of Core Strength Training Applied to Young Football Players on Their Dribbling Skills and Agility Performance

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**Abstract.** The aim of this research was to determine the effect of eight-week core strength training applied to young football players on agility and dribbling skills. The sample of the research consists of 15 male football players licensed in an amateur football club. In addition to the body weight and height measurements of the athletes, as a pre-test and post-test respectively; 1) 41 m sprint dribbling test by changing direction and 2) Illinois agility test were applied. The normality test of the obtained data was tested with the Shapiro-Wilk test. Wilcoxon Signed Rank test was used in the analysis of data that did not show normal distribution. SPSS 22.0 was used for statistical analysis. According to the findings of the research; it was determined that there was a statistically significant difference between the dribbling test and agility test pre-test and post-test times of core strength training applied to football players ( $p < 0.05$ ). As a result, it is thought that young football players performing core strength training in addition to football training will contribute positively to their dribbling skills and agility performances.

**keywords:** football; core strength; dribbling skill; agility.

## Anthropometrics Profile of U14 Men's Basketball Players

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The somatic component is crucial to performance in basketball. Stature values are conditioned by genetic factors, which change very little, more or less, depending on living conditions and activity. The aim of this paper is to determine the anthropometric profile of the under 14 men's basketball players. A number of 120 Romanian athletes participating in the National Men's Basketball Championship for the under 14 in 2022- 2023 competitive season took part in this



research. Measurements took place in Bucharest, Cluj, Oradea and Ploiești and focused on height, wingspan, weight and BMI. This work is part of a larger project to regenerate selection at junior level in Romania. Following the analysis of the data obtained from the group of subjects involved in our research, it emerged that the average height of the boys is 172, 94 cm, the tallest is 192 cm and the shortest is 153. The average weight of the athletes participating in the U14 Men's Final Tournament in the 2022-2023 competitive season is 58.98, with the heaviest athlete weighing 107.40 kg and the lightest 38.90 kg. In conclusion according to the literature the athletes participating in our research are at 89.1% of the height they will be at adult age, meeting the current standards of the Romanian Basketball Federation.

Keywords: basketball; youth; anthropometric.

## **The Study on the Motivation of Students to Play Handball or Other Sports Activities**

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The purpose of this paper is to find out the reasons why students are attracted to play handball or another sports activity and the reasons that lead them to abandon these sports activities. The study was conducted on a sample of 60 students, 40 boys and 20 girls, aged between 13 and 14 years. To begin with, I made a questionnaire that I applied to the group of students, in order to be able to observe their interest in practicing handball sports or in practicing other sports activities, and I followed the students' interests, the purpose and what motivates them to practice handball. Some students also practiced other sports such as: football, volleyball, basketball, handball and swimming. Students are attracted in a special way by the desire to belong to a group, by the desire for affirmation, by the desire to develop harmoniously from a physical and motor point of view, all of which are Pro arguments in order to practice the game of handball. If we look at the other side of giving up playing handball, it is due to the lack of knowledge of the benefits of this game on the development of each individual, the lack of intrinsic motivation, the lack of positive models, the lack of materials necessary for the development of these sports activities, the lack of promotion.

Keywords: children; sport; motivation; participation; handbal.

## **The Quality of Life in People Serving Prison Sentences in Penitentiary Institutions**

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The present paper aims to bring forward the impact that the quality of life has on the detainees of penitentiary institutions and the way they navigate their prison living throughout their sentence. As the parameters have shown herein, the quality of life on prison detainees differs based on their assessments of life within the confined spaces of the penitentiary, including their relationships with other detainees, the support activities they are involved in and whether they have definitely been convicted or they have been in their pretrial detention period. This prerequisite has been quite important in the evaluation of the quality of life for detainees since based on these convictions, if permanent or temporary, and through the help of the survey as method of investigation, one has been able to outline the different needs, activities, opportunities and standard of living per se of the ones placed under the confinement of the law. This assessment has put forward also the relationships that the detainees have with the participation in the socio-educational programs and medical services offered within and with the participation in the sports activities carried out, while highlighting their understanding and judgment of how they are being treated inside, thus the right to humanity and decency.

Keywords: penitentiary life; quality of life; detainee behavior; prison sentence.

## Comparative Study on the Topspin and Retopspin Execution Biomechanics in Female Cadets

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It is possible that many high-performance table tennis specialists and athletes wonder if there are differences between the two most used technical-tactical elements in attack and which are these, given that their name and the biomechanical execution are characterized by approximately similar landmarks. *Hypothesis*: Knowing the differences between the two technical elements, we will be able to understand and streamline the execution biomechanics. *Tasks*: The biomechanical analysis of a large number of athletes on the three stages of execution and speed developed at the time of using topspin or retopspin. *Goal*: Identify the distinctive biomechanical features between the two elements and the speed needed for execution optimization. The research engaged a number of 20 Romanian sportswomen involved in high performance table tennis, with ages between 13-15 years old. For data collection, analysis and interpretation, we used Excel, IBM SPSS Statistics 23 and Dartfish 360s, and for the technical-tactical expression level “Topspin with crosswise retopspin, forehand and backhand”, “Butterfly” and “Multi-ball training”. *Conclusions*: The preparation of the forehand topspin hit requires an angle of 146.36 degrees and 0.36 s for the entire execution, while the forehand retopspin 134.20 degrees and 0.31 s, backhand topspin hit requires an angle of 92 degrees and 0.32 s, while the retopspin 86,72 degrees and 0.26 seconds for the entire execution.

Keywords: topspin execution; retopspin execution; female cadets.



## **The Role of Motivation in Obtaining Motor Performances in the Gymnasium Cycle**

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Motivation is closely related to all the actions in human life. Some authors believe that motivation as a whole has a fundamental role in the education of each person. Creating the motivation of learning within the school and creating a favorable framework ensures the student's school success, as a direct beneficiary of the educational act. The presence or absence of motivation influences the triggering, orientation and support of any psychic activity. The formation of motivation is one of the fundamental problems of the modern school. Questions about motivation have become the object of study of many teachers, scientists in the country and abroad. Teachers should try to find out what are the things that students are interested in, what are the things they are passionate about, and find the most appropriate ways to turn them into ways to stimulate their progress and into ways to develop a positive, open attitude towards learning and towards school. The research carried out to find out the role of the students' motivation regarding the physical education class will be done through a questionnaire. It will highlight three kinds of motivation, intrinsic, extrinsic and amotivation.

keywords: motivation; motor performances; gymnasium cycle.

## **A Narrative Review of Sports Participation Contributes to Physical Fitness Performance and Good Health in South African Adolescents**

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While some research in developed countries demonstrated that there is a link between regular participation in physical activity (PA), physical performance, and good health, however, there is data paucity in the South African context. Therefore this narrative review was conducted to describe the contribution of participation in sports to physical fitness performance and health in South African adolescents. A narrative review was conducted to identify any available literature in South Africa between 2000 and 2021. PubMed, MEDLINE, Sport Discuss, and grey literature available in the university libraries using keywords, sports participation, physical fitness performance, health, and adolescents. A total of 25 sources could be found, and after screening only 10 sources met the inclusion criteria. Sport participation was associated with physical fitness components of strength performance and physical activity. In terms of health, participation in sports was associated with body composition and health components including psychological (emotional). From the review, though inconsistent





findings were noted it became clear that sports participation serves as a contributor to the development of good physical performance and good health in adolescents. From this narrative review, more studies with a large sample size are needed to confirm or refute the findings. Given the noted benefits associated with sports participation, stakeholders working with adolescents are encouraging sport mass participation in adolescents.

Keywords: sport participation; South African adolescents; physical fitness; health; performance.

## **Practical Aspects of Attack Preparation in the Game of Tennis**

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In the last decades, the game of tennis has evolved considerably due to several factors, among which we enumerate: the improvement of the learning methodology and the improvement of technical procedures, the improvement of tactical thinking, the appearance of fast playing surfaces, the increase of the effort capacity of the players, the participation in competitions throughout the year. The relationships of interdependence between technique and the previously listed factors are obvious, they determine the increase in the quality of the tennis game. Due to the same causes, the vision of the specialists regarding the order of importance of the shots has fundamentally changed. Training has an increasingly perfected methodology in all aspects, being a specialized activity that represents the basic means of the entire training system of the tennis player and includes: practical training lesson and basic factors: physical, technical, tactical, mental (recovery, health, medication, motivation). Thus a professional player plays 32 tournaments a year. The tactical register, in top matches, registers remarkable progress on all levels, with special emphasis on game strategies and choosing a tactic according to the type of own and opposing player. Players prove solid theoretical knowledge.

Keywords: forehand; methods; technique; competitions; tests.



## **Evaluation of Charismatic Leadership Perceptions of Football Coaches by Footballers**

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This research aims to examine the charismatic leadership perceptions of football players towards their coaches. The study group of the research consists of 263 athletes playing in different leagues. The "Personal Information Form" created by the researchers and the Charismatic Leadership Scale (CLS) developed by Çelik (2011) were used as data collection tools in the research. SPSS 25.00 package program was used in the analysis of the data. The findings obtained after the data collection phase were transferred to the computer environment, and it was decided whether the data showed a normal distribution, depending on whether the skewness and kurtosis values were between  $\pm 1$ . Descriptive statistics and One Way ANOVA test were used in the analysis and interpretation of the data. Considering the findings obtained as a result of the research, it was determined that there was a significant difference according to variables such as age, league level and branch duration. In addition, the charismatic leadership perceptions of the coaches of the participants were found above the average level. Keywords: leadership; charismatic leadership; coach; football player.

## **Determination of the Multiple Intelligence Type and Mental training skill profile of University Students**

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The Theory of Multiple Intelligence (MI) has been accepted to be more useful in describing cognitive processes since MI proposes eight distinct intelligences with strengths in one or more of the intellects for individuals rather than using a single IQ score. MI theory could be used to improve both physical and mental training in physical education and sports. The aim of this study was to determine the intelligence types and mental training skill profiles of sports sciences faculty students according to gender and type of sports. A total of 450 university students (Mean age =  $21.37 \pm 1.95$  years) participated in the cross-sectional study voluntarily, while Personal Information Form, Mental Training Inventory in Sports, and Multiple Intelligence Survey have been applied to all participants. The findings of the study showed that



internal speaking skills and Mental visualization skills differ significantly between girls and boys, whereas interpersonal skills were found to be significantly different between individual and team athletes ( $p < 0.05$ ). Boys and girls did not show any significant difference in intelligence type ( $p > 0.05$ ). It can be concluded that gender and sport type are variables that must be considered in mental training programs, while intelligence type should be determined to increase the success of mental training.

Keywords: university students; multiple intelligence; mental training; gender; sports.

## **The Effect of Mental Toughness Levels of Active Rink And Tatemi Athletes on Athlete Engagement and Exercise Addiction**

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In the study, it was aimed to examine the effect of athletes' mental endurance levels on athlete commitment and exercise addiction levels. The study group of the research consisted of athletes engaged in defense (combat) sports in 2023. In the study, the Athlete Commitment Scale (SBÖ) developed by Lonsdale, Hodge and Jackson (2007) and adapted into Turkish by Keleşek, Kara and Aşçı (2017), the "Mental Toughness Inventory in Sports" (SMTO-14) developed by Sheard et al. (2009) and adapted into Turkish by Altıntaş (2015), and the Exercise Addiction Scale for Young People developed by Lichtenstein et al. (2018) and adapted into Turkish by Dokuzoğlu et al. (2022) were used. SPSS 25.00 package program was used for data analysis. Whether the data were normally distributed or not was decided based on the skewness and kurtosis values between  $\pm 2$  (Shao, 2002). Statistically, Pearson correlation analysis, linear regression analysis, frequency, percentage and reliability coefficient calculations were used. As a result of the research, it was determined that mental toughness has a significant effect on athlete commitment and exercise addiction.

Keywords: commitment; exercise addiction; mental endurance; defense sports.

## **Conceptual Delimitation of Aquatic Education and Swimming for Children**

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Today, there is an opportunity for children of all ages to have a different relationship with water, in order to enable them to discover things that will transform personality. Actifitatea physical of any kind, held in the aquatic environment due to multiple benefits and properties that we have water, which provides a specific sensory stimulation and varied, but also a support of Adapted Physical activities from birth. And secure emotional climate that it involves this



activity to familiarize the children with the aquatic environment clearly has an influence on the child's social and psychological development still very small. In other words, surprising as it may seem, the child becomes aware of itself and its own possibilities, placing first self-knowledge, knowledge of their own body and motility, discovering potential relationship can be created with the new environment.

Keywords: concepts; physical activity; education aquatic; swimming.

