CRNOGORSKA SPORTSKA AKADEMIJA • MONTENEGRIN SPORTS ACADEMY •

MSA PODGORICA 2014

MSA Conference 2014

11th International Scientific Conference on

Transformation Processes in Sport

SPORT PERFORMANCE

BOOK OF ABSTRACTS

3rd - 6th April 2014, Podgorica - Montenegro

11th International Scientific Conference
on Transformation Process in Sport "Sport Performance"

MONTENEGRIN SPORTS ACADEMY

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BOOK OF ABSTRACTS

Edited by:
Bjelica, D., Popovic, S., Akpinar, S.

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Welcome

Dear colleagues and friends,

on behalf of the Montenegrin Sports Academy (MSA), I am aware of the distinguished honor to announce Podgorica, a gorgeous city at the crossroads of several historically important routes, as the host city of the 11th International Scientific Conference on Transformational Processes in Sport, entitled "Sport Performance". I also wish to welcome academicians and students from all over the world on April 3rd to 6th, 2014.

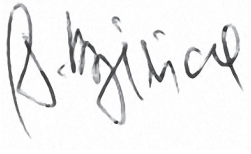
Since the first event in Bar in 2003, the MSA Conference has been a huge success, providing a great opportunity to promote and develop Sports Sciences through networking, study and research. This year, under the traditional patronage of the Ministry of Science and the Ministry of Tourism and in collaboration with Faculty of Sport and Physical Education at University of Montenegro as well as Pan Sport Medical, I.M.A.S., European College of Sports Science, Faculty of sport and Physical Education at University of Novi Sad and Faculty of sport and Physical Education at University of Sarajevo, we have put together a high profile scientific programme with plenary and parallel sessions (oral and poster), accompanied by social events and free time to discover and enjoy the amazing city of Podgorica. The upcoming conference aims to contribute to the development of global approaches in the different specialized areas and to provide an even broader view of Sports Sciences. Hopefully, sport scientists will be able to find the best paths through the field.

We are confident you will enjoy the whole conference experience, the sharing of knowledge and contribution this will make to our institution and to our field of study and work.

Podgorica is an open city: open to the various people, to various cultures, to the world and to science. What better place in which to join forces in developing sport performances.

See you to Podgorica!

Prof. Duško Bjelica, PhD
Conference President



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Plenary Presentations

ABOUT CULTURE OF EXERCISING – FROM WHAT WE KNOW TO WHAT WE DO.

Milošević, Z.[1]
[1] *University of Novi Sad (Novi Sad, Serbia)*

Introduction: The oasis of a man's freedom – "free time" is more and more the scene of work related coercion and "culture" of spending, as well as of diverse forms of man's dealing with "oneself" – from the need for creativity and creative work to satisfaction with passive way of life. One of them is the culture of exercising, which has travelled a huge "developmental" path – from ritual magical and truculent warrior-like, to recreational and fun (hedonistic) character of the culture of living. The objectives of the study that analyses contemporary needs of citizens of Vojvodina for physical activity have been presented in the context of historical heritage and comparative indicators of the European and wider surroundings. Methods: Several methods have been applied in the paper depending on the nature of the study focus, as follows: historical method for the analysis of nature of culture of exercising in ancient Greece and in the territory of contemporary Autonomous Province of Vojvodina from the beginning of the 19th century; survey method (poll conducting technique) for collection and analysis of data on physical activity of the population of the Autonomous Province of Vojvodina and theoretical analysis method as the supplement to the above-mentioned methods, primarily in the analysis of previous studies and comparative overview of indicators of physical activity in the European environment and the world. Results: The results of the study of the scope of exercising, motivation, and obstacles, and in particular of impact of demographic factors on physical (sports) activity in the Autonomous Province of Vojvodina and in the European Union Member States based on methodology of statistical monitoring, identify homogenous groups of examinees that have numerous shared characteristics. The established groups contribute also to clarification of the relationship between physical activity and sedentary behaviour of the population of Vojvodina and to better insight into connectedness of these properties of complex behaviour with the orientation of examinees towards volunteering and involvement in organised sports and recreational activities. Discussion: The study has confirmed the assumptions on health as the leading category in the value perception of culture of exercising but also on the absence of expected level of physical activity in almost all examined sub-samples, namely on the existence of the link between the level of population's physical activity and a specific set of direct and indirect connections of exogenous and some endogenous factors defined in the model of physical (sports) activity of the population of Vojvodina. Some of the above-mentioned factors point to moral and economic dilemmas of examinees, which also implies the fact that "the gap between shat we know and what we do is the largest in the field of physical activity" (NCChDPHP, 2001). References: Bečkerečki G (1807). Художество к продуженију живота челавечаскаго ("The art of prolonging human life"), Buda. National Centre for Chronic Disease Prevention and Health Promotion (2001). Healthy Aging: Preventing Disease and Improving Quality of Life Among Older Americans, Atlanta. Maksimović N, Milošević Z (2008). Stil života mladih Vojvodine, Novi Sad, Fakultet sporta i fizičkog vaspitanja, Savez za školski sport i olimpijsko vaspitanje grada Novog Sada. Special Eurobarometer (2010). Sport and physical acivity (translation), nr. 334., European Commission.

DO LEFT-HANDERS HAVE A TACTICAL AND/OR PERCEPTUAL ADVANTAGE IN SPORT?

Akpinar, S.[1], **Bicer, B.**[2]
[1] Nevsehir Haci Bektas Veli University (Nevsehir, Turkey), [2] Hatay Mustafa Kemal University (Hatay, Turkey)

Introduction: Whereas left-handers represent about 10-12% of the general population (Caliskan & Dane, 2009; Perelle & Ehrman, 1994), they are found with disproportionately more frequency in interactive sports (Loffing et al., 2010). There are mainly two possible hypotheses to explain this phenomenon; innate superiority hypothesis (based on the perceptual and neuropsychological advantage) and negative frequency hypothesis (players having less experience with left-handed opponents (Faurie & Raymond, 2005). We tried to review the studies and make a conclusion about which parameter identify the advantage of left-handers in sport. Method: A literature review has been made to obtain the studies regarding this topic. These studies were obtained from various online databases. Basically, five databases were searched, web of knowledge, pubmed, Google scholar, Taylor and Francis and Ebsco Host databases. Results: The total of 18 studies was found among those databases. These studies either support the view of negative frequency hypothesis or innate superiority hypothesis. Some of them support both hypotheses. Discussion: Overall, studies reported some advantage of left-handers in many interactive sports. Some authors suggested that this advantage is due to the relative scarcity of left-handers compared with right-handers. Thus, when a right-handed player plays against a left-handed player, he or she may have a difficulty to adjust his/her tactical skills during the game. For instance, tennis players normally try to hit the ball to their right irrespective of their opponent's handedness (Loffing et al., 2010). This will surely give an advantage to left-handers as they will return the ball with forehand technique. Apart from the tactical advantage for left-handers, authors also reported perceptual and neurological advantage for them (Cherbuin & Brinkman, 2006). Cherbuin and Brinkman (2006) concluded that left-handers' brains are more symmetrical with larger and more efficient connections between the two hemispheres. Thus, they are better at processing information across the two sides of the brain. In conclusion, left-handers advantage in sport stem from both perceptual and tactical superiority. References: Caliskan E, Dane S (2009). Laterality, 14(2), 205-13. Perelle IB, Ehrman L (1994). Behav Genet, 24(3), 217-27. Roi GS, Bianchedi D (2008). Sports Med, 38(6), 465-81. Faurie C, Raymond M (2005). Proceedings of the Royal Society of London B, 272, 25–8. Cherbuin N, Brinkman C (2006). Neuropsychology, 20(6), 700-7.

Oral Presentations

Biomechanics

THE CONNECTION BETWEEN SEDENTARY WAY OF WORKING WITH LOW BACK PAIN.

Mahmutovic, E.[1], **Dolicanin, Z.**[1], **Nurkovic, J.**[1]
[1] *State University of Novi Pazar (Novi Pazar, Serbia)*

Introduction: Low Back Pain (LBP) covers problems in lumbar spine with frequent manifestation of symptoms in area of legs. Incidence is about 80% making it the most frequent pathologies of the locomotors apparatus. LBP is a big medical, social and economical problem. Along with technological development resulting sedentary lifestyle, the matter of prevention and rehabilitation of patients suffering from LBP is becoming more popular. Methods: The project covered 70 employees at SUNP who were in a sitting position during working. Connection between occurrence of LBP and sedentary way of working was analyzed. There were 54,3% (38/70) men and 45,7% (32/70) women with the average age of 39,7±11,8, and 8,3±8,2 years of working. The information about body position and time spent during working day and problems in lumbar spine were gathered by carrying out a survey. The information was processed by using standard descriptive statistic methods. Results: Presence of LBS was diagnosed at 51 (72,8%) employees, 27 (52,9%) of which are men and 24 (47,1%) women. 35% reported pain during the first 4 years of working while the other 65% reported pain after that period. Processing of data indicates the statistic significance in connection between LBS and sedentary way of working ($p<0,05$). Discussion: Pinington (1) reports that out of 522 patients 307 (58%) were classified into mechanical syndromes while other 215 (42%) were not, hence one of the factors was sedentary way of working being flexion posture. Donelson (2) discovered that 47% of patients with lumbar pain with or without radiating pain shows therapeutic direction towards finnal sagital motion - 40% prefers extension, but 7% flexion. Wiliams, Hawley and McKenzie (3) report that during the course of 24-48 hours two groups with back pain and radiating pain were encouraged to sit in lordotic and kyphotic posture. The group with lordosis had significantly mitigated leg and back pain, which also centralised compared to the group in kyphotic position. Harison (4) also realised this and concluded that retention lordosis, inclination, minimal anterior translation of the head reduces sitting stress and increases comfortability. By avoiding long-term sedentary lifestyle in non - ergonomic conditions will significantly affect the LBP prevention. Proper (ergonomic) working conditions are primary factors in prevention and treatment of LBP. References: McKenzie R (2003). The Mechanical Diagnosis & Therapy. Spinal Publications. New Zealand, 1, 67-168. Williams M, Hawley A, McKenzie A (1991). A Comparison of the Effects of Two Sitting Postures on Back and Referred Pain. Spine, 10, 1185-91.

Coaching

FOOTBALL COMPARATIVE ANALYSIS OF FAST ATTACK BEGINNINGS, BETWEEN REAL MADRID AND INTER MILAN.

