

## Wheelchair and its stimuluses on upper body musculature: Case students Ectomorph


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### ABSTRACT

Ectomorphs are often below the average weight for their height and have a skinny appearance. Their muscle and bone outline are usually visible and they normally have low fat and muscle mass. Through this problem, sited in similar as disabling defects relative to lack of poor posture, lack muscular strength and proper support. This experimental study includes 40 males' ectomorph students, aged around  $17 \pm 1.25$  years. Divided into two homogenous groups (Experiment (ES), control (CS)) built on their BMI underweight  $< 18.5$  as disabilities, during the 2016/2017 school year, at Zagllole secondary school, Mostaganem academic. To test this hypothesis, we focused on two training programs traditional with weight (CS) vs Wheelchair (ES) as tools to strengthen upper body musculature, within 6-weeks under researchers' supervision, integrate as 15 minutes of warm-up during basketball cycle Second Semester. Although to assess their progress, we founded on Push up (PH), Chin up Test (CH) and Flexed Arm-Hang Test (FAH). Pre-test and post-test. From the beginning and at the end of the program basketball cycle. Founded on statistical applied. We approve the wheelchair as a benefited tool muscle training that improves the muscle building, muscle strength and muscle endurance upper body musculature among ectomorph body shape better than the traditional weight method. Report in similar studies as manufactured materials having high strength-to-weight ratios. Showed by recent studies through general grip resulted in the highest muscle activities in the upper body assistance during the wheelchair movement on both the ascending and descending ramps.

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# Analysis of the factor structure of the physical condition of girls 17-19 year-old

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## ABSTRACT

The article analyses the factor structure of the physical condition of girls aged 17-19 years. It was determined percentage of each factor and it was established that the general physical condition is determined by a group of four factors: physical development is 41.8 %, the functional state of the cardiovascular and respiratory system is 28.4 %, physical performance and coordination abilities are 12.4 %, physical readiness, in particular speed, speed-strength qualities, agility and flexibility -2.3 %, which together constitute 84.9 % of the explained dispersion. We have found out that the anthropometric status determines the physical condition even after the end of the puberty period. Most factor loading is accounted for the indicators that characterize the total body size: waist girth ( $r=-0.975$  at  $p<0.01$ ); chest girth ( $r=-0.966$  at  $p<0.01$ ); the pelvis girth of ( $r=-0.956$  for  $p<0.01$ ), as well as indicators characterizing the fat component: the sum of the skin-fat folds ( $r=-0.985$  at  $p<0.01$ ); the suprailiac skinfold, ( $r=-0.968$  at  $p<0.01$ ); the medial (inside) calf fold ( $r=-0.950$  at  $p<0.01$ ). Based on the analysis of the studied indicators, which form the basis of all four factors, there were obtained results that have the predictive value for the individualization and differentiation of the pedagogical process, as well as the influence assessment of the basic pedagogical tools and methods in the process of physical education.

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# Sport participation, spontaneous physical activity and sleep in 11-13 years old children


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## ABSTRACT

Background. Sport can be a regulator of sleep. Sleep norms have been suggested by experts to improve children's health. Aims: 1) to assess how much sleep have the children practicing and not practicing sport outside the school and if there is a relationship between sleep and spontaneous PA levels; 2) if there the types of sport practiced influence sleep duration, 3) to assess if differences exist between normal level of physical activity in children taking part at sport outside school. Material and Methods. 166 male children (mean age  $11\pm 0,6$  years) answered to a physical activity questionnaire. 139 were involved in sport practice outside school (PS group) and 27 of them not practiced any sport outside school but only take part in physical education classes (NS group). Results. 52,5% of children in S group and 81,4% in the NS group showed a shortening in sleep duration. Sport practiced didn't influenced the sleep duration. Conclusions. A large percent of children non practicing sport sleeps less than the recommended standard for their age. Sport and sleep length are correlated, but any difference was found between the type of sport in influencing sleep hours. Level of spontaneous PA is not connected with sleep hours.

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# Correlates of physical activity in the sensory impaired: A narrative review

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## ABSTRACT

Regular and sustained participation in physical activity is essential for almost all facets of health. However, despite this physical activity levels in those with sensory impairments are low. In a sample of 6634 UK participants (mean age 65.0±9.2 years) adjusted logistic regression models showed that those with fair-poor and good eyesight were significantly more likely to be inactive than those who reported excellent eyesight (Smith et al. 2017). Similar associations have been found in children with visual and hearing impairments (Smith et al. 2017a). Interventions to promote physical activity in the sensory impaired are urgently required. To date there has been no attempt to collate the literature on correlates of physical activity in those with sensory impairment. Correlates need to be identified to inform the development of successful intervention. We will review the literature up to 1st April 2018 using PubMed and Google Scholar to identify studies investigating correlates of activity in the visually impaired. Preliminary results from our search have identified barriers to physical activity in this population that include: lack of access to recreational and athletic programmes, lack of help or encouragement in developing suitable and safe physical recreation skills and habits, activity limitations in walking, and environmental barriers such as transport and lack of accessible exercise equipment. In conclusion, the present narrative review has identified correlates to target in future physical activity interventions tailored for those with sensory impairment. **Keywords:** Physical Activity, Sensory Impairment, Correlates, Barriers, Facilitators.

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# Lower limbs power, anthropometrie and musculoskeletal state of junior level sport games players


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## ABSTRACT

**Purpose.** The aim of this study was to evaluate the musculoskeletal state of junior level sport games players and to analyse the relationships between fundamental movement patterns, the jumping height and anthropometrie. **Methods.** Forty five Under 18 (U-18) (age = 16.27 +/- 1.72 (SD); height = 183.21 ± 6.62 cm; body mass = 73.92 ± 10.17 kg) years old male junior sport game players (handball, basketball, volleyball) voluntarily participated in this study. All participants were evaluated according to FMS (100 point scale), anthropometrie and jump performance (height of Squat and Countermovement jump) Kistler forth plates. Spearman and Pearson correlations were carried out to identify whether a relationship existed between FMS scores, anthropometrie and the height of Squat and Countermovement jump. One-sample Kolmogorov-Smirnov Test was used to identify the presence of a normal distribution. All statistical analysis was computed using the IBM SPSS Statistics (version 23.0). **Results.** The statistically significant ( $p < 0.05$ ) moderate correlations were found between height of both jumps and FMS score (SJ,  $r = 0.329$ ; CMJ,  $r = 0.306$ ), whereas the sub-tests show a reliable correlation between the Deep Squat (DS) score and CMJ height ( $r = 0.299$ ). A higher height of both jumps was also associated with a lower body fat percentage (SJ,  $r = -0.345$ ; CMJ,  $r = -0.342$ ). **Conclusion.** The basis of the findings we can conclude that the higher fundamental musculoskeletal state and lower body fat percentage allow for better jump height performance. **Keywords:** Lower limbs power, FMS score.

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# Tests of physical condition for computer students


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## ABSTRACT

In the present work a set of tests of the standardized physical condition is shown, for the level of control of the class of physical education and the diagnosis of its students is made to be able to have an information that allows to realize a forecast of the high laws of the future during the planning of a macro structure, then objective evaluations are carried out that approve all the work carried out. In the research a compilation of information of authors of international prestige was made that gave it a scientific methodological character. The characteristics of the tests, their typology, requirements necessary for the methodological organization of the six tests applied, as well as the metro logical characteristics to be valid in a scientific investigation are evaluated and analyzed. We selected 100 female students and 100 of the gender who studied at the University of Computer Sciences, who received their physical education classes through the physical preparation taught. The average age of the sample was 19.9 years. In order to approve the development of physical tests, 90 percent of all the results obtained are applied to verify if there was a correspondence between the developments of physical abilities. The results allowed to define the regulations of the tests through 90 percent in addition, the physical efficiency of the physical preparation classes and sports at the level studied.