## **Correlation Between the Correct Perception of Body Parameters and the Choice of Intervention Means for Weight Control**

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Self-perception includes two fundamental processes of perception: the concept of self or the image that we have in our mind of who we are; and self-esteem, or the way we judge and evaluate those traits. Self-perception is a picture we have of the physical capabilities we consider being at a certain level of performance. The study shows that 87% of the subjects do not know the correct body mass index values. Individuals, under the influence of a complex of external factors, can build a distorted image that, as this study shows, negatively influences its decision-making ability. Methods. This study was carried out on a sample of 57 subjects, with 65% of the university's clients, who had their values harvested and who participated by completing the questionnaire. Results. The correlation of the values obtained after comparing the estimation of each subject with the values obtained by using the Jackson & Pollock test brought into attention the percentage of those who have a higher body mass index and which is very close to those who do not know the means by which they can intervene. Conclusions. The study confirmed the hypothesis, the correlation within the group was revealed. We aim to develop a step-by-step program with intervention mechanisms and clear procedures aimed at achieving the desired results of customers.

Keywords: body mass index; correct perceptions.

## **Highlighting the Factors that Influence the Practice of Physical Exercises Given to University Clients**

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This paper brings a picture of the post-pandemic moment in which the perception and availability of the university customers confirm the tendency reported in 2018-2019. The trend evidenced by studies prior to the period of restrictions imposed by the pandemic revealed





significantly a reduced concern for independent practice of physical exercise. The measurements of the university's clients showed a BMI 26.7% for girls and 22.4% for boys on a 19-24 years old segment, students without involvement in the regular management of any sport discipline, both values are above accepted limits. The study was conducted on a sample of 122 subjects, clients of the university. The method of study used was the questionnaire. Discussions with the participants of the study preceded the application of the questionnaire. Results. The analysis of the reasons invoked by clients as justification of not practicing a sport or physical activity shows the percentage of those who consider it difficult and do not have information or guidance for practicing the exercises is 11% plus 13% represented by those who have no place. Conclusions. The centralization of the results leads to the need to establish joint and unanimously accepted strategies with well-defined and realistic objectives, correlated with the understanding level and the current context by using adapted methods, so that the awareness and understanding of the benefits of the movement to be achieved.

Keywords: sedentary; health; understanding.

## **Key Principles in Providing Meaningful Experience in Youth Sport**

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Involvement and persisting in sport are often to with many different factors. When it comes to youth sport, significant participant dropout (Balish et al., 2014; Crane & Temple, 2015), lack of personal meaning and relevance (Bergeron et al., 2015; Knight et al., 2018) are noted. One of the ways to help children to stay in sport and practice it as a value part that enriches everyday life and supports their personal development, is providing them experiences that are meaningful and personally significant. Focusing on meaningfulness, it's important to support coaches working in youth sport, to identify experiences that are meaningful for the children and provide possibilities for greater quality of everyone's personal experience. In this regard, within the frames of the Erasmus project: Meaningfulness in Youth Sport (MiYS), a set of five principles were identified and suggested to coaches as relevant for providing meaningful experiences in youth sport. The principles are identified as: Building an authentic relationship; Developing a culture of belonging; Positive coaching: A balance approach to competition and being a reflective coach. All five principles are presented in Coach resource titled "Getting started with Meaningfulness in Youth Sport (MiYS)". The presented principles were tested and implemented by youth coaches working in several different sports (parkour, Gaelic football, floorball, volleyball). Coach's experiences were valuable for determining final content of the



resource and their examples are implemented within the resource. Principles are designed to be used by all coaches who want to improve their practice, regardless their level of experience. Keywords: meaningfulness; principles; coaches; youth sport.

## **The Influence of Plyometric Exercises Without Load on Physical Training at the Level of Junior Handball Teams**

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In the contemporary concept of handball training, the training of children and juniors is the basis of the training system for performance and high performance handball. In other words, the quantity and quality of the instructional-educational process, at the junior level, is a primary factor in ensuring a special performance capacity. In order to sustain a maximum performance capacity, athletes need to be very well prepared from a physical point of view. Both at the level of senior teams, but especially at the level of junior teams, the contact with the opponent is very hard and frequent in bilateral games, which very often leads to injuries. To support a maximum performance capacity and to be able to cope with the demanding demands of the game of handball, it is necessary that the athletes are very well prepared from a physical point of view. Numerous studies have demonstrated that plyometric and proprioceptive exercises together with various exercises to improve specific indices of strength, balance, speed and agility are an efficient method for reducing lower limb injuries, as well as improving physical performance. The purpose of this study is to put into practice a series of plyometric exercises in order to increase the physical performance of female athletes between the ages of 13 and 14. The means were selected, applied and dosed in accordance with the particularities of the subjects engaged in the study. During the course of the study, the feedback of the sportswomen was positive, they were actively involved in solving the tasks within the training lessons.

Keywords: handball team; plyometric exercises; physical training; training system.



## **The Effects of A Vegan Multi-Ingredient Pre-Workout Supplement in Body Composition, Resting Metabolic Rate and Performance in Middle-Aged Peri- and Post-Menopausal Women**

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Pre-workout multi-ingredient (PMTN) supplements are specialised dietary supplements widely used to increase motivation to train and maximise exercise performance outcomes. In the last years, there has been an increased interest in plant-based protein multi-ingredients among vegan athletes and physically active middle-aged and older adults. The aim of the present study was to compare the effects of ingesting a vegan protein-based PMTN vs an isocaloric-only carbohydrate (CHO) supplement comparator on body composition, Resting Metabolic Rate (RMR), and muscular structure over a 6-week training period in recreationally trained peri- and post-menopausal women ( $53 \pm 4.3$  y.o.) Following a double-blinded randomised parallel controlled design, twenty-four women were assigned to either a PMTN ( $n=13$ ) or a CHO ( $n=11$ ) group. Both groups followed an 8-exercise resistance training circuit protocol (3 days/week) for 6 weeks. Measurements of fat mass (FM), fat-free mass (FFM), and RMR were estimated from whole-body densitometry using air displacement via Bod Pod. Additionally, vastus lateralis (VL) and elbow flexors (EF) muscle thickness (Th) were evaluated using ultrasound pre- and post-intervention. Both supplements, PMTN and CHO, were administered 15 minutes before each workout. Significant changes in FM% ( $-1.58\%$  vs  $-0.82\%$   $p=0.015$ ), and RMR ( $+26$  kcal;  $p=0.011$ ) were observed only for the PMTN group. Both groups significantly increased VL-Th and EF-Th.

The ingestion of a vegan protein-based PMTN but not CHO improved body composition and RMR in middle-aged women. Both supplements were similarly effective in supporting training-induced muscle structure adaptations.

**Keywords:** multi-ingredient; supplement; caffeine; vegan; protein.



## **Training of Cognitive Skills in Rhythmic Gymnastics at the Initial Stage of Sports Training to 5-6 Year-Old Children**

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Competence defines a capacity expressed in a certain field or the ability to produce a certain conduct. The formation of cognitive skills in 5-6 year old children is one of the pillars on which the personality of the individual is built with all his skills, abilities, attitudes and skills, it is the condition that ensures the effectiveness of physical training at the initial stage of sports training. Training of artistic knowledge at the initial stage of sports training is a complex part of cognitive skills: language interpretation, the identification movements and creative application capabilities of knowledge to children 5-6 years old in rhythmic gymnastics.

Keywords: capacity; knowledge; skills, skills training; cognitive skills; sports training; children 5-6 years; rhythmic gymnastics.

## **The Role of Choreographic Training in the Development of Artistic Skills In 7-8 Year Old Female Gymnasts**

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The role of choreographic training includes an integral system of practice based on dance elements, ensuring an increased level of muscle work in various practice forms. The foundations of this school are classical and dance exercises are used according to a specific methodology. Most of the choreographic exercises are performed at the support bar, in the centre of the room, making extensive use of the reflective surfaces of the mirrors. The exercises performed at the support bar in most cases have a preparatory character, being performed in the preliminary stage according to some principles and rules that indicate the initial, intermediate and final positions of the movements, educating the specific particularities of organization and concretization of movement actions. Choreographic training in rhythmic gymnastics also implies a series of positions and exercises, performed with all parts of the body, including the head, arms, trunk, legs, etc.

Keywords: choreographic training; development of artistic skills; rhythmic gymnastics; expressiveness; virtuosity; elegance; plasticity; creativity.





## **Determination of Nutrition Knowledge Levels of the Individual And Team Sport Athletes**

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This study aimed to determine the nutritional knowledge levels of individual and team sports athletes. The study was quantitative research and 96 athletes of Artvin Provincial Directorate of Youth Sport participated the study voluntarily. In the questionnaire form, there were 39 questions, including 8 demographic characteristics questions and 31 questions on the Nutrition Knowledge Scale (NBS). Since the data showed normal distribution considering the skewness and kurtosis values, independent groups t-test, one-way analysis of variance (ANOVA) and Pearson correlation analyses were used in the statistical analysis. As a result of the analysis, no significant difference was found between the nutritional knowledge scores of the students and the variables of gender, age, amount of daily liquid consumption and sports experience; however, significant differences were found according to BMI, sports branch and daily food consumption ( $p < .05$ ). According to the results of Post-Hoc (SCHEFFE), which was conducted to determine the source of the difference, it was determined that the nutritional knowledge level of individual with normal weight was significantly higher than overweight individuals, and the nutritional knowledge level of those who took 3 meals a day was significantly higher than the nutritional knowledge level of those who took 5 meals a day.

Keywords: nutritional knowledge level; team sports; individual sports.

## **Health and Wellness Through Cyclic Meditation**

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The most significant challenge that the average person has in this fast-paced day is a troubled, unsatisfied mind as a result of leading an inappropriate lifestyle. The average person has also been significantly impacted by changes in the timing of their sleep and wakefulness, as well as by the absence of physical activity and the inclusion of outside junk foods in their diet. Ayurvedic scriptures identify ahara, nidra, and vyayam as the three sub-pillars of life. More specifically, ahara refers to one's nutrition; nidra refers to one's sleeping habits; and vyayam refers to one's physical activity. The consequences of living in such an unhealthy manner are seen in individuals today in the form of a wide variety of diseases, both mental and physical. The constant overstimulation of the sympathetic nervous system has also had a deleterious impact on the quality of sleep. Alterations to one's lifestyle, together with consistent yoga practice, may be useful in reversing the course of this worsening illness and enhancing the health and well-being of the general population. According to research, cyclic meditation may



provide better body-mind relaxation than other forms of meditation by achieving a balance between the sympathetic and parasympathetic nervous systems. This may be helpful in the treatment of psychosomatic diseases as an alternative to the use of pharmaceuticals.

Keywords: health; wellness; cyclic meditation.

## Comparative Analysis of Goals Scored in 5 Different European Leagues

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Football is a game played with the aim of scoring goals. The analysis of the structure of goal-scoring sequences is one of the most important factors in determining the structure of the game. In this study, the data related to the structure of attacking organizations resulting in goals in the first half of 5 different leagues played in Europe was evaluated and compared to identify factors influencing goal formation among these leagues. A total of 894 matches and 2375 goals scored in the top leagues of Turkey, Spain, England, Italy, and Germany were examined. The evaluation criteria during the analysis were determined as the attacking style, shooting zone, assist zone, the timing of goals, and the number of passes in goals. The match footage recorded during the analysis was analyzed using the Turkish Football Federation Supervisor Analysis Program. The study was limited to the first half of the 2018-2019 season. The data obtained from our study on determining the structure of attacking organizations in goals is believed to contribute to understanding the characteristics of football and the development of specific training models for match-specific training in football.

Keywords: goal; football; soccer; analysis.

## The Effect of Training in Which TRX is Used on the Body Composition of 14-16 Year Olds.

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Developed or developing countries are faced with a high percentage of obesity among adolescents. Specialists in the field highlight the fact that 15% of high school students in Europe are affected by obesity. Purpose: The study aimed to evaluate the impact of training in which the TRX is used on changes in body composition. Method: I selected 10 works from the



specialized literature that have 3 common points: age 14-19 years, measurements of body composition, the duration of the programs should be between 6-8 weeks. Results: Following the analysis carried out on the basis of the 10 works selected for this work, we established the fact that according to the results obtained by involving the training methods in which the TRX was used, Suspension Training produced significant benefits for the subjects that were evaluated. After the measurements, I noticed a decrease in the percentage of fat and a significant improvement in BMI. Conclusion: Suspension training is a safe and effective training system that can improve the body composition of young people and represents a solution to improving body composition.

Keywords: body composition; TRX; suspension training.

## **Model of Multilateral and Specific Physical Training in Handball**

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Handball is a sport game with a pronounced dynamic character. The practice area of the game is large, it being encountered in three situations: means of physical education in education of all grades, performance sport game, but also as a recreational sport game. The purpose of this study was the elaboration and experimental implementation of a training program including tools, oriented towards optimizing the multilateral and specific physical preparation of handball players, junior level 1. The participants were 50 athletes, from various handball clubs from Brasov and Covasna counties. Two systems of evaluation samples were applied on the previously mentioned components, in two distinct moments, and in the interval between them, a training program was implemented based on the rationalization and standardization of the means. The results highlighted the effectiveness of this program, which is why a methodology was developed to be applied to an extended population of athletes.

Keywords: handball; optimization of means; methodology.