Barbosa, A.[1], **Sarmento, H.**[2], **Neto, J.**[2], **Anguera, MT.**[3], **Campaniço, J.**[4]
[1] *Institut Nacional d'Educació Física de Catalunya (Lleida, Spain)*, [2] *Instituto Superior da Maia (Avioso São Pedro, Portugal)*, [3] *University of Barcelona (Barcelona, Spain)*, [4] *University of Trás-os-Montes e Alto Douro (Vila Real, Portugal)*

Introduction: This study intends to identify the significant repeated and regular behavior, emerging from the diversity of game actions, determining the behavioral variables that define and characterize the Offensive Game Methods, in fast attack, in two teams that share the same coach and technical team. The selected teams are International Milan (IM) and Real Madrid (RM). We seek for relation between the beginnings (criteria conducts) and (conducts behaviors), developments, pace of the game, the zones of the field, the interaction contexts. The results allows us to better understand the similarities and differences between them. Methods: The design used in the present study was based on an observational methodology for data collecting. The sample included 12 football games (per team) of domestic competitions, from the sports season 2009/2010 IM and 2010/2011 RM. The matches were analyzed through systematic observation, using a specific instrument to observe the offensive process (Sarmento, 2012). The collected data were introduced in the SDIS-GSEQ program for Windows (version 5.1). The determination of the motivational value of transitions between the different behaviors considered as criteria categories and object occurred considering the pattern sequence up to the transition limit of 5. The analysis of data reliability was calculated by intra and inter observer conformity, and values above 0.89 for all criteria were achieved. Results: The teams have different patterns, attending to the studied beginnings. Every beginning has a set of behaviors that emerge from the diversity of actions, except in the conduct criteria interception of the ball of IM. Relatively to the beginning of fast attack using actions where the players can be immediately pressed by the opponent, teams were less systematic, compared with the beginning of fast attack using actions where the players can´t be immediately pressed by the opponent. Discussion: We verified the specificity of the different beginnings, in two different teams, in fast attack. The beginnings where the players can be immediately pressed by the opponent, makes us think about the opponents affecting the systematization of behaviors, conditioning the existence of results. We think that the teams use the beginnings without direct intervention of the opponent on the ball, to start the offensive process in model order applying actions of general knowledge by team players. References: Sarmento H (2012). Análise do jogo de futebol Padrões de jogo ofensivo em equipas de alto rendimento: uma abordagem qualitativa. Tese de Doutoramento, Universidade de Trás-os-Montes e Alto Douro.

PATTERNS OF PLAY IN THE "POSITIONAL ATTACK" AND "COUNTERATTACK" OF FC BARCELONA FOOTBALL TEAM - A MIXED METHOD APPROACH.

Sarmento, H.[1,2], **Pereira, A.**[2], **Campaniço, J.**[3], **Anguera, MT.**[4], **Leitão, J.**[3]
[1] *Maia High Institute (Maia, Portugal),* [2] *Polytechnic Institute of Viseu (Viseu, Portugal),* [3] *University of Trás-os-Montes and Alto Douro (Vila Real, Portugal),* [4] *University of Barcelona (Barcelona, Spain)*

Introduction: This study aimed to detect and analyse regular patterns of play in FC Barcelona (BA) football team during their offensive phase, through the combination of the sequential analysis

technique and semi-structured interviews to experienced first League Portuguese coaches. Methods: A mixed method design (QUAN/QUAL) was used in this study (Anguera et al., 2012). In a first stage 12 games of the F.C. Barcelona were coded using the observational instrument developed by Sarmento et al. (2010). The data were analysed through sequential analysis with the software SDIS-GSEQ 5.0. Based on the detected patterns, semi-structured interviews were carried out to 8 expert high-performance football coaches and data were analysed through the content analysis technique using the software Nvivo9. Results and discussion: In total, 139 attacks were analyzed. The team of BA performed 65 counterattacks and 74 positional attacks, with a mean of 4,2±3,06 and 17,2±6,96 passes per possession (respectively), and a mean duration of 7,8±2,58 and 29,7±12,02 seconds (respectively). Through the use of sequential analysis, it is possible to set behavioral patterns that occur in the football game with a greater probability than mere chance. There is a set of behaviors that seem to induce different efficiencies depending on the adopted style of play. Thus, while on the counterattack, the dribble, the crossing, and the diagonal pass maintain an excitatory relationship (Zscore ≥ 1,96) with the goal, in positional attack, only the diagonal pass to the back maintain an excitatory relationship with the goal. On the other hand, in both styles of play, the long pass and the pass to the front activates an ineffective end. The offensive sequences that ends with a shot on goal and with a goal scored are activated (Zscore ≥ 1,96) by zones of the offensive sector (zones 10, 11 and 12) or the by the central zone of the midfielder offensive sector (zone 8). Through the performed content analysis we could conclude that coaches interpret the detected play patterns based their opinions, mainly, in tactical-strategic and tactical-technical aspects, and in the specific characteristics of the players on those teams. References: Anguera MT, Camerino O, Castañer M (2012). Mixed methods procedures and designs for research on sport, physical education and dance. In O. Camerino, M. Castañer & MT Anguera (Eds.), Mixed Methods Research in the Movement Sciences (pp. 3-28). Oxon: Routledge. Sarmento H, Anguera MT, Campaniço J & Leitão J (2010). Medicina (Kaunas), 46(6), 401-7.

OPINIONS OF YOUNG FOOTBALL PLAYERS ABOUT THE COACH, TEAM-MATES AND FOOTBALL.

Osmani, A.[1], **Mamaj, D.**[2], **Metaj Z.**[1]
[1] University Education Institution AAB (Prishtina – Kosovo), [2] KEC-Primary School Third Millennium (Prishtina, Kosovo)

Introduction: In this research the authors used a questionnaire of 8 questions of closed type, and 2 questions of open type. The basic aim of the research is to understand what young football players feel about their coach, team-mates and football as a sports game. Methods: The research involved 54 male football players who have active trainings in football clubs FC "2 korrik" in Prishtina. They are at the age between 14 and 16 and have active training experience of 2 years at least. After explaining the point of the research to the respondents, the inquiry that was of an anonymous type began. Answers to the questions in the questionnaire are presented basic statistic indexes: central and dominant value. Opinions of the respondents are represented through frequencies by chi-square test. Results: The results of the answers are represented in 2 tables and for better exposition they are presented in 8 graphics. The received answers indicate that it is the positive feeling that prevails among the football players with regard to their coach, team-mates and the football game. Particularly interesting answers are given to the two questions of open type. Discussion: On the base of the obtained answers, the results of this research show that the inquired football players have a positive opinion about the coach – his regularity, professional work and proper treatment of the players. Their opinion is positive towards their team-mates as well (coming on time for training, collaboration

and friendship). In addition, the football players have a positive attitude towards football – desire for training, contests and expectation for a high success. References: Creswell JW (2009). Research Design: Qualitative, Quantitative and Mixed Method Approaches. Sage. Miller TI, Miller KM (2000). Ankete za građane: Kako anketirati građane, kako se služiti anketama i što one znače. ICMA, Washington. Murphy-Black T (2000). Questionnaire. The Research Process in Nursing. Blackwell Science, 301–15. Rea LM, Parker RA (1997). Kreiranje i stvaranje anketnog iztraživanja: kompletan vodič. Jossey-Bass, San Francisco. Singleton AR, Straits BC (2005). pproaches to Social Research. Oxford University Press, New York. Vekselberg, V. (2004). Priručnik za anketiranje građana. The Urban Institute, Zagreb.

MANCHESTER UNITED, INTERNAZIONALE MILANO AND FC BARCELONA – WHAT´S DIFFERENT?

Sarmento, H.[1,2], **Pereira, A.**[2], **Campaniço, J.**[3], **Anguera, MT.**[4], **Leitão, J.**[3]
[1] Maia High Institute (Maia, Portugal), [2] Polytechnic Institute of Viseu (Viseu, Portugal), [3] University of Trás-os-Montes and Alto Douro (Vila Real, Portugal), [4] University of Barcelona (Barcelona, Spain)

Introduction: Although football is considered a universal language, there are particularities that characterize the way it is practiced in several countries. Overall, the style of English football is known as “Kick and Rush”, the Italian as “Catenaccio”, and the Spanish as “Fúria Española”. This study aims to understand which aspects in the characterization of playing styles of the different teams (Manchester United, Internazionale Milano and Barcelona) are the most important for coaches. Methods: We chose 8 expert high-performance Portuguese first league football coaches (Coach 1 to 8) with a professional experience (as first coach) ranging from 2 to 30 years (14.9 ± 8.6 years). Semi-structured interviews were carried out and the data analyzed trough content analysis using the software QSR NVivo 9. Results and discussion: The data were grouped in four mainly categories: i) game culture/identity (n=18); ii) strategical-Tatical factors (n=17); iii) player characteristics (n=14); iv) coach philosophy (n=14). When analyzing the specific characteristics of the three teams, the coaches mainly referred to aspects related to a playing/identity culture of each team that is influenced by their history, their tradition and a set of values underlying the different clubs. Our coaches described each team’s differences based on strategic and tactical aspects. Overall, all coaches recognized the quality and merit with which Barcelona plays, basing their views on a ball possession that is very difficult to equal by any other team in the world. In contrast, Manchester United plays in a way where strong ball possession is primary, but also their ability to play quickly and offensively, through a more “direct” playing style. Finally, Inter Milan’s style is defined essentially by their defensive tactical rigor and the capacity to develop effective offensive sequences of quick attacks and counterattacks. The players that form these teams are only one element that can explain the different ways of playing. As described elsewhere (Kuper & Szymanski, 2010), our coaches feel that the strong and stable economic situation these teams have allows them to have players who are perfectly suited to the game’s model, whilst also contributing to an enrichment of the game shown through extremely high playing skills. The interviewees also mentioned the philosophy hat the coach possesses is another aspect that can also influence a team’s playing style. Understanding the factors that contribute to the different playing styles in different countries and teams may provide useful information for coaches who want to more efficiently. References: Kuper S, & Szymanski S (2010). Why England lose & other curious football phenomena explained. Fulham: HarperSport.

CRITICAL MOMENTS IN THE BMX RACE AND THEIR IMPACT ON PRESTART CONDITIONS.