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# Interplay among physical characteristics position of play and shooting accuracy of elite female basketball players

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## ABSTRACT

**Background:** Physical characteristics is often considered to exert profound influence on playing position and shooting ability in basketball. The study examined interplay of physical characteristics, playing position and shooting accuracy among elite female basketball players in Nigeria. **Methodology:** Population comprised all members of Zenith Bank Professional Basketball Club Champions. Based on coaches rating, the first 15 players were sampled but only 14 completed the measurements. The research design was descriptive correlation. Players' bio-data were collected using a Proforma, height and weight were measured while BMI was calculated. Research protocol included warm up and trials of 10 shots from three familiar distances. During data collection, participants were video recorded taking 30 shots in three blocks of 10 shots for each of shooting distance. Descriptive statistics; mean, standard deviation and standard error were used for data description while PPMC and ANOVA were conducted to establish statistical significance at  $p \leq 0.05$ . **Findings:** The players had high shooting accuracy but no significant correlation with height, weight and BMI  $r = .030, -.181, -.041$ ;  $p = 0.497$ . Playing positions had no significant influence on shooting accuracy  $F_{2.74m}(2, 11) = 1.085, p = .372$ ;  $F_{4.67m}(2, 11) = 0.535, p = .600$ ;  $F_{6.40m}(2, 11) = 0.884, p = .441$ . **Conclusion:** Shooting accuracy is not determined by only physical characteristics and playing position. Therefore, we recommend that height, weight, and shooting performance at three distance zones should be considered for training, talent hunting and team selection. **Keywords:** Accuracy, Basketball, Elite Performance, Shooting Distances, Performance.

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# Comparative analysis of the jumping capacity in school population in relation to the gender


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## ABSTRACT

Objective: On one hand, to describe the lower limb explosive strength capacity in a group of Secondary Education students and, on the other hand, to compare the results in relation to the gender, with the aim to know the differences between male and female students. Methodology: The sample was made up by 250 Spanish Secondary Education students, divided in two groups in relation to their gender (133 men and 117 women). Body composition was analyzed with Inbody 230 and the assessment of the lower limb explosive strength through a vertical jump (Abalakov test) over a Quattro Jump force platform. Results and conclusions: Men showed higher values of jump height and strength and power peaks than those found in the female group with the same age. These differences have dissipated in the strength when the results have been normalized with the body mass, while the power's differences have maintained, possibly due to the higher speed in the male group.

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# Changes in the perception of motivational climate in primary school students after the application of an intervention based on alternative sports

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## ABSTRACT

This study shows an educational research which has taken place in a public school from an urban area of the city of Jaén. The investigation aims to show the goal orientation (in the sport), the perception of the motivational climate and the beliefs of the success in physical education lessons, before and after a didactic lesson of Kin-Ball. 82 pupil from year 10 and 13, from which 46 were girls and 37 were boys, have been asked for this investigation. The main aim of the investigation is to make some changes in the atmosphere of the lesson of students. The results show a significant increase in the perception of the climate that implicates to the task and a reduction of the perception of the climate that implicates the ego.

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# Relation between obesity and vertical jump capacity in adolescents


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## ABSTRACT

It has been studied the relation between body composition, classified as normal-weight and overweight-obese based on BMI and the corporal fat percentage; and the vertical jump ability, assessed by CMJ test in adolescents from a secondary school. The obtained results differed according to the way that body composition was measured. However, the line of conclusions that both followed were: adolescents with normal-weight jump higher than overweight-obese adolescents in both sex. Overweight-obese adolescents have a higher absolute power than normal-weight ones in both sex, although the latter ones have a higher relative power to their mass than the first ones in male sex. The same results were obtained with the strength. It concludes so, despite of it has got better results in some variables, with a negative relation between overweight-obesity and vertical jump ability, as regards performance.

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# Analysis of distance covered according to the player's role when they are serving in padel


JESÚS RAMON-LLIN MAS  , JOSÉ FRANCISCO GUZMÁN, RAFA MARTÍNEZ-GALLEGO, CARLES GRIJALBO

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## ABSTRACT

The work-rate made by players in team sport has been found to depend on the position or role on the court. The aim of this study was to analyse the distance covered by player according to the role at the service stroke. Ninety one male players adults ( $33,9 \pm 6,9$  years) category were recorded with video-cameras in 27 matches classified by three experts observers in three performance levels, national (N), regional (R) and recreative-amateur (A). Distance covered was analysed using SAGIT software. Results showed that the role which averaged more distance covered per point was server (the mean ranged from  $9.1 \pm 7.6$  m at level R to  $14.6 \pm 12$  m at level A), followed by returner (the mean ranged from  $12.4 \pm 9.6$  m at level N to  $8.6 \pm 7.2$  m at level A) and finally their partners. The more performance level, the more difference in frequencies of distance covered according to the player's role. Training applications should consider practicing serve-volley when serving and moving to the returner as much as possible. Tactical strategies in matches will be involved when fatigue appears. As distance covered involves fatigue, couples may consider which player should start serving in a third set, and make a decision about which rival is more tired, so load the game to him.

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# Analysis of distance covered and number of points played in padel competition


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## ABSTRACT

Work-rate studies let us the knowledge about the competition load and then made better training plannings. The aims were to analyse distance covered in passive and active phases, correlations between distance and number of points played, and comparing in three different performance levels. Padel male players (N=108) were recorded in spanish federated competitions and points played were classified in three different performance levels, high, medium and low level, by three experts padel players and coaches. All the players signed their participation agreement. The age of participants was  $33.3 \pm 6.9$  years at high level,  $33.1 \pm 6.9$  years at medium and  $35.4 \pm 6.8$  years at low level. Video recordings were analysed with SAGIT tracking system. Results indicated that rate distance active: passive ranged from 55:45 in medium level and 45:55 in low level. Distance covered had a high correlation with the number of points played per match ( $r = .87$ ;  $p < .001$ ). The mean of distance covered was significantly influenced by the performance level. Low level averaged  $1022 \pm 332$  m, while medium level averaged  $1906 \pm 768$  m and high level averaged  $1508 \pm 494$ m. Comparisons among levels were statistically significantly ( $p < .017$ ) with the exception between high and medium level where a tendency ( $p = .037$ ) was found.

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# Match performance analysis of collegiate basketball teams in Nigeria


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## ABSTRACT

Background: Match statistics is valuable to coaches, team managers and board room executives of basketball teams for analysis of players' performance, scouting, team selection and operations. The objectives of this study were to measure, analyze skills profile and rank the performance of collegiate basketball teams in Nigeria. Methodology: Descriptive comparative research design was used for this study. The population was 79 players consisting of the best eight teams that were purposively selected based on the current performance ranking at various collegiate games in Nigeria. Standardized application software (MBT/FIBA Europe SmartStats for basketball version-2.6.1) was used to box-score data collection. Data analyses were conducted using the SPSS version-20.0 software. Descriptive statistics of percentage and mean were used for analysis of shots and inferential statistics of One-way ANOVA was used to analyze the differences in shots performance among the teams with  $p \leq 0.05$  for statistical significance. Findings: Some of the teams were excellent in certain performance variables but ranked below the top three. There was no significant difference in the scoring of the 2-point Field Goal  $F(7, 78) = .681$   $p = .688$  and 3-point Field Goal  $F(7, 78) = .834$ ,  $p = .563$  among collegiate basketball teams in Nigeria. Conclusion: Rather than individual talent, team success comes from combination of talent, coaching skills, strategy, team fitness and spirit. Utilizing basketball analytics is vital for identifying team strength and weaknesses for focused performance improvement of collegiate basketball in Nigeria. **Keywords:** Analysis, Basketball, Field Goals, Skill, Performance.