## The Monitoring of Dual Career Services for Young Athletes in Slovakia

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The dual career combines education with elite sports and tries to create adequate conditions for student-athletes for life even after the end of their sports career. The purpose of this study is to investigate the quality of dual career services for young athletes in the Slovak Republic and to bring further development perspectives in combining studies and sports. Student-athletes (n=194; age  $19.4 \pm 12.7$ ) were recruited to respond questions oriented to sport career from the online survey ESTPORT (Sánchez-Patom et al. 2016), which evaluated the services: nutritionist, exercise physiologist, sports doctor, physiotherapist, performance rating/analysis, sports psychologist, sports facilities. The results were compared in terms of the performance level of student-athletes – amateur, semiprofessional, and professional. It seems that only a lower percentage of student-athletes use the current sports services in Slovakia. We found that the services offered by nutritionists are the least used (16%) and on the other side the services offered by sports performance analysis (30%) and sports psychologist (28%) were most used. The services offered by sports performance analysis (44%) and sports psychologist (40%) in group of professional athletes compared to groups of semiprofessional and recreational athletes were different (22-33% and 22-29%). In terms of quality, the services of sports performance analysis (28%), exercise physiologist (24%) and sports psychologist (24%) were rated the best in group of professional athletes. Although 95% student-athletes evaluated the sports facilities, only 21% marked best quality, but in group of professional athletes 36%. The services offered for student-athletes were less used in groups of semiprofessional and recreational athletes compared with group of professional athletes. Likewise, the quality of services was marked higher in the group of professional athletes. These findings identified mostly weak sides of dual career in sports and could help school and sports organizations to prepare better dual career services in the future.

Keywords: sport and dual career; student-athletes; study services.





## **Analysis of the Evolution of Junior a Category Results for Girls in Romania at Short Track Compared to the Results Obtained by Top Athletes**

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The present study wants to highlight the level of progress and development of short track speed skating in Romania. The study I propose is based on the results obtained by the short track skaters at the National Championships in Romania, monitored for six years between 2014 and 2022. The 1st-3rd places were taken into account, being compared with the world records of that period to highlight the differences between the top results and those achieved at national level. The study was done at the Junior A women age level, the 500m, 1000m and 1500m competitions being targeted. From the data presented it can be seen that for the 1st place in ranking, the best result in the 500m competition is achieved in 2017 with a time of 47.32 sec, and the worst result is 53 sec in 2022. The differences from world records are obvious, as they range up to 9.8 sec in 2022. The 1000m competition is characterized by various evolutions at the level of sportsmen in Romania, the best result achieved at the level of 1st place ranking being 1:51.60 min in 2021 compared to the worst that was obtained in 2015 with a time of 2:06.020. Comparing the results obtained by sportswomen in Romania with those achieved at world record level we can see that the differences are quite large, the biggest difference being recorded in 2015 with a value of 35.85 sec, and the lowest was 23.92 sec in 2021. In the 1500m competition, 2021 is the year with the best result (2:57.12 min), and the worst result obtained at national championships was 3:20.00 min achieved in 2022. In the context presented above we can see a big difference compared to the world record, the biggest difference being 1:01.30 min in 2022 and the smallest being 32.20 sec in 2014. The somewhat poor results can be put on a multitude of factors, among which I also highlight the lack of material base, funding or high-performance equipment. The poor results obtained last year are obvious, the 500m and 1500m competitions being the weakest of those presented, confirming the statement that, with the lack of funding and optimal training conditions, the motivation of the athletes decreases, the prolongation of this situation leading to the abandonment of the sport. Although the year 2022 is not characterized by the worst result obtained in the 1000m competition, it is noted that the trend is to increase the time obtained compared to 2016-2021.

Keywords: short track; speed skating; junior A; girls.



## Investigation of Youth Soccer Coaches Teaching Behaviors

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The purpose of the study was the investigation of teaching behaviours of soccer coaches in U14 age group by using systematic observation. Participants consist of four male soccer coaches ( $\bar{x}_{age}=31.7$   $\bar{x}_{experience}=8.4$  years) who coach U14 youth soccer teams in different clubs. The Non-Participant observation technique was used as the data collection method. During the six-week period, each coach's training sessions were recorded three times and total 12 training were recorded as video. Data were analysed using Arizona State University Observation Instrument (ASUOI Lacy and Darts, 1989) at 10-second intervals. Observed coaching behaviours coded and clustered as numerical and percentages. As result, 6432 coaching behaviours were observed in 1072 min training video record. When the distribution of coaching behaviours was analysed; 3683 instructional behaviours (57,26%) (Pre-instruction 1293, Concurrent instruction 913, Post-instruction 536, Questioning 376, Physical assistance 75, Positive modelling 408, Negative modelling 82); 723 Supportive and Encouraging Behaviours (11,23%) (Hustle 456, Praise 162 and Scold 105); and 2026 Non-Teaching behaviours (31,51%) (Management 1161, Silence 573 and Uncodable behaviours 292). The most commonly used behaviours of youth soccer coaches in U14 teams were instructional behaviours, Non-Teaching behaviours and Supportive and Encouraging Behaviours followed the instructional behaviours.

Keywords: coach behaviour; youth soccer; systematic observation.

## Comparison of University Students' Self-Efficacy, Resilience, and Self-Confidence Based on Their Physical Activity Levels and Gender

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The purpose of the study was comparison of university students' self-efficacy, psychological resilience and self-confidence levels based on their gender and physical activity levels. The sample of this study was composed of 1405 female and 1463 male (2868 total) undergraduate students who were studying in 10 different faculties of Çanakkale Onsekiz Mart University, Turkey. Survey research method was used for this study. Participants were asked to fill out the international physical activity questionnaire (IPAQ Short Form) , General Self-



Confidence Scale, Psychological Resilience Scale and Self-Efficacy Scale. Findings showed that students having high physical activity level has significantly higher general self-efficacy score than students who have medium and low physical activity level scores. Moreover, males have significantly higher general self-efficacy score than females. Regarding psychological resilience, students having medium and high physical activity levels have statistically higher resilience score than students who have low level physical activity. In addition, female students' resilience scores significantly higher than males. Regarding Self-confidence status of the participants, there was a progressive structure in which both internal and external self-confidence scores for the low, medium, and high physical activity groups. In terms of gender, self-confidence scores of male participants had significantly higher scores than female students.

Keywords: physical activity; self-efficacy; resilience; self-confidence.

## Investigation of Spectator-Based Sports Team Reputation

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Sports team reputation, which is defined as "the quality perception of the spectators regarding the existing activities of the sports teams such as team performance, team tradition, team social responsibility, audience orientation, management quality and financial soundness", is becoming more and more important in order to ensure the loyalty and belonging of the audience, which is one of the biggest stakeholders. In this context, this study aims to measure the perceptions of the fans about the reputation of sports teams.

The study was designed according to correlational research and causal-comparative methods. The sample of the study comprised of 69 females (32.1%) and 146 males (67.9%) total 215 participants. As a measurement tool, The Spectator-Based Sports Team Reputation Scale developed by Jang, Ko, and Chan-Olmsted (2015) was used.

Confirmatory factor analysis was applied to the measurement tool in this study. After the analysis, the structure confirmed itself again. The internal consistency coefficients of the scale range from  $\alpha = .91$  to  $.79$ . It was determined that CR values varied between 0.82 and 0.95 ( $CR > 0.70$ ), and AVE values varied between 0.58 and 0.71 ( $AVE > 0.50$ ). Descriptive statistics and normality tests were performed in the analysis of the data. In the analysis of the obtained data, t-Test in Unrelated Samples, ANOVA and MANOVA analyzes were used.

A statistically significant difference was determined in terms of gender variable and in the total score in team performance and financial performance sub-dimensions, ( $p < 0.008$ ). The sports team reputation perceptions of the fans towards the teams they support were found to be significant in the total score of the scale and in the dimensions of team performance, team tradition, management quality and financial soundness ( $p < 0.008$ ). As a result, it was determined



that the perceptions of the fans about the reputation of sports teams differed in terms of gender and the team they support.

Keywords: fan loyalty; reputation; team belonging.

## **Enhancing Balance and Technical Ability of Under 11 Alpine Skiers: The Effects of a 10-Week Complex Dry-Land Balance Training Program**

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Limited research exists on young alpine skiers' training and conditioning, particularly regarding balance training, which is essential in the sport, yet its impact on performance is debated due to inconsistent study results. This study aimed to assess the effect of a 10-week complex dry-land balance training program on the development of balance in young alpine skiers aged 9-11 years old. The program consisted of five training methods, including neuromuscular training, plyometric training, core stability training, proprioceptive training, and balance training with equipment. The study involved 30 participants randomly assigned to two groups, experimental and control, based on their SKI IQ score. The CARV device was used to measure specific skiing parameters, such as balance, pressure on the outer ski, edging, and SKI IQ, and was individually calibrated for each subject prior to testing. The results of the MANOVA test showed that the experimental group exhibited significantly greater improvements in both SKI IQ ( $F=13.239$ ,  $p=0.001$ ,  $\eta^2=0.321$ ) and pressure ( $F=8.084$ ,  $p=0.008$ ,  $\eta^2=0.224$ ) compared to the control group. No significant differences were observed in the other variables. These findings suggest that a complex balance training program can improve the technique abilities of young skiers, highlighting the importance of balance training in enhancing overall performance on the slopes.

Keywords: balance training; dry-land training; alpine ski training.





## ★ KINETOTHERAPY AND RECREATIONAL ACTIVITIES ★

### Aspects Regarding the Effects of the Covid 19 Pandemic on the 10-11 Year-Old Children's Active Motor, Dietary, and Psychological Behavior

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Physical activity was strongly affected during the Covid 19 pandemic because of the imposed restrictions. The children had to study online classes a large portion of their time, which has contributed to a significant increase in the hours they have spent in front of a computer. Child obesity has become a phenomenon that is increasingly difficult to counteract because of their lifestyle and diet. The extra weight leads to, besides physical disorders, such as high cholesterol and diabetes, a series of psychological disorders represented by the lack of self-confidence and depression. The objective of this study was to emphasize the effects of the Coronavirus pandemic on the relation between the active motor behavior, the dietary behavior, and the psychological behavior in 10–11-year-old children of Bacau, Romania. This research is an observational study conducted by identifying, assessing, and establishing certain correlations between the aforementioned factors, based on questionnaires filled by the children's mothers. The study was conducted using 180 questionnaires filled by the 10–11-year-old children's mothers. Of the main statistical markers, the following were used: the Cronbach's alpha fidelity index, the arithmetical mean, the standard deviation, and the correlation coefficients, in order to establish the validity of the questionnaires, and the significance level of the correlations between the studied aspects.

Key words: pandemic; children; modifications; behavior.



## Exploring the Potential of Parkour as a Donor Sport for Trials Cycling

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The aim of this paper is to analyze the potential, inherent in participating in a different sport from one's main sport, in enrich an athlete's motor skills and how these skills can be successfully transferred to their own sport. Drawing on the ecological dynamics approach and the athletic skills model, this contribution explores how the sport of parkour can be used as a donor sport for Trials cycling. By practicing parkour, athletes can acquire skills such as jumping, overcoming obstacles, evaluating distances, and performing movements with precision, which can be transferred to Trials. The affordance landscape shared between parkour and Trials offers ample opportunities for the acquisition and transfer of these skills, without the negative consequences of early specialization. Through a theoretical and technical excursus, different suggestions are proposed to consolidate the hypothesis that practicing parkour as a donor sport can contribute to the long-term improvement of athletes' performance, reduce the risks of early specialization, and promote greater longevity in sports practice. The article also offers some practical examples of parkour exercises that can be transferred to Trials cycling and suggests some educational applications for teachers.

Keywords: donor sport; parkour; trials; athletic skills model; ecological dynamics.

## Phsyotherapy Approaches in the Functional Recovery of Patients Post-Infection Covid 19

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In this research paper, we aim to highlight the kinetotherapeutic means used in the functional recovery of patients with post-Covid infection. We started from the hypothesis that it is assumed that the immediate application of kinetotherapeutic means post-infection Covid 19 can reduce the risks of respiratory functional sequelae. We mention that the research was carried out in two recovery centers, one in France and the other in Romania. The experience of the recovery intervention specific to the two countries allowed us to issue a general conclusion, namely that the importance of the immediate recovery of these patients reduces the post-infection sequelae mentioned in the specialized studies published during the pandemic.

Keywords: physical therapy recovery; post-infection Covid 19.