Hrebickova, S.[1], **Pacholik, V.**[1], **Mach, J.**[1], **Labounkova, R.**[1]
[1] *Masaryk University, (Brno, Czech Republic)*

Introduction: Critical moments in relation to personality traits play an important role in the prestart conditions in their respective heats and the whole race. The importance of the start of the performance has been described in several studies, as well as the need for concentration on the performance and characteristics of the athletes, psychological impact on response variability and change in the course of performance (Carlsted, 2013, Mateo, 2012). Several studies have operated with the importance of monitoring heart rate as an indicator of pre-competitive anxiety in BMX (Mateo, 2012). Methods: The aim of study was to describe critical moments in the BMX (Bicross) race from the perspective of competitor and compare them with the personality traits of competitors. Participants was elite athletes (n =10, age 18+ years). The study based on semi - structured interviews and SPARO test – monitoring of basal psychical autoregulation of personality (Mikšík, 2004), which was evaluated with t-test. Particular segments were compared with population and with top athletes of different sports. BMX racers had significantly higher ($p<0.05$). Results: During the race, has emerged as an important aspiration level with respect to the performance of the rider, allocation of rivals - start position and the current conditions of the track. As an important indicator was reflected the influence of the experience and performance of the track, associated with the level of specific skills in the BMX. The second point was the draw between opponents and overcome individual aspiration level for a specific race. Discussion: Increased risk appetite shows the importance of their own performance, the current level of opponent does not play a role as the actual performance of the rider and technical level. The important role in race plays start and success in the eliminating heats. This indicator corresponds to the emotional experience. The results correspond with the findings on the need for a long-term monitoring and psychoanalysis riders in the context of variable performance (Carlsted, 2013). References: Carlsted R (2013). Evidence-based applied sport psychology: a practitioner's manual, Springer Publishing Co. Mateo M, Blasco-Lafarga C, Martínez-Navarro I, Guzmán JF, Zabala M (2012). European journal of applied physiology, 112(1), 113-23. Mateo M, Blasco-Lafarga C, Doran D, Romero-Rodríguez RC, Zabala M (2012). Journal of Sports Science and Medicine, 11, 502-9. Mikšík O (2004). Dotazník SPARO: Příručka. Brno: Psychodiagnostika s.r.o.

Motor Learning

DIFFERENCES IN MOTOR ABILITIES OF STUDENTS DUE TO THE BODY MASS INDEX (BMI).

Osmani, A.[1], **Mamaj, D.**[2]
[1] *University Education Institution AAB (Prishtina, Kosovo),* [2] *KEC-Primary School Third Millennium (Prishtina, Kosovo)*

Introduction:The research has been conducted in order to establish differences in motoric abilities due to the body mass index (BMI) with the tested students at the eighth grade (Barlow, & the Expert Committee, 2007). Methods: During the research 160 male students aged 14 were tested. On the base of (BMI) they were divided into 3 groups (normal, overweight, and with obesity). They were tested with 6 motor tests for:

explosive power, repetitive power, coordination, equilibrium, precision, and flexibility. Along with basic statistic parameters, the differences between the groups are established through: ANOVA, MANOVA and LSD-tests. Results: The obtained results are presented in 5 tables. On the base of the results, a statistically significant difference in favor of the group of normal body mass index is recorded in the following tests: standing a long jump, agility on the ground and keeping balance on one leg. Discussion: The results obtained in this research indicate that obesity and overweight cause a negative effect and result in lower performances concerning some motoric abilities. On the base of the obtained results, it is concluded that the group of students of normal body mass index achieved the best results in the motoric abilities with assessing the following: explosive power, coordination, and equilibrium. As for the motoric ability concerning: precision, repetitive power, and flexibility, there are no established statistically significant differences between the three groups. The obtained results correspond with some former researches (Milanese, et al., 2010; Zhu, Sheng, Wu, & Cairney, 2010), and some do not (De Toia, et al., 2009). References: Barlow SE et al. (2007). Pediatrics, 120, 164–92. De Toia D, Klein D, Weber S, Wessely N, Koch B, Tokarski W, Dordel S, Strüder H, Graf C (2009). European Journal of Obesity, 2(4), 221–5. Zhu YC, Sheng K, Wu SK, Cairney J (2011). Research in Developmental Disabilities, 32(2), 801–7. Milanese C, Bortolami O, Bertucco M, Verlato G, Zancanaro C (2010) Journal of Human Sport & Exercise, 5(2), 265–79.

Adapted Physical Activity

TRAINING METHODS FOR PARAVAULTING ATHLETES.

Sklenaříková, J.[1]
[1] *Palacky University (Olomouc, Czech Republic)*

Introduction: Adapted physical activity integrates physical activity into the educational experiences of people with special needs of all ages. The aim of this work is to analyze the issue of the motor preparation of children and young people with disabilities in the competitive environment of paravaulting. A primary educational goal for children with disabilities is the harmonious development of their personality as much as is it possible under the circumstances. This disability education is therefore targeting the effect on the child and the application of educational principles, rules and methods to the ability of a child with certain handicaps or disabilities so the child can develop in the best way. Paravaulting is a special rehabilitation method that involves gymnastics on horseback and is recommended for people with disabilities. It is primarily the development and improvement of motor skills of people with disabilities within their possibilities of improving the mental condition and ability to cooperate with other team members. Methods: The primary objective is to achieve a specified therapeutic target, improvement of physical condition or help to maintain the current condition. Using horses as a facilitator and to encourage for athletes positive changes in behavior remove or alleviate the symptoms of mental disorders or sensory deficits, develop social skills, psychomotor skills and concentration. Results: It is a method that can result in a significant development of physical skills in most cases. Paravaulting is one of the options for the athletes with disabilities who become part of the sports events. Paravaulting places high demands on physical fitness, is designed for individuals with particular types of disabilities. Athletes must practice on relatively small, constantly moving area which represents the horse's back. Regular training should be similar to the respective sport for athletes without handicap but occurs in smaller batches to avoid overloading the muscles or other complications. Discussion: Sports development is closely related to medical and preventive care and functional rehabilitation, on which depends the training facilities of its own load. All components form an integral part of the plan preparation.

In addition to the prerequisites for the job of the coach are necessary requirements for knowledge of the type of disability and the special features of knowledge management in persons with sensory and mental disabilities described by Dovalil (2002). Sports and rehabilitation for disabled individuals incorporate newly established and innovative methods such as hippo therapy or paravaulting. Paravaulting like any sport for persons with disabilities has a specific classification in which athletes are classified into categories according to the degree of their disability. They are assigned a status to provide them with comparable starting point for training and competition and thus ensure "fair play". References: Block, M. (2007). A teacher's guide to including students with disabilities in general physical education (3rd ed.). Maryland: Paul H. Brooks Publishing Co. Dovalil et.al. (2002). Výkon a trénink ve sportu. Praha: Olympia.

TEMPORAL AND CONTENT TRENDS IN RESEARCH: ANALYSIS OF ABSTRACTS PRESENTED AT EUCAPA CONGRESSES FROM 2004 – 2012.

Sklenaříková, J.[1], **Kudláček, M.**[1], **Baloun, L.**[1]
[1] *Palacky University (Olomouc, Czech Republic)*

Introduction: Numerous research projects have demonstrated the benefits of adapted physical activities for health in every age group. Several researchers in adapted physical activity have examined this development through documentary analyses of published materials. Lot of studies investigated different alternatives of reviews, such as Hutzler (2003); Qi & Ha (2012); Block, Obrusnikova, (2007); Porretta, D.L., Kozub, F.M., & Lisboa, F.L. (2000). The most consistent theme of the study was analysis of AAHPERD (The American Alliance for Health, Physical Education, Recreation and Dance) research abstracts published under special populations from 1968 to 2004 from Zhang, de Lisle & Chen (2006). The purpose of our review was to analyze research trends in adapted physical activity by analyzing abstracts published by EUCAPA (European Congress of Adapted Physical Activity) congresses over the past 8 years. A systematic process was used to search the abstracts for this review. The focus of the conference was the presentation of research and case studies which informed about day to day practice in relation to the inclusion and empowerment of people with disabilities. The conference included also presentations relating to projects and programs which improve service delivery in adapted physical activity. Knowledge gained from successful research and case studies can guide future service delivery in the area of APA. Method: Performed a content analysis on the descriptive data and we identified several recurring themes from the empirical research. There were abstracts retrieved that were coded according to research category using content analysis into seven categories: (a) number of authors, (b) data source, (c) sample size, (d) disability type, (e) data analysis, (f) type of study, and (g) focus of study. A total of 459 survey articles were published in book of abstracts between 2004-2012. Of the 5 congresses, 37 (8%) were published 2004, 37 (8%) were published 2009, 123 (27%) were published 2008, 134 (29%) were published 2010, 128 (28%) were published 2012. Results: Results of descriptive statistics describe an overall picture of the knowledge accumulation in adapted physical activity. The results of linear regression equations reveal a number of trends over this period. These trends suggest that adapted physical activity is a growing profession distinguished by several important researches. References: Block ME, Obrusnikova I (2007). Adapted Physical Activity Quarterly, 24(2), 103-24. Hutzler Y (2003). Quest, 55(4), 347-73. Porretta, D.L., Kozub FM, Lisboa FL (2000). Adapted Physical Activity Quarterly, 17, 286-96. Qi J, Ha AS (2012). International Journal of Disability, Development and Education, 59(3), 257-81. Zhang J, de Lisle L, Chen S (2006). Analysis of AAHPERD Research Abstracts Published Under Special Populations From 1968 to 2004. Adapted Physical Activity Quarterly, 23, 203-17.

Health and Fitness

INFLUENCE OF FOOD SUBSTITUTES' DIET ON WEIGHT REDUCTION IN PHYSICALLY ACTIVE OBESE PEOPLE.