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# An educational behaviour lifestyle-based program to prevent risk factors of type 2 diabetes in older adults

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## ABSTRACT

Non-pharmacological solutions, which prevent/delay T2DM, contribute to the Public Health savings. The aim was comprobating if an education program (council on lifestyle) affected to associated variables with T2DM. It was under quasi-experimental design with sample by coexistence (n=23). Weight, BMI, handgrip-strength, lower limb performance, functional mobility, cardiorespiratory fitness and HRQoL were evaluated. Significant differences were detected in BMI ( $p<,035$ ), handgrip-strength( $p<,011$  y  $p<,021$ ) and "physical function" (SF36),( $p<,028$ ).Just with councils and recommendations (3 months) we got significant improvements in these variables. **Keywords:**Type 2diabetes, prevention, lifestyle, Health-Related Quality of Life (HRQoL), functional capacity.

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# Autonomous physical activity based program versus aerobic exercise based interventions to improve health and cardiovascular status in sedentary overweight adults: A review

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## ABSTRACT

This review aims to identify improvements on health-related variables, produced by autonomous physical activity interventions and reducing sedentary behavior, compared with improvements produced by interventions of aerobic exercise in sedentary and overweight / obesity. 17 design studies Randomized Controlled Trial (RCT) were finally included, with subjects  $\geq 18$  years and a Body Mass Index (BMI)  $\geq 25$ . The results show similar results in both types of interventions, and the conclusion reached was that there is insufficient evidence of benefits of one type of intervention over another. **Keywords:** Sedentary Behavior, Physical Activity, Exercise, Health, Endurance Training, Weight.

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# Physical education teacher training core curriculum in Italy

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## ABSTRACT

Structural, organizational and normative developments in the school setting in Italy, in the last fifty years, suggest that teachers' role should be considered throughout the social, cultural and scientific innovations that lead these changes. Based on this theoretical proposition, the purpose of this study was to identify some key elements of PE Teacher Training Core Curriculum in Italy. The study takes a documental-based approach to the development of teaching skills and lists action supported by Italian Ministry of Education in the last decades to foster adequate teacher training programmes, with particular reference to PE teacher training in the high school, since the earlier courses in 18th century till now. The results revealed that teacher training in Italy sometimes lacked of adequate methods and significant contents, so it needs to underline the value of a new approach in teacher training that aim to ensure the acquisition of key competence (Recommendation of the European Parliament, 2006) and to create a cooperation between University and the Italian Olympic Committee. In conclusion, a new approach in teacher training could foster a broad advance in specialization and professional development of PE teacher, according to Italian educational path regarding PE to the European best practices (Eurydice, 2013).

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# The level of adipokines in the blood in women with metabolic syndrome as a result of whole body cryotherapy

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## ABSTRACT

The aim of the study was to evaluate the effects of whole body cryotherapy (WBC) on the adipokines levels in the blood of elderly women with metabolic syndrome (MS). Methods: Nineteen women with MS (61.53±3.99 y, BMI of 30.41±5.27 kg/m<sup>2</sup>) and 18 healthy women (60.28±3.63 y, BMI of 25.53±2.39 kg/m<sup>2</sup>) were subjected to 20 WBC treatments at -130±10°C for 3 minutes. Before the first WBC, and 24 hours after 1, 10, and 20 WBC treatments completed, the concentrations of leptin, adiponectin, and irisin were determined in blood plasma. Results: WBC treatments did not alter plasma leptin and adiponectin concentrations within either group. The first WBC resulted in a 10% increase in the concentration of irisin in both groups. The concentration of irisin also increased in women with MS after 10 WBC. In both groups, irisin concentrations after 20 WBC were similar to baseline. Conclusions: Twenty successive WBC treatments did not lower leptin levels or increase adiponectin levels in women with metabolic syndrome. Cryogenic temperatures invoked an immediate increase in irisin concentrations in elderly women. WBC most effectively raised irisin concentrations in women with metabolic syndrome after 10 treatments. Increases in irisin may affect the activation of brown adipose tissue and non-shivering thermogenesis. **Keywords:** Whole Body Cryotherapy, Adipokines, Irisin, Metabolic Syndrome, Women.

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# Prospective cohort study of the characteristics of the practice of physical-sports activity (PSA) in adults

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## ABSTRACT

The percentage of inactive population is directly proportional to age, at least up to the age group of 45 and 54 years old (National Health Survey 2011/12 and 2014), which exposes an increased risk of developing diseases. So that, we propose to track a sample of adults over time to see if they continue to practice PSA or not, as well as their characteristics. Methodology. Sample 64 adults (M = 37.33, SD = 12.827), who were evaluated seven years later (M = 44.33, SD = 12.827) (2007-2014), after trying to contact with the initial sample of 1002 subjects by telephone. Instruments. For the evaluation of physical activity (PA) we use the questionnaire developed by the IKERKI Group (Arribas, Gil de Montes y Arruza, 2006) from the Compas Project (2000).

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# Social use of internet in adolescents: Relationship with cyberbullying and levels of physical activity

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## ABSTRACT

The use of the Internet and Social Networks (SN) has increased in recent years in young people, this being a vulnerability vulnerable to the appearance of addictions (Armstrong, Phillips & Saling, 2000). Inadequate use of SN may increase the risk of cyberbullying (CB). Studies show that there are relationships between physical activity (PA) and CB (Corral et al., 2017), but what happens between PA and addictions to SN? Methodology: Sample 54 high school students (M = 14.26, SD = 1.34). Instruments: ActiGraph GT3X accelerometers; ECIP-Q (Ortega-Ruiz, Del Rey & Casas, 2016).

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# The relationship between dynamic stability and functional movement performance ability in team sport and martial arts young male athletes


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## ABSTRACT

**Introduction.** The aim of this study was to compare the functional movement performance ability and Dynamic postural stability of athletes from team sport (basketball, handball, volleyball) and martial arts (judo, taekwondo, karate). **Methods.** 45 team sport (age =  $16,27 \pm 1,7$  years; height =  $183,2 \pm 6,6$  cm and BMI =  $23,5 \pm 3,8$ ) and 19 martial arts athletes ( $17,6 \pm 2,2$  years; height =  $177,6 \pm 6,7$  cm and BMI =  $24,4 \pm 3,7$ ). Participants were screened using the 100-point scale FMSTM protocol. Counter-movement jump test DPSI was measured by Kistler force plates. All statistical analysis was computed using the IBM SPSS Statistics (version 23.0). **Results.** The mean composite FMS 100-point scale was  $55,1 \pm 9,3$  and team sports athletes  $45,0 \pm 6,4$ . Martial arts athletes shows statistically significantly higher score in active straight-leg raise  $4,4 \pm 3,1$  vs  $7,9 \pm 3,9$  ( $p < 0,05$ ) and trunk stability push-up test  $4,4 \pm 3,5$  vs  $7,1 \pm 4,5$  ( $p < 0,001$ ). There was not statistically significant difference between other five tests. There was moderate correlation between seven different FMS exercises scores and DPSI values of martial arts athletes ( $r = 0,51$ ) and team sports athletes ( $r = 0,47$ ). **Conclusion.** The results of the study indicate low FMS score in both groups. The team sport athletes have more problems with muscles of the hamstring and trunk muscles stabilizing than martial artists. Relationship between dynamic balance ability and athletic performance is less clear.

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# Bioelectric activity of the brain and the predictive importance of effects of neurobiofeedback course at athletes


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## ABSTRACT

Works of the last years show activity of scientists on introduction of neurofeedback training in process of athletes training. At the same time, authors emphasize the need of further carrying out researches for this field of knowledge, first of all, caused by insufficiency of empirical data. The purpose of work was identification of athletes' brain features of bioelectric activity, and determination of the importance of neurofeedback effects in effectiveness forecasting of their competitive activity. With 101 athletes the neurofeedback course directed to increase in power of EEG in the alpha range by means of a hardware and software system of "BOSLAB-ALFA" was conducted. Prior to a training and after its termination by means of the 19-channel electroencephalograph "Neuron Range 3" "background" EEG registered. After a neurofeedback course the effectiveness of competitive activity at each athlete which was considered as successful was estimated if exceeded the result received at the same rank previous competitions. The statistical analysis of the obtained data was carried out by means of software packages of "StatPack" and "SPSS 13". Results of the conducted research have allowed to distinguish the peculiar "the athlete's encephalographic portrait" which is characterized by more expressed activity in a theta - and delta ranges, the insufficient relative power of brain bioelectric activity in the alpha range. And also to establish the informative indicators of post-training changes of EEG determining distinctions by success of competitive activity with an accuracy of recognition of 100%.  
**Keywords:** Athletes, Neurofeedback, EEG, Success of competitive activity.