## Changes in Somatic Indicators, Body Posture and Health-Oriented Fitness among Younger School-Age Female Pupils

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**Abstract. Background and Aim of Study:** Currently, we are observing a worsening trend in the field of health-oriented fitness and postural health of the school population. The aim of the research was to compare and expand knowledge in the areas of monitoring somatic changes, indicators of health-oriented fitness, motor performance, and body posture among 10-year-old female school populations. **Material and Methods:** The sample consisted of  $\Sigma n=292$  female pupils, with  $n=150$  from 2012 and  $n=142$  from 2022 at the elementary school in Žilina (ZA), Slovakia. An ex post facto study was applied. Standardized methods of measurement and testing applicable for school practice were used to obtain data. Differences between groups of female pupils were examined using the Kruskal-Wallis H-test and the Mann-Whitney U-test. To determine the effect size and measure the difference in average values, Cohen's  $d$  and  $r$  were used. The differences found were evaluated at the 5% ( $p<0.05$ ) level of statistical significance. **Results:** When comparing the average body weight of female pupils from ZA in 2012 and 2022, we found a significant difference ( $p<0.05$ ) ( $H=4.87$ ,  $p=0.02733$ ) in favor of female pupils from 2012. The same finding in favor of female pupils from 2012 was recorded when comparing the average body mass index (BMI) ( $H=4.8182$ ,  $p=0.02816$ ), as well as in evaluating the average health-oriented fitness using the Ruffier test ( $H=13.1965$ ,  $p=0.00028$ ). The Beep test was also used to evaluate the endurance abilities of female pupils, where current ZA female pupils in 2022 showed significantly worse results ( $H=5.752$ ,  $p=0.01647$ ). Similarly, we also observed significant ( $p<0.05$ ) worse findings in overall body posture among female pupils from ZA in 2022. **Conclusion:** On the basis of our findings, we consider the current state of body weight, posture, health-oriented fitness and endurance skills in younger school-aged girls to be unsatisfactory and health-threatening. It is necessary to further deal with the stated facts and look for preventive measures. These findings indicate a declining and deteriorating trend in health-oriented fitness in relation to body weight, body posture, and endurance abilities. The listed study is part of the research project VEGA 1/0427/22 Prevention of pupils' postural health by physical activity.

**Keywords:** body posture; body weight; endurance abilities; health-oriented fitness, younger school-age.



## Positional Deformities of the Skull - Plagiocephaly and Intervention Through Physiotherapy

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Deformations of the skull (plagiocephaly, brachycephaly, dolichocephaly) economy, the aesthetic change of the shape of the skull and the impact on the child's psychomotor and postural development. For the present case study, I used individualized techniques and methods for the purpose of treating the anomalies that appeared with repercussions on the organization and maturation of the postural system for combating craniofacial dysmorphisms, hypertonia of the posterior muscle chains, postural compensations, musculoskeletal dysfunctions, occipito- cervical (asymmetry of the occipital condyles). The individualized physiotherapy treatment for 7 months at the Rehabilitation Center Elena Căciulan Fizioclinique Bucharest, for the male patient (age 3 months), diagnosed with left positional plagiocephaly/right torticollis was carried out 3 times a week. The patient achieved a correction of approx. 85% with the help of physiotherapy and the correction orthosis worn 23/24h. Through individualized physiotherapy programs and positioning at home, we obtain: cranial correction, mobility of the cranio-occipital and cervico-dorsal joints and the correct acquisition of the body scheme.

Keywords: physiotherapy; plagiocephaly; torticollis; corrective orthosis.

## Age and Gender Differences in Body Composition in Young Adolescents

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At the age of 11-15 (the period of younger adolescents), there are significant changes in body composition due to pre-pubertal and pubertal development. In our paper, we evaluate the differences in indicators of body composition of elementary school students in the context of age and gender. We have at our disposal boys and girls from primary schools aged 10-11 years (n=32 and n=38), 12-13 years (n=36 and n=57) and 14-15 years (n= 38 and n=33). In addition to age, we had body height (BH), body weight (BW), Quetelet's index (BMI), body fat mass (BFM), body fat mass index (BFMI), skeletal muscle mass (SMM), percentage of adipose tissue (PBF), waist-hip ratio (WHR) and visceral fat (VFA). We determined these data using the inBody 230 device using the multi-frequency bioimpedance method of measuring body





composition. We processed the measured data with IBM SPSS Statistics, version 20.0. Since the data were not normally distributed (Shapiro-Willko test), we therefore processed the data using non-parametric methods through Kruskal-Wallis Anova (age differences) and multiple comparisons with the Mann-Whitney U test with the application of the Bonferonni significance level adjustment. We noticed the most significant differences only in the intersex comparison of 14-15-year-old pupils, why in the relative values of fat representation (BFMI and PBF) girls achieved higher mean values, on the contrary, higher values of representation in the group of boys are visible in the parameters describing active body mass (FFM, FFMI and SMM).

Keywords: adolescents; body composition; gender and age differences.

## **Valences of Non-Formal Education in Sports, Tourism and Recreation Field (Example of the Republic of Moldova)**

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This article addresses the issue of non-formal education and learning specific to the profile of sports, tourism and recreation, presents an analytical framework of non-formal education policy documents specific to the field in different EU and CIS countries compared to those in the Republic of Moldova. The structural and organizational framework of non-formal education in the field of sports, tourism and recreation is proposed to meet the requirements of society and to create premises for the reconceptualization of system, normative acts and educational policy documents.

Keywords: extracurricular activities; non-formal education; sports; tourism and recreation non-formal learning.

## **The role of Synkinesis Assessment Questionnaire and Sunnybrook Facial Grading System after peripheral facial palsy – an observational study**

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Idiopathic peripheral facial palsy is a frequent pathology encountered mostly in ENT and neurology departments (14-25/100000 patients/year). The objective of this comparative study



is to determine if the patients perspective on the severity of facial synkinesis after facial palsy corresponds to their evaluation by the clinician. This monocentric, retrospective study took place between May and September 2022 and the study group consisted of 20 patients (4 by grade (I to V)). Each patient filled in the Sunnybrook Assessment Questionnaire (SAQ) and was then evaluated by the Sunnybrook Facial Grading System(SFGS).The results showed that the synkinesis during the lip protrusion represent a more sensible indicator for the patient`s discomfort that those present during laughter. In conclusion, the “patient-reported outcome measures” as well as the SAQ represent an important factor in the clinical evaluation of the patient.

Keywords: synkinesis; questionnaire; facial palsy.

## **Virtual Reality for the Management of Musculoskeletal Pathologies. A Systematic Review**

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Musculoskeletal pathologies such as chronic pain or joint issues are global health concerns known to severely impact patients' quality of life. In recent years emerging technologies have shown promise as viable alternatives for mitigating associated pains and limitations caused by these diseases beyond traditional medical interventions. This study presents an overview of current evidence regarding Virtual Reality's (VR) role in addressing some common forms of musculoskeletal pathologies like managing chronic pain, rehabilitative exercise precautions after injuries or alleviating arthritic pains based on a careful review process drawn from literature about this subject. The scholarly literature revealed that employing virtual reality (VR) technology led to tangible reductions in pain intensity levels along with observable improvements in functional mobility and range of joint movement amongst patients diagnosed with various types of musculoskeletal conditions.

Keywords: virtual reality; musculoskeletal pathologies; chronic pain; arthritis; rehabilitation; systematic review; efficacy.



## Risks and Benefits Given by Virtual Reality on the Central Nervous System

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Virtual reality (VR) technology's rapid growth and proliferation within healthcare make it a promising platform for treating central nervous system (CNS)-related ailments. From neurorehabilitation to pain management and even cognitive enhancement, there are numerous benefits that VR offers this portion of medicine. Nevertheless, multiple risks including motion sickness and eye strain exist with utilizing this new tech for CNS treatments. Beyond immediate physical harm concerns like these - researching the long-term impact on this area remains paramount regarding future implementation. The utilization of VR technology in the field of CNS presents considerable promise, at the same time its potential risks necessitate a meticulous analysis and resolution before its extensive acceptance across clinical settings.

**Keywords:** virtual reality (VR); central nervous system (CNS); brain; immersive experience; perception; cognition; motor function.

## Physiotherapy in Shoulder Injuries

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The rotator cuff injury, depending on its severity, can lead to a level of functional impotence of the respective limb that can vary from limiting the amplitude of movement by a few degrees, accompanied by the painful process, a common phenomenon especially in people who make movements repeated that involve lifting above the horizontal level or in sports that consist of retroduction movements combined with abduction and external rotation of the arm, up to total impotence in the case of complete injuries as a result of trauma. Shoulder ailments are very common, almost immediately after lumbar and cervical pains. But despite the frequency of this problem, as we also found in the specialized literature, the diagnosis of a rotator cuff injury is often confused, especially if it is a minor/partial injury, of course the factor of anatomical variation from individual to individual also comes into play here individual, regarding the existence and perception of pain. The objective is emphasized by the improvement of conceptions regarding the possible therapeutic approaches by means of kinetic programs from the specialized literature specifically individualized for each patient in the framework of



injuries with localization at the shoulder level, as well as the creation of an accessible work for the other students. Through this paper, I want to observe if by summing up the information and indications from the local and foreign specialized literature, a relevant informational contribution can be made regarding the approach to patients with rotator cuff injuries. I noticed, after the end of the final evaluation, that rotator cuff tears can represent a difficulty in addressing and detecting the causes that play a role in the manifestation of this phenomenon. The shoulder complex, together with the entire scapular girdle, works in a "symbiosis", each element having a key role in making all the movements, and therefore a high level of mobility specific to the shoulder.

Each subject that was included in this research obtained a beneficial effect following the application of the recovery program. Interestingly, however, the degree to which a rotator cuff structure is affected does not always correlate with the level of related pain/discomfort. Some subjects, although diagnosed with minimal changes in the scalp musculature, reported greater discomfort in some cases compared to others who were diagnosed with a more significant lesion.

Keywords: injury; periarthritis; abduction; circumduction; antepulsion; kinesio.

## Physiotherapy in Spastic Tetraparesis

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The correction of motor disorders aims at the use of those methodical procedures that must lead to: the modification of the abnormal posture that the child adopts, simultaneously with the formation of the habit of relaxing in correct and comfortable positions; to perform movements that require a special effort, it is recommended to re-educate hypertonia and intermittent spasms; paying attention to the development of motor skills in relation to the posture and the movements performed in different positions, especially on the position of the head in the basic positions: sitting, sitting, lying down, but also during the execution of walking, crawling and other positions and movements of the body; the progress achieved in the recovery process must also be oriented towards the re-education of balance, sensitivity and proprioception; in the conditions of a recuperative activity with the small child, the therapist's attention must be directed towards the prevention of contracts and deformities; the formation of the necessary skills in daily activities (Sbenghe, 1987). Spastic tetraparesis is the most severe form of cerebral palsy, characterized by severe mental retardation and bipyramidal syndrome. Paresis in the general mode is one of the most common problems, which is why I considered it necessary to address this topic. The methods of recovery that I have focused on in this paper are recovery, through physical therapy and massage. Massage as a technical means depends on the patient's clinical condition and the existence of contraindications regarding the application of other therapeutic techniques. Through the complex recuperative approach, and especially through the techniques of classical massage and physical therapy applied differently according to the





etiopathogenic implications, we have shown the favorable evolution of patients with spastic tetraparesis. The aim of the research is to create a synthesis of the application of kinetotherapeutic treatments in the recovery of patients who are diagnosed with spastic tetraparesis. Physiotherapy and massage apply the means of medical kinesiology with the aim of somato-functional, motor and mental recovery or the re-education of secondary, compensatory functions, in the case of partially reversible or irreversible conditions. The hypothesis consists in demonstrating the effectiveness of kinetotherapeutic treatment in tetraparesis. The tasks of the work are documentation by going through the specialized literature, establishing the working methodology, choosing the subjects, selecting the most effective kinetic means, initial and final testing, comparative analysis of the obtained data, drawing conclusions aimed at a good development of the subsequent activity. Physical therapy programs consist of passive-active and passive mobilizations of the limbs, respiratory physical therapy, movement games, postures, positioning, neuro-motor reeducation methods (Bobath Method), proprioceptive neuromuscular facilitation techniques (Kabat Method) and others. The programs must be carried out daily, both in an organized setting, under the guidance of a physiotherapist, and at home with the family. Exercise programs should not be interrupted, even if some deficiencies improve. Each program has an average duration of 50-60 minutes. Passive and active techniques of physical therapy complement each other, where passive techniques are contraindicated, active techniques work and vice versa. As a working technique, passive movement is used only in physical therapy. All 5 patients presented, at the initial assessment of the joint balance, amplitude deficits both in the lower and upper limbs, and at the final assessment of the joint balance, an increase in amplitude of 5° maximum 10° was recorded in the majority. A decrease in spasticity was also obtained in both the upper and lower limbs. Following these spastic reductions, muscle tone and range of motion could be adjusted. The goal of each therapeutic program is to provide the patient with the possibility of regaining their functional capacity, which will allow them to integrate into the family and society. In conclusion, it is confirmed that the kinetic means make an important contribution to the recovery of spastic tetraparesis and general paresis, they are indispensable in the treatment plan of the patients.

**Keywords:** spasticity; paresis; adduction; abduction; antepulsion; proprioception; recovery.



## **The Role of Physical Therapy in the Functional Recovery of the Patient with Post-Fibular Fracture**

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Diaphyseal fractures of the calf are the most common fractures, quoted in the literature with an incidence of around 20% of all fractures, most often affecting the 4<sup>th</sup> and 5<sup>th</sup> decades of age.