Panayotov, V.[1]
[1] *National Sports Academy (Sofia, Bulgaria)*

Introduction: The rate of obesity among people in many countries escalated in recent years. A lot of different methodologies were implemented to address this problem. To address these problems in this study we tried to evaluate the impact of a daily schedule, consisting of physical activity of anaerobic-lactic type (20-30 sec), combined with an energy deficient diet (achieved using either EURODIET food substitutes or conventional food sources) on the components of body mass and the Quality of Life Index. Methods: The participants were 15 healthy adults of both sexes with Body Mass Index (BMI) values above 27. They were randomly assigned to 3 groups – the first one underwent an energy deficient diet using the products of EURODIET for 3 of the daily meals. The second one achieved the energy deficit adhering to a diet consisting of conventional food sources. The third group was the control one with no dietary restrictions imposed on the subjects. All 3 groups performed 30 min. circuit training sessions of resistance exercises 3 times a week. The study was 8 weeks long. Results. The differences between the initial and the final values of BMI, the body mass, the percentage of the fat tissue and the Quality of Life Index were compared. We detected statistically significant differences ($p \leq 0.05$) in the following variables and groups: 1. Body mass and BMI in Eurodiet group; 2. Body mass, Quality of Life Index and BMI in conventional diet group. No significant differences ($p \leq 0.05$) between the initial and the final values of the studied variables of the control group. Discussion: We found no evidence that a diet with food substitutes is superior to a conventional diet for losing body weight. Contrary to our previous studies we found that a conventional diet is superior to a food substitutes' diet in sparing the lean body mass. In our opinion implementing physical activity alone is insufficient for achieving weight loss. It is possible that these findings were due to the relatively short duration of the study. When interpreting the results of the study we have to consider the relatively small number of participants in all 3 groups. References: 1. Želязkov CV, Daseva D (2002). Osnovi na sportnata trenirovka.[Basics of sports training. In Bulgarian]. Sofия, Gera art. Brill JB, Perry AC, Parker L et al. (2002). Int J Obes; 26(11), 1484-93. Borsheim E, Bahr R (2003). Sports Med, 33(14), 1037-60. De Feo P, Di Loreto C, Lucidi P et al. (2003). J Endocrinol Invest, 26(9), 851-4. Demling RH, DeSanti L (2000). Ann Nutr Metab, 44(1), 21-9.

CHANGES IN SERUM CHOLESTEROL AND GLUCOSE LEVELS OF OBESE PEOPLE DURING A 8 WEEK LONG CYCLE OF PHYSICAL ACTIVITY COMBINED WITH ENERGY DEFFICIENT DIET.

Petkov, K.[1]
[1] *National Sports Academy (Sofia, Bulgaria)*

Introduction. The rate of obesity among people in many countries escalated in recent years. A lot of different methodologies were implemented to address this problem. To address these problems in this study we tried to evaluate the impact of a daily schedule, consisting of physical activity of anaerobic-lactic type (duration of 20-30 sec), combined with an energy deficient diet on the blood cholesterol and

glucose levels in obese people. Methods: The participants were 20 healthy adults of both sexes with Body Mass Index (BMI) values above 27. They were randomly assigned to 2 groups – the first one underwent an energy deficient diet with a energy restriction of 30% of the theoretically calculated energy balance. The second group was the control one with no dietary restrictions. All participants performed 30 min. circuit training sessions of resistance exercises 3 times a week. The study was 8 weeks long. We measured the following blood components twice – once in the beginning and once at the end of the experiment: 1. Glucose; 2. Total cholesterol; 3. High density lipoproteins (HDL); 4. Low density lipoproteins (LDL); 5. Triglycerides. Results. We found no statistically significant differences ($p \leq 0.05$) in all of the blood serum variables we studied in both groups of participants. Discussion: We found no evidence of any favorable effects of a daily regimen consisting of anaerobic-lactic type of physical exercises and low caloric diet on the serum levels of cholesterol and glucose. When interpreting the results one must consider two facts (important in our opinion): 1. The relatively low number of the subjects and 2. the duration of the study, which was only 8 weeks. It is possible that such a methodology has to be applied for longer periods of time for the achievement of significant results. This could be a topic for future studies. References: References: 1. Želяzkov CV, Daseva D (2002). Osnovi na sportnata trenirovka.[Basics of sports training. In Bulgarian]. Sofiя, Gera art. Van Aggel-Leijssen DP, Saris WH, Wagenmakers AJ, et al. (2001). Obes Res, 9(2), 86-96. Brill JB, Perry AC, Parker L, et al. (2002). Int J Obes, 26(11), 1484-93. Borsheim E, Bahr R. (2003). Sports Med, 33(14), 1037-60. Brzycki M (1998). A Practical Approach To Strength Training. McGraw-Hill Baechle TR. Cullinen K, Caldwell M (1998). J Am Diet Assoc; 98(4), 414-8.

THREATS OF NEW GENERATION ON PHYSICAL ACTIVITY LEVEL IN ALBANIAN CHILDREN.

Jarani, J.[1], **Muca, F.**[2], **Spahi, A.**[1], **Qefalia, D.**
[1] Sports University of Tirana (Tirana, Albania), [2] Tirana International School (Tirana, Albania)

Introduction: The decline in physical activity levels of young children appears to be increased and combined with a high prevalence of obesity in Europe (Wang and Lim, 2012; Lobstein et al., 2004). With the ever-increasing interest in exploring the actual level of children's physical activity in Albania, a study was carried out aiming to obtain the actual level on physical activity. Methods: A cross-sectional study was conducted on 9003 children aged 7-year-old to 15-year-old (4513 boys and 4490 girls). The PAQ-C questionnaire was validated in Albanian language and used to assess the current level of PA. Results: The results showed that 42.7% of children fell below the normal level of PA (inactivity). Data split by gender showed a higher percentage of inactivity among girls (49.6%) compared to boys (36%). Finally, the results revealed a higher percentage of inactive children living in rural areas (49.2%) compared to children in urban areas (45.4%). Discussion: In conclusion, the high percentage of inactive children poses a threat for increased obesity in Albanian children. Another concern emphasized the inactivity in rural areas due to the changes of their lifestyle and behavior. References: Lobstein T, Baur L, Uauy R and Isoiot (2004). Obes Rev, 5 (Suppl 1), 4–104. Wang Y and Lim H (2012). Int Rev Psychiatry, 24(3), 176–88.

Rehabilitation

RETURN TO FOOTBALL AFTER ACHILLES TENDON RUPTURE.

Kezunovic, M.[1,2], **Lakovic, O.**[1], **Terzic, Z.**[1]
[1] Clinical Center of Montenegro (Podgorica, Montenegro), [2] University of Montenegro (Niksic, Montenegro)

Introduction: One of the main goals of treatment of acute rupture of the Achilles tendon is the players' earlier return to normal sporting activities. The average time for return to football depends on which method is used (surgical operative open or percutaneous method, i.e. non-surgical), and the level of sports involvement in the future. Methods: The study involved 152 players who were injured during the period 1996-2011. and were treated at the Orthopaedic Surgery and Traumatology, Clinical Center of Montenegro, Podgorica. According to the method of treatment, the study group was composed of patients operated on a modified percutaneous technique, while the comparative group consisted of patients treated conservatively and those treated with open operative techniques. Depending on football activities during which they ruptured their Achilles tendons, all analyzed patients were placed into three categories: active soccer players (AF) 26 or 17.10% , recreational former professional football players (RBAF) 92 or 60.50%, recreation football players (RF) 34 or 22.40%. Results: Return to football in relation to different methods of treatment of ruptured Achilles tendon was statistically analyzed using the Achilles tendon total rupture score(ATRS) that showed high internal consistency (Cronbach alpha > 0.9) and significantly correlated ($p < 0.001$) with Disability Rating Index (DRI). Confidence intervals were wide, and the ability to detect a clinically significant changes over time has shown that it is greater than the DRI. Discussion: Returning period to football depends on the combination of several factors . Well- motivated players who cooperate can return to sports earlier than those who do not. Patients who were treated with percutaneous modified technique of suture of the Achilles tendon will be ready to return to their activities significantly earlier than those treated conservatively and surgically with open techniques. References: Longo UG, Ronga M, Maffulli N (2009). Sports Med Arthrosc, 17(2), 127-38. Pajala A, Kangas J, Siira P, Ohtonen P, Leppilahti J (2009). J Bone Joint Surg Am, 91(5),1092-100. Hess GW (2010). Foot Ankle Spec, 3(1), 29-32. Blankstein A, Israeli A, Dudkiewicz I, Chechik A, Ganel A (2007). Isr Med Assoc J, 9(2), 83-5. Bertelli R, Gaiani L, Palmonari M (2009). Foot Ankle Surg, 15(4), 169-73.

PREVALENCE AND ERGONOMIC RISK FACTORS FOR OCCURRENCE OF DIFFICULTIES IN MUSCULOSKELETAL SYSTEM AT EMPLOYEES IN EDUCATION.

Mahmutovic, E.[1], **Nurkovic, J.**[1], **Dolicanin, Z.**[1]
[1] State University of Novi Pazar (Novi Pazar, Serbia)

Introduction: Musculoskeletal system disorders are the most common among (work-related musculosceletal disorders, WMD) and among them the lumabr and cervical pain syndrome are the most common. Methods: Analyze covered 100 teachers and associates working at SUNP. Potential risk factors for appearance of MSD were analyzed. There were 66% of men and 34% of women with the average age of 38,8±13,1, with total working time of 9,9±11,6 years. The information about musculosceletal system at teachers and associates at SUNP were gathered via survey into a specially created database. In statistic processing of information standard descriptive statistic methods were used. Results: Out of total number of examinees, MSD was reported at 74 teachers and associates (74%), 51 are men pola (68,9%), and 23

(31,1%) are women. At 32% of teachers and associates, pain appeared during the first five years of working, while others reported appearance of MSD after that period. Lower back pain difficulties were found at 73% of the staff, at 62,2% difficulties in neck area, at 45,9% upper back difficulties, at 40,5% difficulties in area of shoulders, at 32,4% knee difficulties, 27% reported foot/ancle difficulties. Lower pain prevalence was reported in wrist, hands, hips and elbow areas. Relevance between the observed risk factors using statistic analyze was not established. Discussion: Study showed that all the examinees assume body positions not optimal during working time which significantly contributes to he appearance of MSD, which Kaljić (1) points to in his work. Theory that workers (employees) most commonly suffer from MST because at them changes in the spinal cord mechanical nature, is supported by the study (1) conducted in clinic of physical medicine and rehabilitation Stari Grad in period between 01.01.2004. and 31.12.2009. where due to pain in lumbal part of spine 913 patients were treated. They came to a conclusion that clerk professions are the most common ones (466 in total, 51% of total). Prevalence MSD at the staff of SUNP is 74% and is greater at men than women. The largest number of examinees suffers from MSD in lower back area, neck, upper back area and shoulders. For prevention of muscosceletal disorders connected to working (WMD) a proper risk assesment in working environment for WMD is needed, based upon which suggestions for ergonomic solutions with the evaluation of the effect of the given suggestions would be given. References: Kaljić E (2011). Journal of Health Sciences, 1, 36-8. McKenzie R (2003). The Mechanical Diagnosis & Therapy. Spinal Publications New Zealand Ltd. New Zeeland, 2, 395-719.