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# Sport practice and exercise in University: Do students really participate?


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## ABSTRACT

There is irrefutable evidence of the effectiveness of regular physical activity in the prevention of diseases and its relation to health status at any age. The University, as an academic and formative institution par excellence, should promote and favor the practice of university sports. The main aim of this research was to analyze students' physical activity practice through the University services and facilities. To this end, a descriptive and correlational cross-sectional study was performed on a sample of 1085 subjects (569 women; average age 21 years).

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# Effects of a program of vigorous-to-intense physical activity in triglycerides and glucose in 3- to 16-year-old schoolchildren


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## ABSTRACT

The aim of this study was to determine if there is a direct association between an intervention program through vigorous-to-intense physical activity and the improvement of certain values of the lipid profile through a fasting analysis of triglycerides and glucose. The sample was composed of 116 schoolchildren between the ages of 3 and 16 (52 boys and 64 girls). A biochemical analysis was used to evaluate the health parameters through a blood draw carried out by the medical staff of the Murcian Health Department. The intervention was carried out 3 times per week during 12 weeks. Through games, rule modification and variations of these, it was favored the use of short repetitions of vigorous and high intensity in races, throws and jumps. The statistical analysis was carried out with the statistical package SPSS 15.0.1 for Windows 8 Pro. It was found an association between the program and the improvement in glucose levels, but not in triglycerides. Furthermore, the improvements were equally significant in males and females of Primary and Secondary Education, but not in Pre-School Education.

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# Design and validation of a psychomotor profile evaluation scale in early childhood education


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## ABSTRACT

The lack of evaluation instruments of psychomotricity in Early Childhood Education that need in the motor development by evolutionary stage and present a reduced extension of items raises the need to stress on this aspect. The objective of the present study was to design and validate a psychomotor profile assessment scale in pre-school children aged from 3 to 5 years old. The instrument is based on 17 items grouped in 7 dimensions. The content of the scale was validated through the considerations of 6 expert judges, as well as the validity of understanding through 10 preschool teachers. In the same way, a pilot study was carried out, in which the scale of evaluation was applied to 77 participants who were 3, 4 and 5 years old of Early Childhood Education of the "Primary and Secondary Education School Jacinto Benavente", located in the Alcantarilla (Murcia), and "Private Center of Education Montezahar" located in Torres de Cotillas, (Murcia). The Aiken V values in the content assessment reflected an average score of 0.777 for most items on the three scales, which had to be revised and modified. The students of the school "Jacinto Benavente" showed better ratings than in the "Montezahar" school. Besides, it was observed that the results among 4-year-old students were the highest versus 3 and 5 years old respectively. As the first phase of the validation process, this instrument must carry on developing until it obtains values that guarantee its purpose. **Keywords:** Psychomotor profile, Psychomotricity, Child education, Instrument, Validation.

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# Canoe polo player profile

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## ABSTRACT

The canoe polo is a team sports that is part of the International Canoe Federation (ICF). It is a discipline that is fast growing, whether as number of athletes or as number of nations that to take part to world and continental championships. Since 2005 is one of The World Game sports disciplines. This fast development did not produce knowledge about sport and about its performance model. The Aim of the study is to investigate on canoe polo performance model. The research was carried out using Plyertek GPS technology. The research was carried out through the monitoring of 7 matches of Italian national team valid for the Canoe Polo European Canoe Association Cup. The assessment was done on 8 athletes, All the athlete are World Champions defending champions. The evaluation focused on the intensity (meter/minutes) and volume (distance) during the matches. The distances achieved by the athletes vary from a minimum of  $789 \pm 81$  meters for goalkeepers to a maximum of  $1931 \pm 534$  meters for movement players. The metric per minute vary from  $30.7 \pm 8.44$  meters / minute for goalkeepers to  $46.3 \pm 4.74$  for movement players. It is understood from the analysis of the data how the performance changes with respect to the type of game and with respect to the roles of the players, this is typical in team sports.

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# Serve performance analysis of men's professional tennis

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## ABSTRACT

**Introduction:** The serve is considered one of the most important shots for the performance of professional tennis players. The influence of the serve causes most points to have a duration of less than 5 strokes, and it is also the server who wins most of these points. The objective of this study was to verify which variables related to the serve are critical in the success of it. **Material and methods:** A total of 1119 serves in 8 matches at the 2011 ATP tournament 500 Valencia were recorded and analysed using SAGIT, a computer vision tracking system. Points were compared between points (a) won by the server with less than 5 shots with (b) points with more than 5 shots or lost by server. **Results and discussion:** There were differences between (a) and (b) in the type of serves (first or second), time between shots (serve and return) and returner speed between serve and return. Points won by the server with less than five shots were played with a first serve, the time between serve and return of serve was lower than the rest of the points, and the average and maximum speed of the returner was greater in these points. There were no differences in terms of the direction of the serve and the distance covered by the returner between serve and return of the serve.

**Keywords:** Tennis serve, Performance, Tactics.

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# An investigation of drug abuse in sport performance

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## ABSTRACT

In our society, Doping in Sport is a complex phenomenon. The secrecy that characterizes it hinders the implementation of epidemiological investigations. It involves the entire society. Moreover, the forces that conspire behind doping have always been able not only to identify new substances and new methods but also to steal the new scientific discoveries aimed at the treatment of diseases, for their illegal purposes. The fight against doping has had a strong push, in 2004, with the birth of the first World Anti-doping Code drafted by WADA. The laboratories, the Code, the Biological Passport and the ADAMS are important tools for the fight against doping. The aim study is to show the data relating to the consumption of drugs from 2003 to 2017. A number of the commonly used substances have been discussed and their risks and side effects reviewed. **Keywords:** Anti-Doping controls, Drugs, Analysis, Illicit substances, Legislation.

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# Effects of a 12-week-long program of vigorous-intensity physical activity on the body composition of 6-and 7-year-old children

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## ABSTRACT

The purpose was to study the effects of a program of vigorous-intensity physical activity (PA) on the body composition of children. This investigation involved 32 school children from 6 to 7 years old (14 males  $6.57 \pm 0.51$  yr, and 18 females  $6.33 \pm 0.49$  yr). The variables measured were: body weight, fat-free mass (FFM), fat mass (FM), total body water (TBW), basal metabolic rate (BMR), body mass index (BMI), fat-free mass index (FFMI) and fat mass index (FMI). The body composition analysis was performed using bioelectrical impedance through the body fat monitor Tanita BC 418-MA Segmental. Stadiometer HM - 250P Leicester was also used to obtain the height. The procedure was as follows: pre-test, intervention and post-test. The intervention consisted of 3 days per week of vigorous-intensity physical activity, 15 minutes per day, during 12 weeks. Data analysis was performed through SPSS 23 and significant improvements ( $\text{Sig} < 0.05$ ) were obtained in all the variables except for BMI. The physical activity program used in this study may be useful to improve body composition in 6-and 7-year-old children.

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# Anthropometrics characteristics and jumping ability in basketball

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## ABSTRACT

Aim is to analyze, evaluate the correlations between an anthropometric, functional nature by testing high-level basketball players according to the roles. Data were collected by 40 basketball players, divided into four groups: Big wing (n = 12; age = 18.5 + 1.4 y.), Centre (n = 12; age 18.1 + 1.1 y.); Playmaker/Guard (n = 8; age = 18.4 + 1.3 y.), Small wing (n = 8; age = 17.5 + .8 y.). Morphological data were height, weight, body mass index, Abalakov test. The explosive force was measured with the Bosco method: squat jump, counter movement jump, CMJ with arms, repeated jumps during 15 seconds. Bosco test gathered information provide an assessment of the jumping ability without connection to the specific skills while Abalakov test provide more specific information about the athlete's ability to use spring in specific conditions. In senior top level basketball, the anthropometrical profile of the players is directly related to specific variables which must be used to select talented athletes and to plan training in connection with specific role of the player in the game. Because of the reduced duration of the game episodes and to the increasing intensity of the game rhythm, the modern volleyball involve increasingly the alactacid anaerobe component. It is for all above reasons that top level volleyball needs always more muscular powerful athletes who are also fast and able to use high jumping abilities.