The purpose of the research is to highlight the role of exercise in functional recovery, to highlight the utility of these tools and their role in the recovery and recovery of post-traumatic sequelae. The treatment of diaphyseal fractures of the calf is complex, orthopedic (cast immobilization) and/or surgical (osteosynthesis with blocked, unblocked or elastic centromedullary rods; plates with screws; external fixator); in the choice of therapeutic methods, the morphopathological characteristics of the fracture (number, site, type of fracture, etc.), age, general condition of the traumatized person, the presence of shock must be taken into account, especially if the fracture is part of a polytraumatism and last but not least by the logistics of the service and the expertise of the surgical team, which directly influence the results. Carrying out a complete evaluation contributes to the establishment of the functional diagnosis with certainty, followed by finding the most effective techniques and methods that allow a rapid post-immobilization recovery. Thus, for good functionality, movement coordination and balance restoration, the kinetotherapeutic program is indispensable.

Keywords: functional recovery; patient; fracture.

## **The Study on the Quality of Life of Pregnant Women in the Prepartum Period**

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Aim of the research undertaken proposed three major directions of investigation, namely: the assessment of the quality of life of women in the prepartum and postpartum period; determining the level of knowledge of the phenomenon of practicing physical exercise in the prenatal and



postpartum period; determining the links between the quality of life perceived by the pregnant woman in the prepartum period and the manifestation of the desire to return to the pre-pregnancy physical form in the postpartum period. The analysis of the data obtained following the application of the quality of life assessment questionnaire on a sample of 50 pregnant women will represent a preliminary exploratory research on the entire phenomenon of physical exercise during the prepartum and postpartum periods. This research will provide us with the preliminary data and will be able to open our horizon to a more thorough research that will include both the study of the quality of life of pregnant women and the way to implement physical exercise programs in the prepartum and postpartum period.

Keywords: prepartum period; postpartum period.

## **The Effect of Leisure Time Facilitators on Job Satisfaction of Public School Teachers and Related Factors**

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This study was conducted to determine the effect of leisure time facilitators on job satisfaction of teachers working in public schools. In the study, demographic information was used as a data collection tool in the first part, the Leisure Time Facilitators Scale developed by Kim, Heo, Chun, and Lee (2011) and validated in Turkish by Gürbüz, Öncü and Emir (2015) in the second part, and the Minnesota Job Satisfaction Scale developed by Weiss et al. (1967) and validated in Turkish by Baycan (1985) in the third part. As a result of the analysis between the participants' leisure time facilitators and age variable, there is a statistically significant differentiation between the dimensions of personal facilitators and interpersonal facilitators, there is a significant differentiation between the participants' job satisfaction and gender variable in the extrinsic satisfaction sub-dimension, and as a result of the analysis between leisure time facilitators and branch variable, there is a significant differentiation only in the structural facilitators sub-dimension, As a result of the Manova analysis between leisure time facilitators and professional experience variable, it is seen that there is a statistically significant differentiation only in the personal facilitators sub-dimension, and as a result of the Manova analysis between leisure time facilitators and leisure time evaluation variable, it is seen that there is a statistically significant differentiation between personal facilitators and structural facilitators dimensions. As a result, the findings of the study revealed that leisure facilitators had a significant and positive effect on intrinsic satisfaction.

Keywords: leisure time; leisure time facilitators; satisfaction; job satisfaction; teacher.



## Effect of Ozone Sauna on Spinal Statics - Case Presentation

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The use of ozone therapy in the treatment of musculoskeletal disorders is cited in numerous papers. With its anti-inflammatory, muscle-relaxing, and analgesic effects without side effects, ozone therapy is indicated at any age and is also recommended for athletes.

There are many ways of administering ozone therapy, and the beneficial effects are felt in a short time, sometimes almost instantly. In the case of musculoskeletal disorders, the use of subcutaneous and deep intramuscular infiltrations using an oxygen-ozone gas mixture, ozone oils, and creams (applied by massage) or treatment in an ozone sauna brings significant improvements, reducing pain and combating muscle fever caused by the accumulation of lactic acid. The use of an ozone sauna in 30-minute sessions 2-3 times a week in a patient with spondylitis increased spinal mobility, as supported by three-dimensional measurements of spinal statics before and after completion of a 10-session treatment package. The ozone sauna takes the form of a capsule into which the patient is inserted, while the head remains outside, so as not to inhale ozone which, in this situation, is toxic to the airways. The temperature in the capsule is adjustable from ambient to 55°C. The closed capsule is filled with a mixture of oxygen and ozone in concentrations designed for musculoskeletal disorders and water vapor to help the gas mixture penetrate the integument.

In the present case, a temperature of 40°C was used at an ozone concentration of 40 µg/ml and the following parameters were analyzed:

- spine tilt VPDM, lordotic angle ITL, ILS, shoulder slope SLSR, pelvic tilt DLDR, kyphotic angle, trunk imbalance VPDM, pain progression (Verbal Numerical Pain Scale).

The measurements made showed significant changes in the target landmarks, in the sense of improving values, the patient stopped the anti-inflammatory treatment in the second part of the therapeutic plan. As the use of ozone therapy using the ozone sauna (capsule) is not banned by the World Anti-Doping Association and the results obtained are encouraging.

Keywords: musculoskeletal disorders; spondylitis; spinal static; ozone therapy; ozone sauna (capsule); athletes.





## Achilles Tendon Lengthening Using Physiotherapy Exercises and Ozonated Oil Massage - Case Presentation

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Of the gait disorders present in children, Achilles tendon shortening is commonly encountered, with many children having anterior podiatric loading accompanied or not by plantar fasciitis or gastrocnemius contracture. The cause of this gait disorder can be varied, ranging from congenital conditions to conditions acquired during development: neurological (spina bifida, hereditary neuropathies, cerebral palsy, muscular on dystrophies, poliomyelitis), muscular or joint disorders (trauma, inappropriate footwear, the device for children, before walking, activities.) The presence of a short Achilles tendon leads to postural and coordination disorders, and late detection of this condition makes surgical intervention unavoidable. Early diagnosis and treatment are therefore healthy. A personalized treatment plan applied to a 12-year-old girl with severe bilateral Achilles tendon shortening led to the avoidance of surgical treatment. Analysis of gait and balance on the podiatric platform established that due to severe previous podiatric loading, the child could not perform static examination without support from others, which made initial balance assessment impossible. As the situation was more than delicate, it was decided to combine kinesiotherapy (relaxation movements of the sural triceps, long fibula, posterior tibial and plantar flexors, and toning of the anterior tibial and extensors of the toes) and ozonated oil massage, after local application of heat. The treatment was carried out biweekly under the coordination of the physiotherapist and at the patient's home, 5 days/week, under the mother's coordination. The results were spectacular, supported by repeated measurements on the podiatric platform, showing clear differences between the treatment at the office and at home. After the first month of physiotherapy, the correction was also carried out with personalized plantar supports (orthoses) to encourage a change in the ratio of the forefoot to heel pressure in favor of the latter (L/S ratio). From the analysis of this case, we concluded that the institution of sustained, combined treatment, carried out under the coordination of the physiotherapist specialist, has maximum chances of avoiding surgery.

Keywords: short Achilles tendon; kinesiotherapy; ozonated oil; customized foot supports; foot platform.



## Use Corrective Exersise on Back Pain in Male Students Suffering from Lumbar Lordosis

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Background and purpose: Corrective Exersise is a branch of applied sciences and includes the main goals of identification, education, prevention, improvement and correction of body abnormalities and means and standers divation for age inyear ,  $2.29 \pm 1.107$ , Confidence Interval  $2.17 \pm 2.42$ , means and standers divation for weight kg,  $1.55 \pm .49$ , Confidence Interval  $1.49 \pm 1.60$ , means and standers divation for high cm,  $1.55 \pm .49$  Confidence Interval  $1.49 \pm 1.60$ , suffering from lordosis - wrong movement habits of people, which in this study investigates the effect of corrective Exersise. The back pain of male students of In Al-Qadisiyah University collegeof physical education and sport science second stage . methods:In this experimental study, 300 male students aged 19 to 22 years of Al-Qadisiyah University collegeof physical education and sport science second stage . were selected as the primary sample using stratified random sampling. All of these people were screened using the New York Organizational Test method to identify and separate those suffering from lumbar lordosis. Among these people, 120 people who had hyperlordosis were re-measured by a flexible ruler to accurately measure the lumbar arch.were evaluated, and at the end, 44 of them, who had a curvature angle of more than 30 degrees, were selected as patients and were randomly divided into two groups, case and control. Corrective exercises were applied to the case group for 8 weeks, 3 sessions per week and 60 minutes each session. At the beginning and at the end of the period, independent and dependent tests of the T item were taken before and after the test. Data was collected through Quebec pain questionnaire (measurement of back pain) and analyzed by statistical method.Ruslt: The testers have means and standers divation for age inyear ,  $2.29 \pm 1.107$ , Confidence Interval  $2.17 \pm 2.42$ , means and standers divation for weight kg,  $1.55 \pm .49$ , Confidence Interval  $1.49 \pm 1.60$ , means and standers divation for high cm,  $1.55 \pm .49$  Confidence Interval  $1.49 \pm 1.60$ , There was a significant difference in the level between lumbar lordosis and back pain caused by it in the case group, before and after 8 weeks of corrective Exersise. A significant difference was obtained at  $P \leq 0.05$  level. Between the mean changes of all the physical variables of An experimental group in comparison with the control group after 8 weeks of corrective Exersise, a significant difference was observed at the level of  $P \leq 0.05$ . Conclusion: Since regular and correct exercises increase muscle power and reduce the severity of lordosis, it reduces the possibility of pain recurrence and can play a very important therapeutic role for patients with back pain.

Keywords: corrective exersise; back pain; lumbar lordosis; quebec pain questionnaire; postural abnormalities.



## Effects of Microcurrent Therapy with Resistance Exercises on State and Trait Anxiety in Middle-Aged Adults: a Pilot Study

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The aim of this double blind randomised controlled trial was to analyse whether resistance training (RT) combined with microcurrent therapy (MCT) affects state and trait anxiety in middle-aged adults. Eight non-trained adults (age  $54.4 \pm 7.4$  years) were assigned to a microcurrent (MCT,  $n=4$ ) or a sham (SH,  $n=4$ ) group. The participants followed a RT programme with elastic bands, twice a week for six weeks. The participants used a microcurrent or a sham device on the dominant arm for 3 hours post-workout or in the morning on non-training days. All participants filled in a validated anxiety questionnaire before and after the intervention. The pre-post state and trait anxiety levels went down in both groups with no significant differences. The pre-post changes between-groups in state anxiety (MCT =  $-1.75 \pm 2.06$  vs. SH =  $-0.75 \pm 3.3$ ,  $p=0.557$ ,  $d=0.363$ ) and trait anxiety (MCT =  $-3 \pm 2.45$  vs. SH =  $-4.5 \pm 4.36$ ,  $p=0.642$ ,  $d = -0.424$ ) were also not significant. Although RT seems to attenuate anxiety in middle-aged adults, the application of MCT did not appear to be clearly related to the reduction of anxiety in the tested population.

Keywords: anxiety; microcurrent; resistance exercise; therapy.

## Staged Professional Training of Tourism Specialists in the Higher Education System in the Context of Social and Economic Crises

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In the context of social and economic crises, the tourism industry represents the economic branch that is affected in various aspects, which implies the search for new solutions for development. Thus, the professional training of staff in the higher education system, including those in the field of tourism, in recent years was influenced by a series of factors that required rapid adaptation, the identification of the methods and means necessary to train the skills of future specialists. In this sense, the ever-changing requirements for employees in the tourism field, especially the trends of recent years, should focus on the content of the staged training of future employees in the tourism field, with an emphasis on the training of flexible, innovative and with deep digital skills to be able to deal with unpredictable situations that can affect the tourism sector. This fact implies that future graduates who will work in the tourism sector will



need to possess skills that will allow them to quickly adapt to multiple tasks, in a redesigned industry that has been attempted by the pandemic. All this determines the need to make changes in the professional training of staff at each training stage, which will aim to ensure the sustainability of the sector, with an emphasis on strengthening the relations between academia and the industry itself in order to find viable solutions for development.

Keywords: professional activity; tourism industry; innovative education system.

## **The Influence of Non-Formal Dance Education on Children's Mobility**

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(using bold, Times New Roman 13)

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Non-formal education is defined by extracurricular activities and processes that aim to cultivate intellectual, moral and movement-related abilities in individuals.(Trilla J., 1985) Non-formal education is aimed at developing the personality of individuals, giving them the chance to express their abilities, knowledge, feelings and thoughts, building on their creativity and self-esteem. Children like to dance, with or without spectators, in front of the T.V. or mirror or simply dance when they feel like it, making use of the simplest method of physical, emotional and social development. The current paper intends to demonstrate the importance of physical activities done freely, showcasing the role of non-formal education in maintaining health, the development of correct and harmonious posture, the development of movement-related abilities and the creative potential in children through the use of dance. The research spanned 6 months( October 2022 - March 2023), the sample consisting of 14 children(girls) from "Palatul Copiilor" in Galati. After the selection and application of classical, traditional and modern dance elements, a positive change has been recorded in the general physical development of the children as well as their dance-related abilities.