Training and Testing

THE INFLUENCE OF PLYOMETRIC TRAINING ON THE DEVELOPMENT OF STRENGTH, STARTING ACCELERATION AND THE FLEXIBILITY OF MALE ADOLESCENTS.

Idrizovic, K.[1], **Gazdic, B.**[2], **Pavlovic, R.**[3]
[1] University of Montenegro (Niksic, Montenegro), [2] Sports-recreation Club Body Fitness (Niksic, Montenegro), [3] University of East Sarajevo (East Sarajevo, Bosnia and Hercegovina)

Introduction: The main aim of this study is to determine the effects of plyometric training on the increase of strength, flexibility and starting acceleration in male adolescent. Methods: The study has been realised on the sample composed of 90 subjects, 17 years old (Â± 6 months), separated into two groups: experimental (n=48) and control (42). The experimental group had a plyometric training twice a week within the period of 8 weeks, whereas the control group had regular courses of physical education during the same period. The effects of the plyometric and control treatements were assessed with the help of 10 motor variables: six of them were used for the strength assessment (explosive, repetitive and static), three for flexibility assessment and one for starting acceleration assessment. In order to find the effects of an applied experimental plyometric training treatment a multivariate analyze of covariance was applied (MANCOVA). Results: The results of this research indicate that after the realisation of the plyometric training programme a statistically significant difference is perceived between the groups considering the indicators of strength, flexibility and starting acceleration. Discussion: In his research, Milic et al. (2008), had been applying plyometric programme with an experimental group for six weeks, while the control group had been under the influence of regular classes of the physical education. The results they obtained, speak about an important difference in an explosive strength of lower limbs to the benefits of the experimental group, what concurred with this research. The research by Meylan and Malatesta (2009) proves the similar results, where they concluded that short-term plyometric training program lasted for 8 weeks has an efficacious impact on the explosive movements

such as sprint, direction change and jumps. Abass (2009) also proved that the plyometric exercises, with the characteristics of depth jumping and rebound jumping exercises, are most effective in the development of muscle strength in lower limbs. Beside the influence on the explosive strength, this research defines the efficacy of an experimental program of plyometric training for the improvement of repetitive and static strength. As some plyometric exercises means the explosive-repetitive movements, such as, for example, medical ball throwing from a kneeling posture, push-ups with a counter-push of the floor etc, and such plyometric movement regime most probably had an influence on the repetitive strength of the examinees of the experimental group. References: Abass A (2009). Eur J Sci Res, 31(4), 577-82. Masamoto N, Larson R, Gates T, Faigenbaum A (2003). J Strength Cond Res, 17(1), 68-71. eylan C, Malatesta D (2009). J Strength Cond Res, 23 (9), 2605-13. MilicV, NejicD, KosticR (2008). Facta Univ Ser: Phys Educ Sport, 6(2), 169-79.

DIFFERENCE OF EXPLOSIVE STRENGTH INDICATORS INFLUENCE ON MORE AND LESS FAVORED LEG SHOOTING POWER IN YOUNG FOOTBALL PLAYERS.

Vlahovic, A.[1], **Scepanovic, I.**[1]
[1] *Children Fitness Center „Smart Gym" (Podgorica, Montenegro)*

Introduction: Basic type of load in the football game are the player movement without the ball and the specific movement with the ball, such as running, passing and kicking the ball into the goal. This especially applies to the players' maximum speed, which is characterized by the reaction rate, the speed of individual movement and maximum explosive power shoot on the goal. The main aim of this study is to assess difference of explosive strength influence on shooting power between more and less favored leg in cadet football players. Methods: Participation in this study took 14 male football players aged 15.35 ± 0.38 years (M ± SD), average body height of 181.22 ± 7.88 cm and average body weight of 74 ± 9.93 kg. All subjects were enrolled into the systematic training process for at least 3 years. Explosive strength of lower limbs assessment was done trough 5 variables, while more and less favored leg shooting power was assessed with 2 variables. Assessment of lower limbs explosive strength was done with 10m running, standing long jump, standing triple jump, counter movement jump and squat jump. The vertical jump tests and the shooting power were assessed with PAT01 photocell and jumping platform system (Physical Ability Testing, Uno-Lux NS, Belgrade, Serbia). The results in this study were subjected to statistical analysis, which in this case includes descriptive statistics, t-test and regression analysis. All results were analyzed using SPSS 17.0 statistical PC software. Results: Regression analysis showed that the statistically significant influence of predictor system on criterion MSSP exist (β=.34, Q(β)=.01), while individually most significant influence on the shooting power of more favored leg was established by MCMJ (β=.51, Q(β)=.00) followed by MSQJ (β=.34, Q(β)=.01), MTUD (β=.35, Q(β)=.02) and MB10M (β=-.53, Q(β)=.03) variables. In case of regression analysis of predictor system with less favored leg shooting power criterion, no statistically significant influence was found. Discussion: This clearly shows that influence differences of explosive strength parameters on more and less favored leg shooting power in football players are more than obvious. This points to some differences in long term athlete development. If taken into account that the impact of the explosive power of the performance in the football game, which is obtained in similar researches (Talović et al., 2010; Jakšić, 2009) it could be concluded that the results are not surprising. References: Talović M, Jelešković E, Hans A, Kazazović E, Ramadanović M, Mrković R (2010). Homo Sporticus, 12 (2), 41-4. Nevil A, Holder R, Watts A (2009). Journal of Sports sciences, (5), 419-26. Jaksić D (2009). Sportekspert, 2(1), 5-12. Bangsbo J, Norregaarg L, Thirsi, F (1994). Canadian Journal of Sport Sciences, (16), 110-6. Bangsbo J, Saltin B (1994). Acta Physiologica Scandinavica, 150, 21–6.

MEASURE CHARACTERISTICS OF MOTOR TESTS OF MOVEMENT FREQUENCY WITH STUDENT FROM MACEDONIA AND KOSOVO.

Georgiev, G.[1], **Pireva, A.**[2], **Mitrevski, V.**[3], **Hasani, H.**[4], **Nika, F.**[5]
[1] Ss. Cyril and Methodius University (Skopje, Macedonia), [2] University of Prishtina "Hasan Prishtina" (Prishtina, Kosovo), [3] Business Academy Smilevski BAS (Bitola, Macedonia), [4] Hotel "Lirak" (Tetovo, Macedonia), [5] State University of Tetovo (Tetovo, Macedonia)

Introduction: The tests of good measure characteristics are a multiple matter of interest. They can be property used in the work of selecting young athletes as well as programming the physical activities and giving marks in classes. There are many authors who have conducted researches and established measure characteristics of motor tests. Measure characteristics are constantly an actual issue for research. This research was conducted with the aim of establishing and comparing the measure characteristics of the used motor tests of movement frequencies with 11-year-old students from Macedonia and Kosovo. Methods: The sample of respondents consists of 180 male students at the age of 11 (100 from Macedonia and 80 from Kosovo). They were tested with three composite motor tests to assess the movement frequency. For the obtained data there calculated: basic descriptive parameters, Pearson coefficient of correlation, factor analyse, Cronbach α and Spearman-Brown's coefficients (Vincent, 2005). Results: On the based of the received results, it is obvious that regarding the three tests satisfactory measure characteristics are established (validity and reliability). Discussion: In kinesiology, by using motor tests, we indirectly form a concept about the motor abilities of the respondents. That is why, it is of great importance to use tests that have satisfactory measure characteristics. The used tests are recommended for application in assessing motor abilities' movement frequency. The final results correspond to a great extent with the researches of Metikos et al, (1989), Georgiev (1996, 2007), Pireva (2013) and other. References: Georgiev G (1996). Definiranje na stepenot na faktorskata validnost, relijabilnost i drugi merni karakteristiki vo biomotorniot prostor kaj učenicite od dvata pola od 11-godišna vozrast. (Magisterski trud), Univerzitet "Sv. Kiril i Metodij", Fakultet za fizička kultura, Skopje. Georgiev G (2007). Sport i nauka, 5, 224-30. Metikos D, Prot F, Hofman E, Pintar S, Oreb G (1989). Mjerenje bazicnih motorickih dimenzija sportasa. Fakultet za fizicku kulturu Sveucilicta u Zagrebu, Zagreb. Pireva A (2013). Merni karakteristiki, normativi i standardi za ocenuvanje na motorniot status na mladite. (Doktorska disertacija), Univerzitet "Sv. Kiril i Metodij", Fakultet za fizička kultura, Skopje. Vincent JW (2005). Statistics in kinesiology (3rd ed.). Human Kinetics, Champaign.

DIFFERENCES IN MORPHOLOGICAL CHARACTERISTICS BETWEEN JUNIOR BASKETBALL PLAYERS WHO HAVE DIFFERENT LEVELS OF EXPLOSIVE STRENGTH.

Sisic, N.[1], **Sekulic, D.**[1]
[1] University of Split (Split, Croatia)

Introduction: The aim of this study was to determine differences in morphological characteristics between junior basketball players who have different levels of explosive strength. Methods: The study was conducted on a sample of 84 junior basketball players from (B&H) Bosnia and Herzegovina (16-18 years) in spring 2013th. The sample of morphological variables consited of: body height, leg length, body weight, upper arm girth in extension, calf girth, triceps skinfold, abdominal skinfold, front thigh skinfold, BMI, the relative body fat percentage. The variables of explosive strength were: vertical jump

(VJ), broad jump (BJ) and throwing a medicine ball from chest with 3 kg from a standing position. Ward's method of cluster analysis, based on variables of explosive strength we formed four homogeneous groups. Subsequently, using the ANOVA and post-hoc analysis, these groups are differentiated with regard to morphological characteristics. Results: Clusters differed significantly in BJ and VJ. ANOVA found significant differences between clusters in variables of skinfolds, such as the: triceps, abdomen and thigh. Discussion: Defined the influence of morphological variables on explosive strength can be regarded as expected, given that it is primarily about a negative influence of the amount of body fat on relative explosive strength type. This research has shown that junior basketball players in B&H are shorter and ligther when compared to top-level European juniors (Jelicic et al., 2002). Subjects with the lowest skinfolds of the upper limbs and body weight, achieved the best results in the manifestation of relative explosive strength, which has so far rarely been found in samples of trained subjects (Milanese et al., 2010). Possible explanations can be required in a number of training, the intensity and quality of training. Although at this point with certainty, we can't determine on which of these factors involved. This can be confirmed by the results of research of Piucco et al., 2009 who studied female amateur volleyball athltes. References: Jelicic M, Sekulic D, Marinovic M (2002). Coll. Antropol, 26, 69-76. Milanese C, Bortolami O, Bertucco M, Verlato G, Zancanaro C (2010). Journal of Human Sport and Exercise, 5(2), 265-79. Piucco T, Santos SG (2009). Fitness Performance Journal, 8(1), 9-15.