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# Correlation of anthropometrics characteristics and jumping ability in volleyball

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## ABSTRACT

Aim was to compare several anthropometrical, functional variables according to the role volleyball player studied by testing a group of senior high-level Data were collected by 40 players divided into four groups: side spikers (n = 12; age = 18.5 + 1.4 y.), centre spikers (n = 12; age 18.1 + 1.1 y.); setters (n = 8; age = 18.4 + 1.3 y.), universal spikers (n = 8; age = 17.5 + .8 y.). Morphological data were height, weight, body mass index, height with one arm outstretched and height with two arms outstretched. The explosive force was measured with the method of Bosco: squat jump, counter movement jump, CMJ with arms and repeated jumps during 15 seconds. With Bosco test gathered information provide an assessment of the jumping ability without connection to the specific skills while Vertec test provide more specific information about the athlete's ability to use spring in specific conditions. The player anthropometrical profile is related to specific variables which must be used to select talented athletes and to plan training in connection with specific role of the player in the game. Because of the reduced duration of game episodes and to the increasing intensity of the game rhythm, the modern volleyball involve increasingly the alactacid anaerobe component. It is for all above reasons that volleyball player needs always more muscular powerful athletes who are also fast and able to use high jumping abilities.

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# Physical and sports sciences between european research council and academic disciplines in Italy

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## ABSTRACT

Also in Italy the academic disciplines are changing to conform to areas, sub-areas and descriptors of European Research Council to have the same language within the European Union. This change concerns the funding of research and the recruitment of professors; currently in Italy they follow two different procedures. Furthermore, the physical activity and sports sciences are in two different scientific areas: the human and social sciences and the life sciences. The problem is therefore to choose a single scientific area or to stay in two areas, to define the declaration of the academic discipline with the protection of the professors' rights and the relationship with the ERC descriptors. The academic disciplines of Physical activity and Sport sciences field could be made by the following descriptors: Legal studies, comparative law, Health, ageing and society, Science and technology studies, Cognitive basis of human development and education, developmental disorders; comparative cognition, Personality and social cognition; emotion, Clinical and health psychology, Neuropsychology Comparative physiology, Ageing, Metabolism, Biological basis of metabolism related disorders, Cardiovascular diseases, Mechanisms of pain related disorders, Cognition, Behavioral neuroscience, Systems neuroscience, Medical engineering and technology, Health services, Health care research, Public health and epidemiology, Environment and health risks, Occupational medicine. In Italy its declaratory could be simplified: "Theories and methods of physical education, training, health and well-being" in Life sciences area. with the exception for some professors to stay in human and social sciences.

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# Pedagogical health attitudes and practices in gymnastics coaches


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## ABSTRACT

Gymnasts are exposed to intense training, frequent competitions, controlled diets and high levels of psychological distress in growing age. These aspects can negatively affect athletic performance and have health consequences. Consequently, if the coaches do not possess adequate knowledge and specific multi-disciplinary skills related to sports practice, young athletes can be exposed to different health risks. The aim of this study was to investigate the knowledge and attitudes of coaches and identify any training needs to enhance or preserve the gymnasts' well-being. The study was carried out in Italy and the sample is represented by 98 rhythmic gymnastics coaches of different levels. The data were obtained by using structured and anonymous questionnaires with open and closed answers administered through interview. Data processing was performed using MS Excel and STATA programs. Descriptive statistics were used for the analysis of data. Results have shown that 90% of the trainers have reported the need for more information and expertise to ensure the gymnasts' health. In conclusion, critical aspects emerging from this study show the need for tailored coach education and training that is based on scientific evidence to support professionals in acquiring specific expertise, in particular focused on their educational, pedagogical and long-term health responsibilities. **Keywords:** Gymnastics, Coaches, Health pedagogy.

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# Leadership in sport: Study with futsal coaches in "under 17" and senior levels


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## ABSTRACT

Introduction: The leader, in the coach role, must be able to relate and establish connections with his athletes, and contribute to the construction of an environment conducted by fair and clear norms that do not oppose the organizational culture of the club (Lopes, 2008; Mendo & Ortiz, 2003). Objective: The objective of this research was to identify the leadership behaviours of two coaches from different levels (Under 17 and Seniors), as well as the perception of leadership behaviours of their players. Methodology: The sample consisted of two coaches and 26 players, 12 of them in the "Under 17" level aged between 15 and 17 years, and 14 senior players, aged between 18 and 33 years. We used the Leadership Scale for Sports (LSS) / Leadership Scale in Sport, by Chelladurai & Saleh (1978). In this descriptive and inferential study, the Kolmogorov-Smirnov test was performed for the normality assumptions by choosing the parametric statistic and to analyse the differences between the variables, a Student-T test was performed. Five dimensions were analysed: Training Instruction, Social Support, Reinforcement, Democratic Behaviour and Autocratic Behaviour. The results obtained showed significant differences between the coach's self-perception and the players' perception, as well as their preferences and their comparison between levels. According to coaches, the dimension of training instruction and reinforcement, are the styles of leadership with more emphasis and the smaller is the autocratic.

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# Reaction of vegetative nervous system to loads in female long-distance runners with different fitness level

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## ABSTRACT

In the course of research it was established that the female runner A with the high degree of vegetative nervous system parasympathetic division activity and the low degree of activity of the central regulation mechanisms with the increased activity of subcortical nervous centers had considerable advantage over the female runner B with high activity of the vegetative nervous system sympathetic division. The high activity of the central control structures taking into account the increased vegetative nervous system parasympathetic division activity in the female runner A indicates the high reserve capacity of the organism and the economical energy consumption during the running loads. It was revealed that the dynamics of heart rate regulation after the functional tests with physical loads is manifested in the change of the vegetative nervous system parasympathetic division tonicity. It affects the time-period of respiratory waves manifestation. The female runner A with the high fitness degree demonstrated the decreasing time-period compared to the female runner B with the low level of fitness. **Keywords:** Vegetative nervous system, Evaluation of the reserve capacity of the organism, Female Long-Distance runners, Fitness level, Time-Period of the respiratory waves manifestation, Activity of the parasympathetic and sympathetic divisions.

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# Comparative analysis of myocardium repolarization abnormalities in female biathlon athletes with different fitness levels

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## ABSTRACT

The problem of studying the heart rate regulation is the most important in the assessment of functional readiness of female athletes to competitive activity. It was found that the main indicator of the fitness degree of the female biathlon athletes is clear consistency between the nervous and hormonal components of the heart rate regulation. Harmonization of both components of the heart rate regulation indicates high adaptive possibilities of the female athletes' organism to the loads. The heart rate regulation was studied with the help of the three-channeled electrocardiograph "Axion". "Varikard 2.51" was used to study the cardiointervalograms. It was established that myocardial repolarization abnormality in female athletes leads to misalignment between the two components of heart rate regulation and, as a consequence, to overtraining. It was revealed that the expressed misalignment between two components of heart rate regulation testifies to poor tolerance of physical loading by sportswomen. It was established that with the help of assessment of myocardium repolarization abnormalities in female athletes it is possible to estimate their functional reserves and effectively manage the training process, as well as to predict excessive physical loads at the early stages. **Keywords:** Myocardium repolarization abnormalities, Assessment of functional reserves, Female biathlon athletes, Fitness level, Components of heart rate regulation.