Keywords: non-formal education; dance; movement; general physical development.

## **Social Representations of Disability in Sports Practice: Case of the Municipality of Saint-Louis**

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To describe the social representations of disability in a society where the practice of sport by the affected person is almost seen as impossible, researches have been carried out. They are supported by the analysis of data collection, based on quiz and semi-structured interviews carried out with administrators, coaches, families and athletes of the disabled sports club. This semi-structured interview is a method based on the exploration of provisional hypotheses,





insofar as the perception of disability differs according to the person himself and the society in which he evolves. It is therefore appropriate to show that social representations vary from one individual to another. Hence, the sport practice by disabled people, which is a recent concept in Senegalese culture, cannot depart from the social representations developed by social norms, in this case physical difference.

Keywords: social representations; disability; sport; social behavior; disabled person.

## **Influence of Physical Exercise on Power Plate Vibration Platform on Spatial-Temporal Parameters of Walking**

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The purpose of this study was to observe the changes of the spatial-temporal parameters that appear after performing a kinetotherapy program on a vibrating platform and therefore the development of a protocol of prophylactic exercises in degenerating the hip joint. We carried out an analysis report of the walk before and after the exercise program. The thorough walking evaluation is required to select the most efficient techniques and methods of re -education. With the clearer understanding of the forces that appear on the hip, we were heading for current and efficient solutions, trying to analyse and identify appropriate strategies and design an exercise program on the vibrating platform to help the prophylaxis of the hip joint due to the wrong load of the joint and the modification of the centre of gravity of the body. The premises from which we start refer to the geometric changes that occur over time at the level of the basin at the time of walking and which lead to the modification of the basin posture. We try to establishing a protocol of physical exercise to: correct the biomechanics of the hip by creating a muscular balance in the hip muscles through physical exercises; prevents the installation of joint redness or hip ankylosis; regain the mobility of the hip; relieves pain, where it exists; improve or correct vicious walking. This pilot study is important primarily for awareness of the importance of c. The degeneration of the hip joint is most often caused by muscle static imbalances from the stabilizing musculature of the hip joint. We analysed the following spatial-temporal parameters for 15 people: duration, speed, cadence, step length, duration of walking cycle, duration of unipodal support and number of elaborate steps. There was a program of 5 exercises performed on the Power Plate platform that would lead to the best stabilization of the basin. We can also notice an improvement in the quality of walking. Through the pilot study we are trying to decide how to carry out this research project better, what methods are best to pursue it and complete it. By being methodologically rigorous, we can save time and reduce the risk of errors or problems.

Keywords: gait analysis; whole body vibration; hip joint; vibrating platform; exercise.



## Specialists' Opinion Regarding the Importance of Corrective Exercises in Physical Education Classes

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Correct posture is a long-term indicator of children's health, where the body efficiently uses muscular energy to keep the joints aligned to gravitational force. Undoubtedly, one of the main causes of postural defects is the lack of continuous physical activity. By questioning 52 teachers about the importance of corrective exercises in managing physical education classes to prevent physical deficiencies in primary school students, we were able to analyze the trends of teachers in Constanta county regarding this aspect, which led to the identification of significant gaps in the approach to corrective exercises in physical education classes for primary school students. The main results highlights the need for better professional training for physical education teachers, to help them understand the importance of corrective exercises and to integrate them properly into the curriculum. It is important for physical education teachers to understand that incorporating corrective exercises can have significant benefits not only in preventing physical deficiencies but also in improving the physical performance of students. Additionally, by incorporating corrective exercises into physical education classes, it can contribute to improving self-esteem and confidence in their own abilities.

Keywords: good posture; physical education; primary school.

## New Perspectives in Rehabilitation after Mosaicplasty Surgery

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Introduction: Chondropathy is wear and tear of the articular cartilage, and given minimal self-healing ability, can become the cause of severe osteoarthritis. Once the articular cartilage is altered, the chances of spontaneous recovery are slim, leading over time to progression.

Methods: A single-center study of 27 patients was conducted over three years. Patients with chondral defects greater than 3 mm in the weight-bearing region of the femoral condyle from



sports and chronic pathology were included. Patients were divided into two groups: the Pilot Group (GP) (n=15) who underwent mosaicplasty surgery and underwent a complex two-phase, 12-week rehabilitation program. Patients in the Control Group (CG) (n=12) did a single-phase recovery program of only 6 weeks. In phase 1 (weeks 0-6) patients did electrotherapy and kinesiotherapy without loading, and in phase 2 (weeks 6-12) began partial limb loading, electrostimulation, and quadriceps toning. Results: Patients were assessed using VAS and WOMAC scales in three phases: postoperatively, at 6 weeks, and at 12 weeks. GP patients showed a decrease in pain, VAS 5.6 to 1.2 after 12 weeks, and WOMAC from 64 decreased to 19. In GC, VAS from 5.5 decreased to 3.8 at 12 weeks, while WOMAC score from 65 decreased to 33. Conclusions: GP and GC achieved similar results at baseline and 6-week assessment suggesting that the first part of the recovery program achieved its aim. GC did not continue recovery with a physiotherapist and did the exercises learned at home and recovery progress was slow while GP patients made rapid progress.

Keywords: Chondropathy; mosaicplasty surgery; rehabilitation.

## **Young People and their Daily Activities. Do They Have the Necessary Information to be Able to Practice Physical Exercises Independently in Their Free Time?**

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The main objective of this study is to raise awareness of how young people spend their free time and what physical exercises they can do during this time. We are trying to highlight how, under the influence of society's evolution in attracting young people to different places, they continuously manage their access to information and how they spend their free time. Results: 97.6% of the young people included in this study, with ages between 19-22 years watch television in different moments of the day or spend their free time on internet; 18% go to cinemas and 10% go to theatre occasional and 35% of them do weekly physical exercises. Free access to information and the possibility to instantly access an overwhelming variety of notions in different fields, generates an immense challenge for young people, in the sense that they will manage to spend their free time in a balanced manner, with the aim of developing the ability to practice physical exercises independently.

Keywords: physical exercises; free time; abilities; free information.



## **The Consequences of Practicing Physical Exercises in an Insufficient Volume During Childhood. Alternatives in the Correction of Postural Alignment Through a Corrective Program at the Level of the Foot.**

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As it is well known, the insufficient performance of physical exercises, in various forms, during childhood, generates various forms of ailments, especially at the level of the spine. Adolescent idiopathic scoliosis is a common condition which is routinely seen in the outpatient department, with a prevalence of 5% in general population. It is important to be able to make this diagnosis but more importantly exclude other causes of scoliosis by carrying out a thorough history and examination. Postural alignments, secondary curves of spine and tendency to unequal body weight distribution are the compensatory mechanisms in scoliosis, eventually leading to disturbances in the regulation of body posture. The pathological pattern of incorrect posture, evokes a vicious circle of causes and effects, which probably includes alterations in body weight distribution to both feet. The aim of the study is to examine the role of equal weight loading of both feet in posture regulation among children and adolescents with low-degree scoliosis. The study included 15 participants, aged 7-15 years, children who go to school and have sports activities. Three measurements of body arrangement and the weight distribution on feet were simultaneously taken using the photogrammetry and the podographic platform: in a free standing position, while attempt to correct body arrangement and with equal loading of both feet. In postural measurements, the laterolateral oscillations, anteroposterior oscillations, and average speed of oscillations were evaluated, comparing measurements with and without bracing. There were no statistically significant differences, except for the mean rate of oscillation which was slightly increased in the recordings with a brace compared to those without a brace. Our findings show no statistically significant differences in static, postural, and dynamic baropodometric indicators.

**Keywords:** physical exercises; postural alignment; children.





## **Limiting the Execution of Physical Exercises Constantly as a Result of Not Participating in the Physical Education Lesson. Alternatives Regarding the Rehabilitation of Balance in Children Through Combined Treatment**

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In most situations, limiting the execution of physical exercises, for various reasons, affects participation in physical education lessons at school age. In such situations, it is necessary to maintain an optimal state of health through combined treatments that contribute to the rehabilitation of balance. The aim of the present study is to demonstrate that through a combination of Bobath therapy and Vojta therapy, children with cerebral palsy can benefit from the development of a complex rehabilitation program with obvious results in gait and balance rehabilitation. In cerebral palsy (CP) the basis for rehabilitation comes from neuroplasticity. One of the leading therapeutic approaches used in the management of CP is the Bobath therapy and Vojta therapy consists in trying to program the ideal movement patterns for the age. Our research was to assess the evolution of the biomechanical parameters characterizing the balance, in children with CP. The group of 12 subjects average age of  $7 \pm 3.28$  years. The subject's evaluation included a biomechanical evaluation performed using the "Stabilometry footboard PoData 2.00" for evaluation the body weight distribution on the foot level and functional clinical evaluation by Berg pediatric scale and. The rehabilitation program was developed based on two methods, Vojta and Bobath therapy. The session of therapy is 60-min and starts with a Vojta therapy activation, for 20 min. Between the two therapies there is a 10-min break, then the session continues with Bobath exercises within the 3 physical exercises proposed for 30 min. 5 days per week, 3 months. The analysis of the data collected before and after the application of the rehabilitation program.

Keywords: physical exercises; physical education lesson; combined treatment.

## **Study on the Consolidation of Technical Skills Specific to the Game of Football in Students with Intellectual Disabilities**

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Learning and consolidating technical skills is a gradual process, which involves going through some training stages and applying the principle of repetition. The teaching-learning process in football cannot be defined only as a didactic process based on repetition, even if in some cases



this is unavoidable, but also as a process in which other factors influence the activity, both during training, as well as in competitions. The technical procedures must be functional and adapt to situations and actions in continuous transformation. Therefore, it can be said that technical skills are "open" skills, which means that their acquisition and consolidation takes place in an environment that is constantly changing. The purpose of the research is to strengthen the technical skills specific to the game of football in students with intellectual disabilities by applying a training program based on the deductive method (in which the teacher-coach determines in advance the actions that must be performed, and the student puts into practice what he asks the teacher). This method must be used in a context that favors play and that creates a motivating environment for the child, promoting the involvement of students and the completion of the didactic program. The investigated sample consists of 30 students, aged 13-14, from the "Constantin Pufan" Secondary School and the "P.P. Neveanu" School in Galati, members of the "Danubius Constantin Pufan" Sports Association. The experimental research took place on the Portu Roșu site in Galați. The training program was applied in 2022. The evaluation of technical skills was carried out by applying tests specific to the game of football, tests held at the beginning and end of the experiment. To measure the differences between the initial testing and the final testing, we used the t-test (Student) and the Wilcoxon test for independent samples. The statistical data for the comparison of the means were made using the SPSS for Windows program. The results obtained validate the working hypotheses and count the significant progress ( $p < 0.05$ ) for all the tests used in the evaluation of the technical skills specific to the football game.

Keywords: technical skills; football; students; intellectual disabilities.

## Investigation of the Environmental Interest of Students Who Spend Their Leisure in the School Gardens

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This study aimed to examine the interest of students who spend their leisure in the school garden towards the environment. The study group of the research consisted of 51 male and 229 female students studying at Şehit Onbaşı Murat Şengöz İmam Hatip Secondary School in the Arnavutköy district of Istanbul. The data were collected online via Google forms. In addition to demographic information, the "Secondary School Environmental Interest Scale" developed by Şentürk (2020) was used as a data collection tool. As a statistical process, the data were evaluated in IBM SPSS (version 24.0) statistical package programme. A normality test was performed to determine whether the study data showed normal distribution and non-parametric tests were used in statistical analysis due to the lack of normal distribution. In this context,



Mann Whitney-U and Kruskal Wallis tests were used in the study. According to the results, no significant difference was found in age and grade level, while a significant difference was found in the biodiversity sub-dimension according to gender. As a result, it was concluded that although the interest of the students who spend their leisure in the school garden is unrelated to their age, girls are more interested in the environment and this situation did not differ regardless of the grade level.

Keywords: leisure; school garden; student; interest in the environment.

## **The Contribution of Physical Therapeutic Exercises to the Improvement of Muscle Impairment Caused by Muscular Dystrophy**

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Muscular dystrophies (DM) are neurological conditions of great complexity and severity that involve progressive loss of muscle mass and associated reduction in muscle strength. The causes are genetic and involve mutations in the dystrophin gene that lead to the absence or deficiency of functional dystrophin, a cytoskeletal protein that enables general muscle function. In neuromuscular dystrophies there are direct molecular mechanisms responsible for exercise intolerance and inability to contract muscles. The use of therapeutic physical exercises is a way to slow down the pregression of the disease, to combat the loss of functionality of the muscle fibers as well as to delay the appearance of secondary manifestations of the disease, manifestations that occur with the ability to ambulate and with the installation of sedentarism caused by muscle weakness and degeneration. The effects of therapeutic exercise on patients with muscular dystrophy (including the effects of exceptional or maximal exercise) have been analyzed in the literature, and it has been found that aerobic exercise performed under the guidance of a physical therapist can be effective in improving oxidative capacity and progressive muscle function of the patient. The exercises must be adapted to the individual case, depending on the patient's general condition and availability of effort. Careful supervision and monitoring of patients can achieve the objectives obtained in the form of beneficial effects for the affected muscles. The present dissemination proposes a brief presentation of different types of therapeutic exercises (aerobic, endurance, resistance) and their role in the recovery program of patients with progressive muscular dystrophies.