THE EFFECTS OF THE TRAINING IN THE PREPARATION PERIOD ON THE DRIBBLING SPEED WITH FIFTEEN YEARS OLD FOOTBALL PLAYERS.

Gardasevic, J.[1], **Bjelica, D.**[1]
[1] *University of Montenegro (Niksic, Montenegro)*

Introduction: The main aim of the research was to identify a level of quantitative changes of the dribbling speed with fifteen years old football players under the influence of the programmed football training of a six weeks preparation period. Methods: According to the time orientation this was a longitudinal study with the aim to define in a two timely different points a quantitative changes of the dribbling speed under the influence of the programmed football training with fifteen years old football players under the influence of the programmed training process, which involved a summer preparation period and lasted forty-two days. The training programme covered forty-four training units. The research was made on a sample of 120 fifteen years old football players of cadet rank. For the assessment of ball handling the three tests were used: horizontal ball rebounding from a wall 20s, dribbling speed of the ball in slalom and juggling alternating with both feet in a square space of 1x1m. In the area of comparative statistics, we used discriminant parametric procedure t-test for big paired samples. Results: Based on the numerical values of the t-test it can be concluded that there are no statistically significant differences in all three variables to estimate the dribbling speed. This confirmed the hypothesis that the expected significant positive quantitative changes of situational-motor abilities influenced by the proposed model of training in preparation period with fifteen years old football players. Discussion: In this research the authors were guided by the fact that this kind of training program in preparation period, where dominates the situational model training is very effective in terms of raising the dribbling speed with fifteen years old, because the model that is used in this training period abounds in exercises in which dominates dribbling speed, in stright line and with changes in direction. The obtained results can be directed towards innovation plans and programs in the preparation period, and the adaptation of the same needs of the respective population. References: Bajramovic I, Talovic M, Alic H, Jeleskovic E (2008).

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ASSESSMENT OF ANAEROBIC CAPABILITIES OF FOOTBALL PLAYERS IN RELATION WITH LENGTH OF THEIR SPORTS ENGAGEMENT.

Cvetkovic, M.[1], **Andrasic, S.**[1], **Orlic, D.**[1], **Popovic, B.**[1]
[1] *University of Novi Sad (Novi Sad, Serbia)*

Introduction: The general objective of this research is to determine how much influence the length of sports engagement has on anaerobic endurance of the football players, as well as on the maximum sprint ability of the players. In addition to the primary objective, the research seeks to determine the maximum power, minimum power, average power and fatigue index in players of cadet age group. Methods: The total sample of respondents in this study is made of 60 players of cadet age group (14-16 years of age), divided in relation to length of their sports engagement, into groups of up to 5 years (11 respondents), 6-7 years (21 respondents) and from 8 to 10 years (28 respondents). The study used field RAST test. The RAST test was designed for sports where running is a basic form of movement. According to the protocol of the test respondents have ten minutes to warm up and five minutes to recover. That is followed by the performance of the test, which is composed of six 35-meter sprints at maximum speed. Between sprints respondent is allowed to pause for 10 seconds, intended primarily for turning and preparing for the next section. Based on the obtained time results from six 35-meter sprints, power is calculated for each run and then the following parameters are determined: maximum power (the highest value); minimum power (the lowest value); average power (the sum of all six values/six) and fatigue index which indicates the extent to which strength decreases for each respondent. This paper shall present a descriptive parameters, mean, standard deviation (SD), minimum and maximum of all values, the coefficient of variation (CV) of confidence intervals, skewness as measure of asymmetry, kurtosis as measure of flatness and value of the Kolmogorov-Smirnov test. Multivariate procedures MANOVA and discriminant analysis shall be used. Out of univariate procedures ANOVA t-test and Roy's test shall be applied. Results: Results obtained by multivariate analysis of variance in this study show that groups are different regarding the observed space of anaerobic abilities of football players. Discriminant analysis confirmed these differences, which means that there is a significant difference and clearly defined boundary between some characteristics for assessing anaerobic abilities in relation to the length of sports engagement. The values obtained by univariate analysis of variance indicate statistically significant differences in all observed variables for the assessment of anaerobic abilities in relation to the length of sports engagement. Discussion: By analyzing the results, it can be concluded that the length of sports engagements and work in this age has positive effects on anaerobic power. Cedric et al. (2007) reached the similar conclusions using the battery of tests for the assessment of anaerobic abilities. On a sample of 186 players of the national team of Belgium (U 15, U 16, U 17, U 18 and U 19) they came to the conclusion that anaerobic power increases progressively with age (15 to 19 yrs.), but the highest increase can be observed between 15th and 17th year of age. References: Cedric L, Marc GV, Thierry B (2007). Journals of Sports Science and Medicine, 10, 115. Cipryan L, Gajda V (2011). Journal of Human Kinetics, 28, 63-71. Mackenzie B (2005). 101 Performance Evaluation Tests. London: Electric Word plc. Sayers A, Sayers B, Binkley H (2008). Strength and Conditioning Journal, 30, 2.

MORPHOLOGICAL CHARACTERISTICS OF GIRLS, 7-9 YEARS OF AGE, ENGAGED IN MODERN DANCING.

Cvetkovic, M.[1], **Popovic, B.**[1], **Stupar, D.**[2], **Spasic, A.**[1], **Orlic, D.**[1], **Andrasic, S.**[1]
[1] University of Novi Sad (Novi Sad, Serbia), [2] Faculty of Sport and Tourism (Novi Sad, Serbia)

Introduction: Selection in modern dancing, especially in the "artistic dance" style, is increasingly directed towards finding proper morphological types with exceptional motor and individual creative abilities. The aim of this paper was to determine morphological characteristics of 7-9 years old girls engaged in modern dancing for a continuous period of at least one year, as well as to compare them with the girls that have never been engaged in an organized physical activity. Methods: The aim was accomplished by using a battery of eight anthropometric tests that evaluate to a greatest extent body voluminosity and body mass as well as subcutaneous fat tissue of the test subjects as they could be affected to a greatest extent by means of physical education. Multivariate analysis of variance (MANOVA) was used for determining the quantitative differences between the systems of anthropometric variables from the two groups of respondents. For determining the difference between each individual anthropometric measure and for both age groups, an univariate analysis of variance (ANOVA) was applied. P = 0.05 was the criterion adopted for the level of statistical significance. All results have been analyzed using the software for statistical analysis SPSS 20. Results: Research results indicate a statistically significant difference in terms of a quality morphological status defined by smaller volume, body mass and lesser fat tissue at all age categories of female subjects which is in favor of girls engaged in modern dancing. According to these results the author concludes which morphological type of girls at younger school age is desirable for successful engagement in modern dancing. Discussion: By looking at the general morphological space of analyzed groups of respondents it can be concluded that the girls engaged in modern dancing, statistically significantly differ in a quantitative manner from their peers who are not involved in organized physical activity, at the most strict level of statistical inference. This difference is reflected in the higher-quality morphological status defined by lower volume, body weight, and less subcutaneous adipose tissue which lead the author to conclusion about morphological type of girls aged 7-9 years which is desirable for successful engagement in modern dancing, depending on the dance category respondents are engaged in. Generally, it can be concluded that the contents of modern dances represent a positive impact on the morphological status of girls aged 7-9 years and in particular on the dimensions responsible for the volume and mass of the body, as well as the subcutaneous adipose tissue. As such, these contents are highly recommendable for implementation in physical education, both in school and after school, by engaging in dance studios and clubs dealing with this type of dance. References: Kostić J, Zagorc M, Uzunović S (2004). Acta Universitatis Palackianae Olomucensis., Gymnica, 34 (1), 59-64. Medved R, Barbir Ž, Brdarić R, Gjurić Z, Heimer S, Kesić B, Medved V, Miheli Z, Pavišić-Medved V, Pećina M. Todorović B, Tucak A, Vuković M (1987). Sportska medicina. Zagreb: JUMENA. Popović B (2008). Glasnik Antropološkog društva Srbije, 43, 455-65, Novi Sad. Steinberg N, Siev-Ner I, Peleg S, Dar G, Masharawi Y, Hershkoviz I (2008). American Journal of Human Biology, 20 (3), 299-307. Viskić - Štalec N, Štalec J, Katić R, Podvorac Đ, Katović D (2007). Collegium Antropologicum, 31 (1), 259-66.

ASSESSMENT OF ANAEROBIC THRESHOLD IN FOOTBALL PLAYERS ON DIFFERENT POSITIONS, USING THE CONCONI TEST.

Cvetkovic, M.[1], **Andrasic, S.**[1], **Popovic, B.**[1], **Orlic, D.**[1]
[1] *University of Novi Sad (Novi Sad, Serbia)*

Introduction: Requirements and needs of properly programmed training process, especially in the pre-season, look for a precise definition of the functional parameters of all the players. The level of anaerobic threshold, as well as research on the same, may be a good indicator of proper dosage of loading. The aim of the research is to determine the differences in running speed and heart rate at the level of anaerobic threshold in relation to the position of the player.