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# Perfectionism and engagement for practice of physical activity in Spanish adolescents

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## ABSTRACT

This research work describes the relationship between perfectionism believe and engagement attitudes towards practical of physical activity in adolescents. It is in the adolescent stage where the human being is constructed, where we integrates social, psychological and biological keys that allows us to define and understand adolescence and motivational components. This study involves 301 Spanish adolescents that practice regular physical activity. Questionnaires of physical activity, perfectionism and engagement have been administrated. Amongst others, we can highlight, the differences in doubts about actions and personal standars in favour of teenagers under 14 years old. And the other hand, the pattern of the boys is more related to the adaptive perfectionism, showing strategies more functionals, while the girls would be reflected in a maladaptive perfectionism showing strategies more disfunctionals. As engagement variables increased, functional perfectionism and practice of physical activity are higher. That is why, the present study reflect that practice of physical activity, involvement and development of functional skills in perfectionist beliefs are positively related. So, it is worthwhile to direct efforts to the application of adequate training strategies, which allow greater levels of learning and functionality in training, enhancing the dedication and maintenance of self-directed effort, through the teaching of sports practice.

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# Level of motivation and physical activity in primary education students

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## ABSTRACT

The study is aimed at determining the relationship between the index of physical activity and the motivation toward school tasks of Primary Education students. This topic has been ignored by educational research. To this end, a descriptive, quasi-experimental design was employed. The study involved 405 children aged between 9 and 11 years old from Primary Education schools in the Autonomous Community of Galicia (Spain). The instruments used for the study included PAQ-C and the Questionnaire on students' motivation toward their studies. Among the results, it should be noted that Primary Education students' motivation toward their studies is high, although the level of physical activity is relatively low for this age group. The level of physical activity is higher in boys than girls. The level of motivation, as well as achievement motivation, and causal attributions of achievement are higher in girls, but self-efficacy is higher in boys. The higher the level of physical activity practice, the higher the level of motivation toward their studies, but also the higher the achievement motivation, causal attribution and self-efficacy. Children with greater obesity levels have less motivation. According to these results, it is important to design actions that encourage the regular practice of physical activity, especially among girls. This should be done in different contexts, beyond the subject of Physical Education and in different populations. Interventions should take into account family and environmental factors, or the local environment and its resources.

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# Differences between students according to physical activity and their motivation, basic psychological needs and responsibility


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## ABSTRACT

The objective of the study was to analyze the differences in the physical activity, motivation, perception of competence, autonomy and responsibility in adolescents. For this, it was chosen a sample of 109 participants between 14 and 18 years old ( $M = 16.29$ ,  $SD = .95$ ), a questionnaire was used to assess motivation (BREQ-2), responsibility (PSRQ) and basic psychological needs (PNSE), next to a physical activity measurement instrument with count of steps (Omron, Walking Style One) or accelerometers (GT3X Actigraph). The instruments were taken daily for 7 days from 7:30 a.m. to 11:30 p.m., dividing the participants for analysis into "low active", "some active" or "active" and in terms of volume and intensity. The results indicate that the active group had higher values of physical activity than the rest of the groups. Related to the habits of each group in terms of intensity, the less actives groups have higher values during the week, unlike the active group, with no differences according to the gender. In turn, the active group presented higher score in intrinsic motivation, autonomy, competence and lower score of amotivation. In conclusion, it is necessary to promote physical activity for young people on weekends, enhancing the perception of autonomy and competence to obtain higher levels of motivation.

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# Men's triathlon correlation between the phases and result in the Olympic Games in London 2012

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## ABSTRACT

Introduction: Triathlon is a sport that is composed of the combination of three phases of competition. The most widespread triathlon is the Olympic, and is used in the Olympic Games, consists of swim, 1.5 km, bike 40 km and run 10 km. Aims: To determine the influence of the duration and order of the phases with the final result of the test in the male triathlon in the Olympic Games London 2012. Method: We analyzed the data of 50 athletes who finished. Results and conclusions: The final result is not determined either by the order of the phases, nor by the duration of these, the least influential phase has been Bike without correlation with final result; being the one that has occupied the most time with 53.76%; The most influential phase was the Run phase with  $r_s = .913$ ; and  $p = .000$ ; and  $R^2 = .833$  and with duration 28.93%. **Keywords:** Olympic triathlon, Olympic Games, Phases, Competition rules, Game's rules, Combined events.

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# Coach's verbal behaviour in competition and his psychological variables


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## ABSTRACT

The coaches' behaviour in competition is the way that they have to communicate with the players and undoubtedly can affect the performance of these in the game. This research was done with handball coaches' due to the court dimensions favor communication with players in competition. The current objective of the research was to analyse the relationships between different coaches' psychological variables, such as emotional intelligence and others framed within the theory of self-determination, as the basic needs, motivation and wellbeing perception, with their verbal behaviour in competition. The verbal behaviour was analysed in 17 games in 17 of these trainers obtaining a total of 8424 primary behaviours in competition. Coach psychological variables were classified using the average as a criterion to differentiate the scores in high, moderate or low. To analyse the differences in the percentages of the primary behaviours we executed contingency tables of frequencies and percentages calculating the Chi-squared statistic and comparing the "high" and "low" groups of coaches. The results show that psychological variables are related with their behaviour, being the "hi group" coaches who has a verbal behaviour in competition more focused on the improvement of the performance and in respect of the athlete. That results indicates that it may be important to work on this psychological abilities with the coaches to improve the players' performance. **Keywords:** Notational analysis, Verbal behaviour, Self-determination theory, Basic needs, Athletes' wellbeing, Emotional intelligence.

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# Effectiveness indices evaluating time in physical education, example in Motors Games

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## ABSTRACT

Time in physical education classes is very limited, and for many children and young people the only time dedicated to exercise and physical activity are physical education classes. Being of vital importance to your health, we believe that it is very important to use some indexes that guide us on the effectiveness of the time spent doing motor activity in physical education classes. We have proposed some effectiveness indexes relating planned time and used in different categories: information time, organization time, physical or motor activity time, and physical or motor activity time fulfilling the objective. For them we have evaluated sessions of Motor Games in the physical sciences and sport sciences. The results indicate that the proposed effectiveness indices can be very useful to better manage the motor activity time of the physical education classes and to improve the planning of the time in the contents of physical education. **Keywords:** Effectiveness indices, Physical education, Motor games, Teaching competence time, Academic Learning Time in Physical Education (ALT-PE).

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# Relational research of sport practice and use of videogames depending on gender in schoolchildren from Granada


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## ABSTRACT

Nowadays our society lives in a technological era that has led to a "technological sedentary lifestyle". It has caused a sedentary lifestyle in children that must be tackled by means of physical activity. This research aims to analyze the link between the perception the physical practice carried out by the children and the use of video games. This is a descriptive and cross-sectional research. A sample of one hundred and forty two students aged between 10 and 12 completed the CERV (Video Game-Related. Experiences Questionnaire) and a test to know the physical activity level they had. The results showed that primary school students who devote more than 3 hours per week to practice sport. The results obtained in the research show that most students do not have any problems with video games and use these to combat this problem. These results have been highlighted in the discussion section to promote the motivation of the students in physical education, the compromise with the physical practice and the promotion of a healthy and long-lasting lifestyle. Therefore, this research show the differences that exist on sport, depends on gender, as well as the necessary to use tools as active videogames to be on your side healthy lifestyles and avoiding stereotypes and sedentary lifestyles.