Keywords: muscular dystrophy; muscle degeneration; recovery; physical exercise.



## **Therapeutic and Rehabilitation Approaches in a Case of Craniocerebral Trauma Resulting Frontobasal, Bilateral Temporal Contusion and Tetraparesis Predominantly at the Level of the Lower Limb**

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**Introduction:** traumatic brain injury is defined as an injury to the skull and brain caused by an external factor. If the skull is not penetrated it is called a contusion, if it is penetrated we are dealing with a wound. Examples of sources causing cranio-cerebral trauma are: road accidents or simple falls from the same height, blows with blunt objects or even gunshot wounds, etc. The diagnosis is generally easy to make, simply by taking a history with the patient or witnesses, but the history and clinical examination must be preceded by an emergency imaging examination. **Case presentation:** a young, 32-year-old male patient presenting with tetraparesis with predominantly paraparesis, bradialia, cerebrasthenia and dysgraphia following severe head trauma with bilateral frontobasal and temporal contusion. Temporo-parieto-occipital fracture operated with right parietal decompressive flap, affirmatively following a fall from a horse. The patient had multiple complications, including irreducible knee joint stiffness, post-traumatic total right eye and partial left eye optic atrophy, multiple scars, neurogenic bladder, urinary tract infection with *Proteus Mirabilis*, was admitted to the rehabilitation clinic for specialized rehabilitative nursing, where the patient's progress was markedly favourable, improving his thinking, speech, muscle strength and functionality. **Discussion:** the particularity of this case, consists in the good evolution of a patient with severe traumatic brain injury and multiple associated complications. Last but not least we can underline the mode of production of the trauma, by falling from a horse. This says a lot about the importance of the precautions and equipment required when practising a sport, in our case wearing a helmet. Another key factor in the recovery of a patient, whatever the pathology is also good communication between the medical specialists involved, and last but not least the long-term professional care of a patient.

**Keywords:** traumatic brain injury; tetraparesis; rehabilitation.





## Application of the Acral Coactivation Therapy Method in the Treatment of a Student Diagnosed with Idiopathic Adolescent Scoliosis

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**Abstract. Background and Aim of Study:** The aetiology of idiopathic scoliosis is still an unsolved problem. It is a three-dimensional spinal deformity that comprehensively impacts the musculoskeletal and cardiorespiratory systems. The aim of the pilot study was to find out if it is possible to stop and improve the progression of the curve in a student with adolescent idiopathic scoliosis (AIS) within the ADL (Active Daily Life) movement mode using Acral Coactivation Therapy (ACT) method. **Material and Methods:** The study was conducted on a 16-year-old student who had a body weight of 56 kg and a body height of 166 cm and was in his second year of high school. The student was diagnosed with AIS. We acquired data by means of standard medical-therapeutic methods and procedures applied in patients with AIS. Radiographic parameters, such as the Cobb angle as well as the Anterior and Posterior Trunk Symmetry Indexes (ATSI/POTSI), including the SCODIAC programme, were used to monitor the student's progress. **Results:** In 2022, the student underwent a five-month exercise programme based on the ACT method, which was evaluated using clinical case study methods. The results showed a positive effect of the ACT method on the student's spine curvature and body posture. There was an improvement of 21° in the thoracic curve and 20° in the curvature of his lumbar spine. In addition, the ATSI/POTSI improved from 36 to 7 (with a difference (r) of 29). **Conclusion:** The acquired qualitative data show a positive effect of the ACT method when it comes to correction of the curvature in a student diagnosed with adolescent idiopathic scoliosis. The stated finding also points to the importance of regular physical activity (movement program) in the student's movement regime and the impact on postural health. The listed study is the part of research project VEGA 1/0427/22 Prevention of pupils' postural health by physical activity.

**Keywords:** adolescent idiopathic scoliosis; acral coactivation therapy; student.



## **Research on the Recovery of the Motor Memory of the Muscular System in a Former Performance Athlete Through Fitness**

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Former performance athletes often face physical and mental adjustments after the end of their sporting careers. Understanding how muscle memory can influence performance and their return to physical activities can help manage the transition and maintain a healthy lifestyle. The aim of the work consists in investigating the efficiency and impact of the use of fitness as a means of recovering motor memory in the muscular system in a former performance athlete practicing the athletics sports branch. Through the proposed objectives, the work will contribute to understanding the impact of fitness training on motor memory in the muscular system and to the development of personalized strategies and interventions to optimize recovery and maintain motor memory. Research methods: observation method, experimental method, mathematical-statistical method, tabular and graphic method. Conclusions: Regular and varied physical exercises, involving various muscle groups and types of movement, can enhance the storage capacity of motor memory and facilitate its recovery. Customizing the exercises and intensity of the training according to the level of fitness, preferences and individual goals can maximize efficiency and progress in the recovery of motor memory. Integrating fitness into the process of recovering and maintaining motor memory can support former performance athletes in their post-career transition.

Keywords: research; sports; memory; muscles; fitness.

## **The Impact of Hydrokinetic Means on Morphofunctional Status in Neuromotor Rehabilitation - Case Study**

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Stroke is a major health challenge worldwide, as it can lead to persistent residual deficiencies. These depreciations lead to functional dependence, impaired balance, altered mobility and increased risk of falls. Balance and mobility are important predictors of functional independence after stroke. The peculiarity of the studied case is the coexistence of multiple morbidities that require solving only interdisciplinary team work: orthopedist, neurosurgeon, neurologist, cardiologist, diabetologist, physiotherapist, fitness instructor, respectively aqua-gym. The saving idea is to resort to aquatic therapy for a program to preserve the function of the musculoskeletal system that will continue and complement the exercises imposed in the



medical gym. The aim of our paper is to demonstrate the theory issued above, namely that exercise in the aquatic environment facilitates the mobility of joint movements with their improvement and recovery of motor skills by optimizing physical condition and body modeling. The applied aquatic procedures will have systemic consequences on the arthrokinetic apparatus with the improvement of the ventilatory functions but also of the cardiovascular, metabolic and neurological ones. Aquatic therapy will be not only curative but also preventive, improving neuro-psychomotor health. The objective lie in the muscular and general relaxation, of the motor motility, the re-education of the external and proprioceptive sensitivity, the increase of the stability from the point of view of gait as well as the maintenance of the balance. Also as an objective is the practice of digital movements such as grip, strength and muscle tone in the execution of fine movements in everyday life (tying laces, dressing and undressing with the closure of buttons, eating with gestures of pronation and supination, personal care using the toilet, changing position through laterality movements, transfers in the supine and standing position, use of stairs, prevention of spasticity) quantified by specific scales. It tries to obtain the independence of self-care in order to interrelate with the environment and the family and socio-professional reintegration of the patient.

Keywords: patient; stroke; rehabilitation; hydrokinetic therapy.



## EDUCATIONAL SCIENCE AND MANAGEMENT



### Supporting the Development of Transferable Career Skills in the Socio-Human Field – Play Drama Technique

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**Problem Statement:** This study starts from the premise that the motivation for learning is closely related to the transferability of knowledge and, in consequence, it is a successful modality to develop the students autonomously and responsibly. In this respect, using the well-known methods in a different and inedited education context can be a perfect solution for supporting career development in the socio-human field, especially. Drama is one example of this. **Purpose of Study:** Our paper proposes an attractive and suitable didactic modality of learning in the socio-human field, called Play Drama Technique, but more focused on the transversal skills, which can be applied far beyond the study of it.

The main directions of study are the following:

- presenting the Play Drama Technique as applying knowledge and understanding modality which ensures a balance between cognitive and practice acquisitions, personal and professional development;
- exploring its effects in the higher education from perspective of transferable career skills;
- proposing some practical examples to adapt this technique in the socio-human field.

**Results of Study:** The results of this study support the conclusion that Play Drama Technique is a good educational solution to build up and to improve the vital transferable skills needed to succeed in career. Using this technique, in an adapted way to the specific of socio-human field, is improved the connection between the students' motivation to learn and the development of students' professional competences for their social and professional integration.

**Keywords:** motivation; career; transversal skills; responsibility; higher education.





## **Adaptive Online Teaching Strategies in Higher Education. Teaching Literature in Virtual Environment**

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The teaching strategies chosen by the teacher but also the typology of the evaluation methods used must focus primarily on the adequacy and quality of learning experiences that he/she intends to offer to the students. In the present study, we suggest some concrete strategies that illustrate the components of the interactive teaching paradigm in online during university studies.

Keywords: strategies; algorithms; literature; higher education.

## **Choosing the Teaching Profession: Assessing Psychometric Properties of the Orientation for Teaching Survey in A Sample of Pre-Service Teachers**

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In examining of the multicomponent construct of teacher motivation researchers have developed different theoretical models to approaching motivation for teaching career. The Orientation for Teaching Survey (OTS) measures six motivational orientations or themes for teaching profession. This instrument has been validated in samples of pre-service and in-service teachers from different countries, but the results have been ambiguous concerning OTS's number of factors. The main objective of this study was to assess the psychometric properties and factorial validity of the OTS in a sample of Romanian pre-service teachers. 284 pre-service teachers with limited teaching experience in primary, secondary and high schools completed the scale. The factorial structure, tested by explanatory factor analysis with Varimax rotation, evidenced a three-factor solution. Cronbach's alpha coefficients as measure of internal consistency had acceptable values. Then, two-factor, three-factor and six-factor models of motivations were tested using confirmatory factor analyses through relative and absolute Goodness of Fit indices. Results revealed that the three-factor model (intrinsic, extrinsic, and altruistic motivation) has the best fit out of the three compared models. Although the findings confirmed the multidimensionality of the OTS further analyses are required to better clarify the various aspects of teaching career motivation in pre-service teachers.

Keywords: motivation for teaching profession; pre-service teacher; orientation for teaching survey; psychometric properties.



## **Motor Skill Proficiency and Social Skills as Predictors For Self-Perceived Competences in Primary School Children**

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In examining the relationships between self-perception and motor abilities previous studies evidenced that different motor skill constituents could be important for the academic and social domains. The present study aimed to examine the relationships between motor skill proficiency, social skills, and self-perceived competence in a sample of 4<sup>th</sup> grade primary school Romanian children. The motor skill proficiency was reported in terms of fine and gross motor dimensions, school social competence was measured through peer relations, self-control, and academic skills while perceived competence was assessed as three specific domains of self-perceptions: scholastic, social, and athletic competence. 126 (58 boys and 68 girls), 8–10 years old school children were involved in the study. Results showed girls scored significantly higher than boys in their self-perceived scholastic competence whereas the two groups were not different in terms of social and athletic competences. Also, children below nine years demonstrated higher levels of scholastic and athletic competence than children aged above nine years. Separate hierarchical regressions were performed on perceived scholastic, social and athletic ability as criterion variables. Results revealed that age, gender, fine motor, and academic behavior were predictors of scholastic competence ( $p = 0.001$ ; adjusted  $R^2 = 0.042$ ), while age, gross motor, and interpersonal relation skills were significant predictors for athletic competence ( $p = 0.001$ ; adjusted  $R^2 = 0.027$ ). Last, children with higher level of gross motor and self-management skills had higher levels of perceived social competence ( $p = 0.001$ ; adjusted  $R^2 = 0.016$ ). Findings suggested that fine and gross motor constituents may contribute to the perception of the specific domain competences in primary school children. Further analyses are required to better emphasize the contribution of the different motor abilities in self-evaluation in children.

Keywords: fine motor skill; gross motor skill; self-perceived competence; social skills.

## **Parental Roles in the Context of Transnational Families. The Problem of Children Left at Home**

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The global economic configuration is marked by the mobility of the labor force at the national and international level. Mankind has known, since ancient times, the phenomenon of migration,



this becoming a priority aspect of governments and employers expressed in economic policies. Less valued are the social aspects related to the socio-emotional context of transnational families whose existential reality is configured on different territories, with all the consequences that derive (Bohr& Tse, 2009). In our article we analyze the issue of children left at home after parental emigration and the redistribution of parental roles in the transnational family. The article analyzes the specialized literature, presenting aspects of the problem in families at a global level, with an emphasis on the reality in Romania (Nguyen, 2016; Terawichitchainan &Knodel, 2022). In our study, we used the focus group survey method, involving in the investigation children with emigrant parents and the adults in their care. Parental roles are being redistributed in transnational families, amplifying the tasks of those who remain at home. The article highlights the difficulties that transnational families experience in exercising parental roles, a fact that affects the relationship with the children left at home (Fellmeth et al., 2018).

Keywords: children left at home; emigration; parental roles; transnational families.