Methods: Age of the respondents in this study included boys from 14 to 16 years of age (60 football players). The sample of respondents was divided according to playing position, as follows: center-backs (12 players), wing-backs (15 players), midfielders (14 players), forwarders (13 players) and goalkeepers (6 goalkeepers). An estimation of maximum heart rate and anaerobic threshold was performed using the Conconi test – (Conconi et al. 1996). Prior to testing players had ten minutes to warm up and after a few minutes of rest the testing began. Players started with jogging test (10 km/h) and after every 200 m running speed was increased by 0.5 km/h. Within certain sections the load is constant which is achieved by increasing speed after each 200 m, and then maintaining that speed until the end of the section. After processing the results within the particular software ("Polar Precision Performance SW") the values needed for this research were collected. Multivariate methods MANOVA and discriminant analysis will be applied in the paper. Regarding the univariate procedures, ANOVA t-test and Roy's test shall be applied. The descriptive parameters, mean value, standard deviation (SD), minimum and maximum of all values, the coefficient of variation (CV) of confidence intervals, skewness as the measures of asymmetry, kurtosis as the measure of flatness and the value of the Kolmogorov-Smirnov test, shall be presented. Results: By using the multivariate analysis of variance and based on the results, no statistically significant difference was observed. Discriminant analysis, which is a superior method compared to multivariate analysis of variance, because in addition to the quantitative values of the analyzed features it also observes their mutual relationship, revealed no significant difference also. Univariate analysis confirmed the assumption, which means no significant differences were found between the groups regarding the observed variables. However, the mean values for midfield players in all monitored parameters were the highest. Discussion: The results of this study indicate similar estimates of values of the anaerobic threshold between the groups divided according to their playing position. However, the mean values for midfield players in all monitored parameters were the highest: heart rate at the anaerobic threshold (186.36 beats/min), running speed at anaerobic threshold (14.07 km/h) and percentage value of anaerobic threshold in relation to the maximum heart rate (92.07 %), which separates them from other playing positions and points to the existence of certain differences. Comparing the results of this study with research performed by Dillerna et al. (2012) shows that similar results were obtained, and the best results are achieved by female midfield players. Also, by measuring heart rate during official games, Coelho et al. (2011), within the sample of 26 players from U-17 and 18 players from U-20 category, found that midfield players, presented in percentage, spent the most of the time in the zone 3 ($p<0.05$), and spent more time in zone 4 compared to the forward players and center-backs ($p<0.05$). The above studies indicate a significantly higher engagement of midfield players compared to other positions. References: Coelho BD, Mortimer AL, Condessa AL, Morandi FR, Oliveira MB, Marins JC, Soares DD, arcia SE (2011). Rev. Bras. Cineantropom Desempenho Hum., 13 (5), 341-7. Conconi F, Grazzi G, Casoni I, Borsseto C, Ballarin E, Mazzoni G, Gatracchini M,

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RELATIONSHIP BETWEEN MOTOR ABILITIES AND PRECISION OF PASSING THE BALL IN BASKETBALL.

Hadzic, R.[1], **Mekic, M.**[2], **Vujovic, D.**[1]
[1] University of Montenegro (Niksic, Montenegro); [2] University of Sarajevo (Sarajevo, Bosnia and Herzegovina)

Introduction: Complexity of basketball game in terms of the information and motor requires a high level of technical and tactical preparedness. That is why the level of technical and tactical preparedness is an important factor in achieving top basketball results. Passing and catching balls belong to the rich group of movement given to the forms appearing in the game. Passing must be accurate, timely, derived structure that is best suited in the current situation, and directed toward the single player, which is located in the best situation for the further development of the action. The aim of this study is to determine the predictive value (degree of influence) of basic motor skills on passing precision in basketball. Method: The study was conducted on a sample of 100 players, aged 18-20 years old, who were competing in the national league. In the present study it was used 21 motor tests (a composite type), as a system of predictor variables, intended assessment basic dimension belonging to areas of structural and energy regulation of movement as well as three situational-motor tests for assessing precision passing the ball, also a composite type, derived from research Blaskovic et al (1982), as the criterion variable. To determine the predictive value of basic motor abilities and criterion variable (added precision ball), the regression analysis was applied in apparent space. Results: Based on the results of applied regression analysis it is possible to derive a general conclusion about the relatively high and significant impact of basic motor abilities on the result of the success of precision passing the ball. Discussion: Based on the results of the test SKPEP1 - elevation of passing ball precision with one hand to the side, it can be said that almost all-hypothetical motor structure participated, in addition to variables for evaluating agility and repetitive strength. The highest values of the vectors containing the correlation and partial regression coefficients to test the accuracy of the elevation of passing ball with two hands from the chest - SKPEP have only two variables flex with bat and targeting short stick, which refers to the fact that the outcome of the results by the criteria of a important joint movement in the shoulder belt. The structure of correlation and regression coefficients to test the accuracy of passing a horizontal ball with two hands from the chest - SKPHOR show that the dominant predictive values on the criteria have motor manifestations that are under the influence of a mechanism for structuring movement. References: Blašković M (1971). Prediktivna vrijednost baterije situacionih testova u košarci, *Kineziologija, 1*, 7-12. Blašković M (1982). Analiza pouzdanosti i faktorske valjanosti sitisciono- motoričkih testova u košarci. *Kineziologija, 5,* 131-47. Heimer S, Matković Br, Matković Bo, Mišogolj-Duraković M (1987). Neke antropološke karakteristike košarkaša. *Košarkaški medicinski vjesnik, 2* (1-2), 3-12.

ANALYSIS OF CHANGES OF BODY COMPOSITION WOMAN UNDER THE INFLUENCE OF AGE.

Čokorilo, N.[1], **Mikalački, M.**[1], **Škrkar, S.**[1]
[1] *University of Novi Sad (Novi Sad, Serbia)*

Introduction: In modern civilization, there was a marked decrease in physical activity of people. It is well known that the use of dosed and regular physical activity act preventively to prevent the risk of diseases of modern civilization (Medved, 1980; Mišigoj Durakovic et al., 1999, Oman and Oman, 2003). The aim of the research is to analyze the changes of body composition of women affected by age. Methods: In a sample of 99 women, aged 20 to 49 years, the city of Novi Sad, undertook an assessment of body composition. The patients were divided into three subsamples with respect to age, for each decade separately. Distribution of respondents by age categories was made on the basis of some previous studies (NASIS and Geldas 2003, Flagg et al., 2005; Hayward, 2006). Univariate (ANOVA) and multivariate (MANOVA) analysis of variance fortified that there are statistically significant differences between all age groups, both in the common system variables and in most individual . For further determine the difference in the individual system variables was made t - test which confirms the findings of univariate analysis of variance. Results: Were found statistically significant differences between the analyzed groups. For most indicators of body composition are present in high and statistically significant differences. Discussion: Under the body composition we understand composition of the human body, represented by the size and grouping of existing measurable segments that constitute (Ugarković, 2001). According to some authors lean body mass is muscle, skeleton and internal organs, and body fat mass seems so. "important" and "unimportant" fat (Mišigoj Durakovic, 2006). References

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DIFFERENCES IN BODY COMPOSITION BETWEEN PRACTITIONAR COMBINED FITNESS AND PRACTITIONER PILATES.

Čokorilo, N.[1], **Mikalački, M.**[1], **Smajić, M.**[1], **Marijanac, A.**[1]
[1] *University of Novi Sad (Novi Sad, Serbia)*

Introduction: When talking about the disease in the first place are heart disease-coronary artery disease, wherein there is a narrowing of the arteries (atherosclerosis). Active lifestyle can slow, stop and even reverse the process of atherosclerosis. In this regard, it is known that increasing the inactivity of a 35

% risk of developing hypertension, and subjects who are in poor physical condition are 52% greater risk of the disease than those who are in good shape (Sharkey & Gaskill, 2008). The aim of this study was to determine whether there is a statistically significant difference in body composition of women dealing with the combined group fitness programs compared to women who engaged in practicing the Pilates method. Methods: The sample consisted of females aged 30 to 50 years. The total sample in the study consisted of 130 subjects from the territory of Novi Sad. Physically active group consisted of 84 respondents, who were divided into two groups . The first group includes 34 women who exercised twice weekly Pilates for a period of one hour , for a period of one year. The second group consisted of 50 subjects who actively exercised at a fitness club "World Class," at least a year, combining a variety of group programs, at least three times a week. The range of training duration was from 30 to 60 minutes. The third group consisted of a sample of 46 subjects who did not engage in any physical activity. Results: The results it was concluded that the subjects who were involved in the combined training group have lower values of body mass index , fat mass and percentage fat mass in total body composition of women who exercised only one group program, or Pilates, and women who not engage in any recreational activity. Discussion: In current practice were determined effects of aerobics on morphological characteristics and functional abilities of trainees have, where they are statistically significant differences in body mass index and fat mass in favor of a person dealing with aerobics, which is the more common form of recreational exercise (Stojiljkovic et al, 2005). Regarding the influence of Pilates exercise on body composition, the results are divided. In a study where overweight women practiced this method for eight weeks, four times a week, there was a reduction of fat in the body (Cakmakci, 2011). References: Cakmakci, O. (2011). The Effect of 8 Week Plates Exercise on Body Composition in Obese Women. Collegium Antropologicum, 35(4), 1045-1050. Coggan, A. R., Spina, R. J., King, D. S., Rogers, M. A., Brown, M., Nemeth, P. M., Holloszy, J. O. (1992). Skeletal muscle adaptations to endurance training in 60- to 70-yr-old men and women. Journal of Applied Physiology, 72 (5), 1780-1786. Kenedy, C., Yoke, M., (2005). Methods of group exercise intruction. Illinois: Human Kinetics. Latey, P. (2001). The Pilates method, history and philosophy. Journal of Bodywork and Movement Therapies, 5 (4), 275-282. Malnar, D., Šterbik, K., Fužinac-Smojever, A., Jerkovic, R., Bobinac, D. (2007). Pilates exercise technique. Medicine, 43, 241-245. Segal, N.A., Hein, J., Basford, J.R. (2004). The effects of Pilates training on flexibility and body composition: an observational study. Arch Phys Med Rehabil, 85(12), 1977-1981.

COMPARISON OF MOTOR ABILITIES OF YOUTH FOOTBALL PLAYERS AND PRIMARY SCHOOL PUPILS.