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# Motivation to exercise and physical fitness in old people participating in a hydro-gymnastics program

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## ABSTRACT

**Introduction:** Considering that hydro-gymnastics can contribute to a more active and healthy aging, the purpose of the present investigation was to evaluate the motivations and the impact of the hydro-gymnastics in the physical fitness of old people involved in a 16 weeks exercise program. **Methods:** Participants were 83 old people from both genders doing a community hydro-gymnastics exercise program. Motivations were assessed using the Sport Activity Motivation Questionnaire (Serpa & Frias, 1991) and physical fitness was evaluated using the Functional Fitness Test battery (Rikli & Jones, 1999), in two separate moments with a 16 weeks interval. The assumption of normality was checked using the Kolmogorov-Smirnov test. Wilcoxon test (nonparametric test for two paired samples) was used to compare the group in different time moments. **Results:** Regarding motivations to hydro-gymnastics the items that scored higher were: "need to exercise", "be with friends", "make new friends" and "fun". In terms of physical fitness variation, improvements in average were found in practically all fitness test between the 1st and 2nd evaluation, with significant statistical differences in 3 of the 5 tests ("get up and sit in the chair", "sit and reach" and "reach behind the back"). **Conclusions:** Old people's major motives to participate in hydro-gymnastics are related to the motivational dimensions of physical fitness, general affiliation and pleasure. Additionally, hydro-gymnastics exercise programs have a positive impact to improve physical fitness in old people and play a determinant role on health promotion and successful aging. **Keywords:** Ageing, Old people, Exercise, Motivation, Physical fitness.

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# The photographic representation of sports in the press. Case studies of the winning photographs in the World Press Photo competition in 2017

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## ABSTRACT

The media offer, on a daily basis, an idea of sport that influences citizenship's understanding of physical activity. In the case of photography, the visual narrative that appears in the press has a great aesthetic beauty and a show character, focusing mostly on the professional and competitive dimension. This research studies the winning photographs in the World Press Photo photojournalism contest, the most prestigious international photojournalism competition. In particular, the winning works of the 2017 edition were analysed from the perspective of content analysis, with a particular focus on formal and compositional aspects, including photographic technique, as well as the didactic values contained in these images. One of the most important conclusions of this research is the epic and elite-focused dimension of the activity in the most influential photos published in the press. The message of these images associates sport with the professional elite and not with everyday activity or healthy lifestyle habits.

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# Emotional Intelligence in university teachers of Physical Education

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## ABSTRACT

Currently, the teaching profession is one of the most affected by stress due to the high load of tasks, continuous contact with students, among others, which are generating erosion in the profession, hence the importance of developing high levels of Emotional Intelligence. This is so important because it gives the subjects the ability to deal optimally with frustrations, know how to act appropriately to the various situations that arise in the classroom, as well as the ability to communicate and listen, adapting to different contexts that arise in the classroom. These factors are necessary to ensure that a correct teaching-learning process is promoted. Through this research we seek to know the mental state of university teachers by developing a cross-sectional and descriptive study. As a data collection instrument, the TMMS-24 was applied to a sample of Physical Education teachers who teach at the university. The results showed that the subjects who teach this area have good levels of empathy with their students, as well as the ability to empathize and understand them, so they have a good capacity to control their feelings, which brings them mental well-being, that is reflected in the job satisfaction they experience.

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# Yo-Yo intermittent recovery test level 2: Cardiorespiratory response and performance in professional soccer players, comparison between under 20 and over 20 years old players

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## ABSTRACT

In soccer, aerobic fitness is associated with sports performance. Different studies have found that soccer requires players to repeatedly perform high intensity actions with brief recovery periods. Therefore, it has been proposed to measure the specific aerobic fitness of a soccer player through an intermittent test. Most studies compare cardiopulmonary responses and aerobic fitness with performance in a field test, without direct measurement of oxygen uptake. The aim of this study was to compare the older players (O20) and the younger ones (U20) of the Colombian Professional National League 2015 champion team in cardiopulmonary responses and performance to Yo-Yo Intermittent Recovery Test level 2 (YYIR2). Nine O20 and nineteen U20 were voluntarily evaluated. All subjects were monitored for heart rate and a continuous breath-to-breath recording was executed while they performed the YYIR2. We used the Student T test and Pearson correlation for the statistical analysis. It was observed a significant difference in distance covered and speed in the ventilatory threshold between U20 players ( $280 \pm 85,3\text{m}$ ) ( $16,6 \pm 0,3\text{km.h}^{-1}$ ) and O20 players ( $373 \pm 113,1\text{m}$ ) ( $17 \pm 0,3\text{km.h}^{-1}$ ). Only in the U20 group, it was observed a significant correlation between the variables oxygen uptake in the ventilatory threshold (V).

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# Parental involvement in children's sport's participation in football


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## ABSTRACT

**Introduction:** The involvement of parents in their children's sports practice plays an increasingly important role at the beginning of the 21st century. It is an ecological involvement based on the relationship between several entities involved in this process (children, parents and clubs). **Objective:** The purpose of this study was to know if the participation of parents in children's sports practice (in football) varies with the literacy level (no academic graduation / with academic graduation). **Sample:** A total of 110 adults (71 with no academic graduation / 39 with academic graduation) **Methodology:** The instrument used was the questionnaire on Parental Involvement in Sport (PIS) translated into Portuguese reality by Teques (2009). To evaluate the reliability of the instrument, we used the Cronbach Alpha which gave us a value of 0.92 and is therefore considered reliable. The Kolmogorov-Smirnov test was used to study the sample distribution, and the Mann-Whitney statistical test was used to verify the differences between groups. **Results:** The results showed that from the 12 categories under study, only significant differences (0.049) were found, with a higher average (20.59 against 19.73) by parents with higher literacy in the category "Parental time perception and energy" that refers to the time and energy that parents have in communicating with their children about their practice, transportation and presence in training and competitions and support in sports. **Conclusions:** The conclusions showed that the literacy variable (no academic graduation / with academic graduation) was not determinant in the parental involvement in children's soccer practice.

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# Concordance between direct and indirect VO<sub>2</sub>max in under 20 soccer players


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## ABSTRACT

The aim of this study is to establish the concordance between direct and indirect measurements of VO<sub>2</sub>max in laboratory and field tests. Methods: Fourteen National-level, under 20 years old (U20) soccer players participated in the study. The physical characteristics are (mean±sd): age 18.4±1 years old and body mass, 72.4±4.2 kg and height, 180±7 cm. Laboratory test was performed in treadmill, running to exhaustion. The field test was performed a week later, the Yo-Yo intermittent recovery 1 test (YYIR1), consist of 2×20m shuttle runs at increasing speeds, interspersed with a 10-second period of active recovery. Both tests were equipped with an ambulatory gas exchange measurement device and a short rate telemetry heart rate monitor. Results: The concordance correlation coefficient between maximal heart rate (HR<sub>max</sub>) achieved in treadmill and HR<sub>max</sub> in YYIR1=0.357; for direct VO<sub>2</sub>max in treadmill and direct VO<sub>2</sub>max in YYIR1=0.638; estimate VO<sub>2</sub>max in treadmill and estimated VO<sub>2</sub>max in YYIR1=0.142; estimated VO<sub>2</sub>max and direct VO<sub>2</sub>max in treadmill=0.229; estimated VO<sub>2</sub>max in YYIR1 and direct VO<sub>2</sub>max in YYIR1=0.283. Conclusions: The results suggest that there is no concordance between direct and indirect measurements of VO<sub>2</sub>max and HR<sub>max</sub> in treadmill and YYIR1 test. So it could be concluded that both, the treadmill protocol and YYIR1 test, are not good predictors of indirect VO<sub>2</sub>max and HR<sub>max</sub> achieved in those tests, therefore can not be applied between them. **Keywords:** Intermittent exercise, Adolescent, Soccer players, Oxygen consumption, Yo-Yo intermittent recovery 1 test.

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# Capoeira: A study about Brazilian sport

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## ABSTRACT

Capoeira is one of the main sports from Brazil, in the face of this phenomenon, our research problem consists of reflecting on what are the characteristics that this sport expresses in the productions of knowledge in Physical Education magazines? The production of knowledge on this theme addresses a wide range of look at this sporting manifestation of Brazil. Therefore, the objective is to analyze the studies on capoeira as a sport from Physical Education magazines. It is a descriptive research, with a qualitative approach (MINAYO, 2012). To analyze the data we will use Bardin (2011), which works by breaking up text into units and categories for later regrouping. Our data were collected with 85 articles from 8 Brazilian journals, related to socio-cultural themes of Physical Education. From this database, we made a cut to analyze articles that deal with capoeira - 52%, totaling 45 articles. The result showed that capoeira as a sport in the scientific articles is interconnected to the school environment in Physical Education classes, having this premise two faces, the first being capoeira as content of Brazilian matrix with a rich possibility of its methodological treatment in Physical Education school, as well as other studies that point to capoeira as a competition in clubs based on its two aspects: regional and Angola. Therefore, the historical construction of the Brazilian popular ideology in the studies is verified, since, both privilege the capoeira as the main landmark of the Brazilian culture.