## **The Adaptive Model of Improvement and Continuous Training of Specialists in the Field of Physical Education and Sports to Improve Managerial Performance**

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The professional development of the categories of employees in the physical culture system is based on two essential foundations: the use of new technologies, principles, strategies and practices to improve the human resources employed for the purpose of the strategic development of the sports industry; the availability to solve the problems of changes in the field. In this context, it is necessary to develop and apply adaptive models of training and advanced training, a praxiological algorithm that leads to the improvement of the efficiency and performance of specialists. The management of skills trained and perfected by specialists has now become an essential issue for any economic agent, including sports entities. This type of management is an operational tool that aims to optimize the effectiveness, performance and competitiveness of the organization. Thus, competence has become a real requirement in the labor market, inevitable and to be demonstrated and applied by a person in a certain professional situation and which usually changes over time. The area of expertise (professional, specific and transversal - CPST) is needed for the sports organization to cope with changes in the context of globalization, as well as to increase its capacity by mobilizing staff in order to achieve the goals of both sides, or the organization itself, or of the employee, fact for which a strength that should be planned in their mission is also the financial contribution to the improvement of the specialists. In this context, we can say that the survival of the sports organization no longer depends only on the production / provision of products / services, quality and quantity, but also on the efficient management of knowledge and skills of human



resources employed. In this regard, we can mention that the approach of skills in close connection with performance indicators for efficiency at the individual or microgroup level in a sports entity, is a methodology that allows us to modernize the entire system of training and improvement of staff in accordance with the requirements of the knowledge society towards obtaining and continuously improving the quality of education and the referential of the specialist in the field.

Keywords: praxiological algorithm; matrix; skills; vocational training; sports entity.

## **Quality in Education. Conditionings of Changing Society**

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The quality of education is analyzed by reference to the extent to which an educational service provider meets the expectations of the beneficiaries. The correspondence between these expectations and results is achieved through quality standards, important benchmarks in the evaluation of educational action. Since the results should aim, in the long term, at the social integration of the graduates, currently maintaining the attribute of quality can be a challenge for any educational institution. Being conditioned both by the processual component (educational offer adequate to the students' needs, educational process adapted to these needs) and by the results component (the competences and personality traits of the graduate), the quality of education, although related to the standards, has a flexible structure in its components. In the conditions of the social changes of recent years, the quality of education must be reflected both in the action in response to the expectations of the beneficiaries, and in addressing, with priority, the needs to adapt to the continuous dynamics in which we live.

Keywords: education; quality; change; adaptation.

## **Aspects Regarding the Adaptation of Students to the Requirements of Higher Education**

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Upon entering higher education, students face a multitude of problems, both learning and integration into the new collectives. The way of learning according to ready-made materials synthesized by the teacher or taken from the Internet, the faulty management of the study time, as well as the superficial reading of specialized literature most of the times do not lead to successful results. All this makes it difficult for young people to adapt to the educational





requirements of the higher education level, and for students from disadvantaged backgrounds or at educational risk, they are felt more strongly and lead to their aggravation, making it possible to fail at school and sometimes, even abandoning university studies. The implementation of the subject Techniques of intellectual work, as an optional subject for first-year students, constituted a special opportunity for the improvement of some of the problems listed above. It is interesting to study how the strategies and techniques of intellectual work studied during the first semester contributed to the adaptation of students to the system of academic educational requirements.

Keywords: techniques of intellectual work; learning problems; educational requirements.

## **Determining Organizational Performance Criteria for Mass Participation Sports Events**

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This study aims to determine organizational performance criteria for mass participation sports events (MPSEs) based on the key performance indicator framework. The research is conducted through semi-structured interviews with organizers to establish these objectives and criteria. In the first part, organizational performance criteria for MPSEs' main factors were identified according to the existing literature. Factors were developed via content analysis of interviews with sports event managers. In the second part, semi-structured interviews were conducted with 39 different leading race organizers around the world with reference to the identified factors. As a result of the interviews, 51 items and 10 factors, including sports participation, sports performance, prize money, sponsorship volunteerism, budget performance, digital media, social responsibility, satisfaction, and awareness, were identified. This research supports the literature by implementing a comprehensive approach to the empirical evaluation of detailed processes of the mass participant sports event management process and for measuring and monitoring performance in MPSEs' for organizers.

Keywords: sports events management; organizational performance; sport events success; key performance indicator.



## **Teaching Career and Professional Development of Teachers in the Pre-University Education System**

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We live in a dynamic society based on knowledge, adaptation and flexibility, imposed directly and indirectly by the acceleration of social processes. The educational changes in Romania are implemented, the change does not happen suddenly, by itself, but also involves a chain of operations, reorganizations and adaptation of the teaching staff in the system. They lead to prospective and proactive skills in accordance with the current requirements of the educational system. Self-knowledge and personal development are key elements in the process of career education and vocational training. Career professionalization offers the chance to analyze, to understand one's own person and relationships with others, professional ambitions and aspirations. This whole process facilitates the identification and overcoming of obstacles, with teachers having the role of developing a series of skills related to communication and problem solving, career management and lifestyle. The analysis of educational change allows us to outline the belief that change in education is related to the basic links of this approach, namely the attitude, motivation, training, professionalism and involvement in generating change for both education officials and human resources at school and in the community. Knowing and being aware of the importance of all the aspects presented in this study could be, in our view, a diagnosis of the school reality and a way to streamline the practices of implementation and promotion of the new.

Keywords: career professionalization; self-knowledge; personal development.

## **The Structural-Sustainable Model of the Leading Staff Professional Development to Improve the Management of the Sports Organization**

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The continuous professional development of leading staff is determined, on the one hand, by a series of socio-economic factors related to the processes of fundamental transformations of the public life management, and on the other hand, as an effect of changes in values and methods, in carrying out directing activities under conditions of social reform. These changes generate a series of social and psychological problems of the professional activity of leading personnel in the field. Their specificity can be attributed to the need to maintain new effective relationships



between the main actors that contribute to the fulfillment of the planned objectives, including the new professional and managerial experience that must be gained, to be carried out in sustainable conditions of the entities in question. Also, these difficulties are sometimes unavoidable and can cause deficiencies in the managerial culture. The centralized control system, which previously solved social and economic problems to some extent, in the context of the changes that took place within society as a whole, became an obstacle in the sustainable development of the state. The new approaches to sports management require a paradigm shift and a transition to the regulation of the management process, which involves an effective, advanced and calculated behavior of qualified leading staff, in a proactive plan, oriented to the labor market and a functional system in their advanced training. These requirements cannot be satisfied only by the introduction of specific legislative rules or an administrative order issued by the authority in the field, but a genuine, continuous and intentional professional development of the leading staff is needed. The best conditions for such development are created in the continuous professional training system, which will allow, under certain conditions, the transformation of the leader's traditional model of adaptive behavior into a structural and sustainable one of the individual professional development. This can be achieved through modern educational, managerial, leadership and coaching, psychological and pedagogical technologies, which will generate constructive changes in the professional behavior of the leader who ensures the management of sports entities, including sports high schools in Romania. This provision allows us to substantiate the problem of the continuous professional development of leading staff, as a psychological and pedagogical one, and to assign the object of study to the field of theory and methodology of vocational higher education.

Keywords: structural-sustainable model; quality; services; leading staff; continuous improvement; continuous training.

## **Corporeality and Cross-Curricular Learning: From the Analysis of the 2004-2007-2012 National Guidelines to Future Perspectives**

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The segmentation and specialization that characterize the current state of knowledge, the "struggle" and sometimes the declared "incommunicability" between the sciences demand today an adjustment of the curricula and a consequent and necessary reorganization of educational planning and programming oriented to overcome the unidisciplinary approach.

The present contribution, starting from an analysis of the national curriculum guidelines 2004-2007-2012 (MIUR) and focusing on corporeality as a medium of cross-curricular learning, aims to initiate insights about the revision of programmatic guidance documents in the Italian context. The study in analyzing objectives and developmental goals of the different disciplines within the national guidelines highlights the evolution of the value of corporeality by critically revisiting the usual educational scenarios where the body is often absent or little valorize.



According to international educational perspectives increasingly directed toward the development of transversal skills and attitudes and recent research in the field of cognitive neuroscience, some epistemological nodes will be outlined on which to leverage so that corporeality can become a “tool” for the integration of knowledge and experience, traditionally separated from each other: those of speech (verbal dimension) with the less recognized ones of movement, gesture, gaze and the senses (non-verbal dimension). Physical education can enable the implementation of interdisciplinary and multidisciplinary paths, foster the implementation of learning environments effective to the promotion of cognitive, social, cultural and affective experiences.

Keywords: corporeality; educational planning; learning-environment; physical education; transversal skills.

## **Intellectual Culture and Components of the General Culture of Algerian Society in the Field of Sports**

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Sports culture means the individual's acquisition of theoretical knowledge, practical experience, and skills in the field of sports to be employed for the benefit of the individual and society together, and striving to pass it on from one generation to another in order to continue the distinguished role of sport in the lives of individuals and societies. Sports culture is general and specific. As for the general, it is that which pertains to everything that is related to sports, and the specific is that which is related to a game or a specific field of sports. It is not surprising that we find both in one individual. And when we say that sports culture is part of the general culture, we place it with the same importance that other branches of culture have, religious, social, literary and artistic. As a whole, they constitute the general content of the culture of society, which is not integrated except by the connection of all its components. We did a study on the culture of sports practice in Algerian society.

Keywords: general culture; sports culture; sports field; society.





## Strategies Involving Education for Refugee Children

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In today's world, there are many children who don't have the opportunity to go to school and get an education which is a failure in children's human rights development. Education as a tool can act to protect children from substance abuse, unhealthy lifestyles, and even death. Many refugee children living in host countries in ongoing conflicts face a lack of educational support and individual inclusion as a real challenge. Despite the fact that refugees should have rights to receive education, they are said to have less access to education compared to other children. An in-depth literature review related to the educational perspective for refugees, touching on several factors that affect and contribute to the development of refugee children will be explained through the theory used. We will then use theory to analyze their project reports to present the conclusions that were found and then conclude with a discussion and thoughts on further research.

Keywords: children; education; refugees; Bourdieu; teachers.

## Financial Literacy Perception of Sports Management Department Students

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It is important for individuals to have knowledge about the financial system so that they can better manage financial risks while investing in the markets. The aim of this study is to reveal the financial literacy and money management perceptions of the students of sports management department. For this purpose, students' "money management self-efficacy perception", "money behavior perception" and "financial information perception" were tried to be measured with statistical programs. As a result, it has been determined that the level of financial literacy is sufficient at the basic level, and there is no gender-based difference in the dimensions of spending, attitude and perception. It was observed that as the age and grade levels of the students increased, their financial knowledge levels also increased.

Keywords: financial literacy; sports management; financial information; financial education.



## **Educating Perseverance and Motivation for the Development of Creativity in Preschoolers**

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Over time, in terms of the study of creativity, the most frequently addressed were the intellectual factors in the category of internal structural ones (M. Zlate, 1994), being considered relevant in terms of measuring and manifesting individual creative potential. No less important are the affective-motivational and personality factors, from the same category of intellectual factors, which contribute substantially to the development of creative products. Their weak

approach is due to the fact that these factors cannot be measured, therefore they cannot form the basis of quantitative research. Beyond this aspect, their importance in the development of children's creative capacities must be considered, as it is necessary, as for any other activity, an energetic, motivational, triggering and supportive support of individual actions.

Key words: motivation; creativity; factors of creativity; preschool education; measurement.

## **Family Relations and Psychoeducation of Parents with Teenagers**

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The problem of the emotional and mental health of adolescents in the conditions of the pandemic, the war, the current economic situation as well as the accelerated development of artificial intelligence is a challenge for teachers and school counsellors. The paper proposes as a general objective to highlight what are the resources for parents with teenagers to be able to respond healthily and nourishingly to their emotional health needs and what could be the role of the school in this issue. The practical-applicative objective is to identify the methodological structure of some psychoeducational programs for parents regarding the psychological problems of the adolescent and the regulation of family relationships that can be carried out by specialists in the educational environment.

Keywords: parental education; personal development; emotional health.



## Implementation of the Balanced Score Card in fitness centers

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Increasing the efficiency of economic activities is the permanent concern of any management team. This is not only observable in financial terms. In our study, we proposed the implementation of a management tool called Balanced Scorecard (BSC) within a fitness center. In the initial stage, a SWOT analysis was performed on the activity of the fitness center. For the implementation of the BSC, the company's objectives for the application period were elaborated. The study took place in 2022 at the Elite Gym Fitness Center in Galati. The 4 components of the BSC were taken into account, namely the perspective of customers, the perspective of internal processes, the financial perspective and that of growth and development. The data were collected through management computer applications that use artificial intelligence. These platforms work as a unit and provide data for all BSC components. For each component, five categories of data were generated to highlight the achievement of the proposed

objectives. Their statistical analysis was carried out and correlations were presented between the data categories, on the one hand, and the 4 components on the other hand. For each component, the degree of fulfillment of the proposed objective was established. The conclusion of the study is that the use of a management tool in fitness centers can increase the efficiency of the activity from an economic point of view. Also, the other processes that contribute to the smooth running of the activities in these fitness centers are also improved.

Keywords: balanced scorecard; fitness; management; efficiency; clients; physical activities.