**Keywords:** Brazilian Contents, Sport, Capoeira.

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# Offensive performance in soccer through lag sequential analysis: The case of a team in the Spanish second division-A

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## ABSTRACT

We evaluated the attacking play of a Spanish Second Division-A soccer team (10 league matches). The observational method of Lag Sequential Analysis was used, with exhaustive mutually exclusive categories based on set criteria. From a retrospective perspective, mean length values were detected for the patterns of the LW, RMIF and GK players (max-lag = -3) ; short for LMIF (max-lag= -1), LI and LC (max-lag = -2) and long for FOR (max-lag = -5) and LB, RC and RW (max-lag= -4). The prospective perspective revealed mean lengths for RB, RC and CI (max-lag = 3) and short for GK, RMFI and FOR (max-lag = 2). The long patterns correspond to the SSTR, RW, LW and LB players (max-lag =4) and MCI (max-lag =5). The greater relationships between players, in both perspectives, were generated between the full-backs (RB and LB) and the wingers on their side (RW and LW). For the centre-backs (RC and LC), the priority relationships are with the other defensive players on their team. The midfielders (RMIF and LMIF) did not show any bifurcations, complementing each other, since when one acts in the retrospective perspective, his partner does so in prospective. It was observed that the chances of winning grow as the number of shots at goal increases, or the chances of losing decrease. We confirm that Lag Sequential Analysis provides detailed, useful information about attacking play in soccer.

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# High level performance in world judo circuit: Notational analyzes of combat phase by weight categories

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## ABSTRACT

This study analysed the time dedicated in the different phases of combat in all male weight divisions. For this, we analysed 548 combats. This time-motion analysis was performed through a previously-validated protocol. The main results indicated a significant effect for approach ( $p \leq 0.001$ ), where the Half-Middleweight division showed a higher frequency vs. the others, except Half-heavyweight. For attack, Half-Lightweight showed a higher frequency versus Heavyweight ( $5.7 \pm 4.8$  vs.  $4.6 \pm 3.5$  attempts;  $p = 0.004$ ). Extra-Lightweight showed a lower frequency of defences vs Half-Lightweight and Lightweight ( $2.2 \pm 2.6$  vs.  $3.8 \pm 3.2$  vs.  $4.4 \pm 3.7$  attempts; ( $p \leq 0.047$ ). Extra-Lightweight also showed a lower frequency of standing to ground transition vs. Half-Lightweight, Lightweight, and Half-Middleweight ( $p \leq 0.048$ ). For groundwork, Middleweight showed a lower frequency of actions vs. the other divisions, except Heavyweight ( $p \leq 0.001$ ). for the pause the Heavyweight division showed a lower frequency vs. Lightweight and Half-Middleweight ( $6.7 \pm 4.2$  vs.  $9.9 \pm 6.2$  vs.  $10.2 \pm 6.3$  times;  $p \leq 0.019$ ). In conclusion, our results can be applied to planning and prescribing specific training for the different weight divisions, taking into account the specific frequencies obtained in the combat phases. For lighter fighters, we recommend training focused on approach speed and gripping. For heavier weights, the training should be differentiated for muscle power development and groundwork combat.

**Keywords:** Martial arts, Time motion studies, Athletic performance, Task performance and analysis.

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# The Effect of aerobic and anaerobic training with melatonin consumption on the expression of apoptotic genes BAX and BCL2 myocardial in rats after ischemic reperfusion

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## ABSTRACT

The present research aims to examine The Effect of aerobic and anaerobic training with melatonin consumption on the expression of apoptotic genes BAX and BCL2 myocardial in rats after ischemic reperfusion. In this study, Wistar rats (n=38) were used weighing approximately 200-250 g with two to three months old. The study was conducted using Stroke (n=7) and healthy (n=7) rats to determine the stroke of isoprenaline injection; and left ventricular stroke was confirmed after the isoprenaline injection with the Terry Chromasone technique. Then, the rats were divided into 6 groups of aerobic (n=4), anaerobic (n=4), aerobic with melatonin (n=4), anaerobic with melatonin (n=4), Melatonin (n=4) and control (n=4). The aerobic and anaerobic training was performed with three sessions per week for One-month. Also, melatonin gavage (10 mg / kg) was applied to melatonin groups. After two rest days, all rats were injected with isoprenaline at 24 hours intervals. However, control group rats were only injected with isoprenaline. Data was analyzed using independent T, one way ANOVA. The results of this study showed that aerobic and anaerobic training and melatonin alone had a negligible effect on BAX and BCL2 genes expression, However, aerobic and anaerobic training combined with melatonin was able to reduce and increase the expression of the BAX and BCL2 genes, respectively. Therefore, it seems that this intensity and duration of training with melatonin consumption can provide the anti-apoptotic routes of training to minimize the effects of acute stroke.

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# Benefits of physical activity for children with autism


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## ABSTRACT

Physical activity has a positive benefit on the quality and lifestyle of people, which means that its practice and influence on individuals with Autism Spectrum Disorder may be essential. The aim of the study was to optimize the relationship between them and the rest of the people with the same age at school, daily life and family and to reduce some of the typical repetitive behaviours of this disorder. We used a case study with a structured observation, the questionnaire was giving over a period of 5 months, from September 2016 to February 2017, to six subjects. The selected sample was school children aged 8 to 17 years old diagnosed with Autism Spectrum Disorder. The students show evident physical and psychologist progress, but unequal due to the big cognitive differences; not all of them reach social advances. Physical exercise seems to improve the individual's body and social skills, although this conclusion should be confirmed with researches with a higher number of individuals and a longer follow-up. **Keywords:** Autism Spectrum Disorder (ASD), Physical activity, Repetitive behaviors.

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# Biomechanical analysis of four indoor and outdoor triple jump World Championship finals: Sopot 2014, London 2017 and Birmingham 2018

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## ABSTRACT

The ecological methodology of observational analysis for athletics competitions through 2D studies without interfering with the athletes, aims to explain the variables that affect the achievement of an official time or distance. In this study, four triple jump finals of different World Athletics Championships were analysed: IAAF World Indoor Athletics Championships Sopot 2014 (men and women), IAAF World Athletics Championships London 2017 (men) and IAAF World Indoor Athletics Championships Birmingham 2018 (women). 156 valid jumps were analysed (70 from men and 86 from women), from a total of 44 athletes (20 male and 24 female). To analyse each jump, 2 high speed cameras (Casio, Japan) were used, recording at 300 Hz. They were placed at the stands perpendicular to the runway and sand pit, and used VDM (video distance measurement, Seiko, Japan) for the official measurement system. For each jump, 27 variables of space, time, and velocity were measured, which allows for a description of the characteristics of each one of them. It is concluded that the traditional classification of the jumps regarding the distance ratio (predominance of the hop, jump, or balanced) should be revised, as well as that the variables referred to velocity and time better explain the achieved effective distance. **Keywords:** Athletics, Triple jump, World Championships, Biomechanical analysis.

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# Influence of physical activity practice in aggression-victimization in students

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## ABSTRACT

Bullying is one of the endemic ills that extend throughout the educational period in recent times. The objective of this study is to determine the relationship between the practice of Physical Activity and bullying in schoolchildren. Using a questionnaire translated into Spanish and validated by expert judgement. In terms of results, there are statistically significant differences between children performing physical activity and bullying. Highlighting the main conclusion that the situations of bullying fluctuate according to the age and practice of Physical Activity performed. **Keywords:** Bullying, Physical activity, Physical education, Family and competition.

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