Smajić, M.[1], **Javorac, D.**[1], **Molnar, S.**[1], **Barašić, A.H.**[1], **Tomić, B.**[2]
[1] University of Novi Sad (Novi Sad, Serbia), [2] Sports Academy (Belgrade, Serbia)

Introduction: Football as a complete sport that is rich in a wide variety of possible movements classified in polistructural, sports complex. To be a football player was able to perform tasks football has, among other things, and have the necessary level of motor abilities that can be achieved only through systematic implementation of training physical training. The aim of this research was to determine the differences in some of the motor abilities between the two researched groups. Methods: In a sample of 196 subjects average age of 12.45 ± 0.03 years, made a comparison of motor abilities. The first group consisted of 82 players - Pioneers FC "Red Star" from Belgrade and the other 114 primary school pupils from Novi Sad. A sample of 9 tests of motor abilities were: long jump from the place, running 20 m, 60 m running, bend straddle the gray, endurance in pull-ups, polygon backwards, slalom with three balls, hand tapping and lifting troops. Comparison of motor abilities of young players and pupils of primary schools was carried out by

using multivariate analysis of variance (MANOVA). Results: An analysis of motor abilities between young players and primary school pupils were found statistically significant differences in all tested variables. Discussion: The research has shown that speed, endurance, coordination and muscle strength of the lower leg predominantly responsible for the success of matching the target foot at a distance, which is an integral part of the training process (Smajic and Molnar, 2007). It is also proven that there is a statistically significant correlation between the explosive and repetitive strength as a predictor of outcome-success rate for jumping in the air at youth players (Stankovic, 2011). References: Kuleš, B., Jerkovic, S. Maric, J. (1991). Influence of running different intentiteta to success in football. Kinesiology, 23 (1-2), 60-65. Malacko, J. (2000). Fundamentals of sports training - a quarter-supplemented and revised edition, Belgrade: Sports Academy. Miljkovic, Z., Jerkovic, S. and Šimenc, Z (2002). Evaluation of a model tracking the player of the attacking team and in terms of football matches. Kinesiology, 34 (1), 73-85. Smajić, M. and Molnar, S. (2007). Influence of morphological characteristics and basic motor skills-factor precision of target foot at a lesser distance. In XLVI Congress of Anthropological Society of Yugoslavia with international participation (26-31). Apatin: Anthropological Society of Yugoslavia. Stankovic, D. (2011). Strength as a predictor of success rezultataske high jump. In Proceedings of the FIS komnikacije in sport, physical education and recreation, 232-238, Niš: Faculty of Sport and Physical Education. Vucetic, V., Ivanjko, A. Šentija, D. and Sedar, M. (2003). Speed endurance players, conditioning training of athletes. International Scientific Conference Proceedings. Zagreb: Faculty of Physical Education, University of Zagreb.

DIFFERENCES IN MOTOR ABILITIES TENNIS PLAYERS OF DIFFERENT SEX.

Smajić, M.[1], **Barašić, A.H.**[1], **Javorac, D.**[1], **Čokorilo, N.**[1], **Tomić, B.**[2]
[1] University of Novi Sad (Novi Sad, Serbia), [2] Sports Academy (Belgrade, Serbia)

Introduction: Tennis is polistructural activity acyclic type of movement. A large number of movement structures and situations in a tennis game (technical and tactical variants) indicates that the success of players determined by the level and structure of a large number of motor abilities, knowledge and qualities, of which some can be measured and analyzed. The measurement of these abilities and traits allows better planning, programming and control of the training process and to improve the sports form. The aim of the research was directed to determining the differences in motor abilities, of different sexes. Methods: The sample of 51 subjects aged 7 years (± 6 months), of which 23 boys and 28 girls tennis school participants TC "Palic" from Palic, carried out the measurement of motor abilities. The sample tests consisted of 12 tests: backward polygon, polygon with skipping and swiping, bat quickness, shooting horizontal objectives handed, shooting in the frame, target stick, keeping the ball with his hand, refusing racquet balls, fans, precision small vertical specific objectives, specific precision large vertical target, the specific objectives of the horizontal accuracy. Differences in motor abilities tennis players of different sexes was determined by using multivariate analysis of variance (MANOVA). Results: On the basis of the research it can be concluded that there are no statistically significant differences between boys and girls in terms of treated motor abilities. Discussion: Tennis is characterized by a very large number of different techniques strokes and movements, which are mostly performed at maximum speed for a long time, and it is logical that the success in tennis affects a larger number of motor skills (Zmajić, 2003). Development of speed, agility and explosiveness is very important for success in a tennis game, because tennis game consists of a number of different explosive reaction to a variety of changes in the situation (McCarthy, 1998). References: Filipčić, A. Filipčić, T. (2005). Correlation meet their particular motor skills and competitive effectiveness young female tennis players. Kinesiology, 37, 164-172. Groppel, J.L, Loehr, J.E., Melville, D.S. & Quinn, AM (1989). Science

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Physical Education and Pedagogics

STUDENT MOTIVATION ASSOCIATED WITH FITNESS TESTING IN THE PHYSICAL EDUCATION CONTEXT.

Liukkonen, J.[1], **Jaakkola, T.**[1], **Sääkslahti, A.**[1]
[1] University of Jyvaskyla (Jyvaskyla, Finland)

Introduction: Fitness testing is commonly used within the PE curriculum. PE teachers believe fitness tests being an important pedagogical element in encouraging students to improve their fitness and get involved in regular physical activity (Harris & Cale 2006). The use of fitness tests has been also criticized (Corbin, 2002). One of their main arguments is that fitness tests may actually contribute to diminishing interest in PE and physical activity. The purpose of the study was to analyze students' motivation in relation to their participation in fitness testing classes. Methods: Participants were 134 Finnish Grade 5 and 8 students who completed the contextual motivation scale(Pelletier et al., 1995) prior to fitness testing and the situational motivation questionnaire (Guay, Vallerand, & Blanchard, 2000) immediately after the class. During the fitness test abdominal muscle endurance was measured by curl-up test, lower body explosive strength and locomotor skills by the five leaps test, and speed and agility by the figure 8 running test. Results: For the fitness testing class, students reported higher scores for intrinsic motivation, identified motivation, and a motivation than in their general physical education program. Discussion: The results of this study do not support previous findings or propositions that students only derive negative experiences from engagement in school based fitness testing (e.g. Corbin, 2002). The current results may be due to the possibility that fitness testing classes are situations where students have opportunities to fulfill their needs to be competent, autonomous, and to feel relatedness. However, finding that amotivation during fitness testing was at a higher level than in the general PE program indicate that on average fitness testing also promotes negative motivational experiences. This may be due to the fact that fitness testing probably causes fatigue which might be linked with students' negative motivational experiences. References: Corbin CB (2002). Journal of Teaching in Physical Education, 21, 128–144. Guay F, Vallerand RJ, & Blanchard C (2000). Motivation and Emotion, 24(3), 175-213. Harris J, & Cale, C. (2006). European Physical Education Review, 12, 201–225. Pelletier LG, Fortier MS, Vallerand RJ, Tuson KM, Briere NM, & Blais MR (1995). Journal of Sport and Exercise Psychology, 17, 35-53.

THE RESULTS OF PROFESSIONAL APPROACH AND INCREASED INTENSITY OF WORK.

Georgiev, G.[1], **Mitrevski, V.**[2], **Nika, F.**[3], **Hasani, H.**[4]
[1] Ss. Cyril and Methodius University (Skopje, Macedonia), [2] Business Academy Smilevski BAS (Bitola, Macedonia), [3] State University of Tetovo (Tetovo, Macedonia), [4] Hotel "Lirak" (Tetovo, Macedonia)

Introduction: The goal of the research is to establish if the professional approach and increased intensity of applied results in improvements and differences between the functional and motoric abilities

(skills and habits) with students. Methods: The research has been conducted on a sample of 76 students at the age of 14. The first subsample consists of 40 students, and the second of 36 students, who, along with their regular school classes of 3 times a week and additional sports subject as choice (this refers to the first subsample as well), had regular trainings in basketball clubs three hours a week. They were tested by three indexes: 1) motoric abilities; 2) motoric skills and habits (Majeric, 2004); and 3) functional abilities (Jovanovic, 1999). There were calculated: basic descriptive statistic parameters, t-tests of independent samples, analysis of variance and Friedman test (Bala, 1986). Results: The results of the analyses are represented in 8 tables. On the base of the obtained results, the conclusion is that better results in all three indexes, are determined with the second subsample. It is those who are involved in regular school classes, have the sport as their additional subject choice, and had an active training work in their sports clubs. Discussion: The authors general conclusion of the research is that the number of that kind of research approach is quite small The results of the analyses of the first index in the conducted research show great similarity with the results obtained in the research of Georgiev, Kostovski, & Mitrevski (2012). The results of the second index indicate great similarity with Mitrevski's research (2012). The results of the third index are logically sustained. They are better with the second subsample. References: Bala G (1986). Logicke osnove metoda za analizu podataka iz istrazivanja u fizickoj kulturi. Novi Sad, Sava Muncan. Georgiev G, Kostovski Z, Mitrevski V (2012). Sport Mont, 34-36, 105-9. Jovanovic G (1999). Pulsometri u praksi. Bones, Kotor. Majeric M (2004). Analiza modelov ocenivanja sportnih znanj pri sportni vzgoji (Doktorska disertacija), Univerza v Ljubljani, Fakulteta za sport Ljubljana. Mitrevski V (2012). Razliki vo postiganjata i rezultatite po predmetot fizičko vospituvanje i obrazovanie i sport kaj učenicite od nekoi Balkanski državi (Doktorska disertacija), Univerzitet "Sv. Kiril i Metodij", Fakultet za fizička kultura, Skopje.

COMPARATIVE ANALYSIS OF PARENTS` ATTUTUTES FROM NEIGHBOUR COUNTRIES ON PHYSICAL ACTIVITIES OF THEIR PRE-SCHOOL CHILDREN.

Krivokapic, D.[1], **Bjelica, D.**[1]
[1] *University of Montenegro (Niksic, Montenegro)*

Introduction: A research has been done in pre-school institutions of Montenegro and Serb Republic whose aim was to get directions for improvement of physical education in pre-school institutions as well as for taking measures in order to educate parents of the children attending those institutions in the sense of improving knowledge on importance of physical activity for growth and development of pre-school children through monitoring and insight into attitudes of parents on physical activity of their children. Problem of this research is consisted of an attempt to use the parents` attitudes to estimate how active their children are within the time period when there are not on the pre-school institutions. Methods: The research was done by the poll method of anonymous questionnaire, with was filled by parents of the children attending pre-school institutions in Montenegro and Serb Republic. Sample of the examinees from Montenegro was made of 1356 of parents of the pre-school children attending pre-school institutions from all three Montenegrin regions. Sample of the examinees from the Serb Republic was made of 386 parents of the pre-school children attending pre-school institutions. Aim of the research was consisted of estimation of the parents` attitudes on volume and features of the physical activity of their children and of attempt to use the given data to take certain measures on the base of which their physical activities would be optimized. For this poll, a specially structured questionnaire for this purpose was used, in which the questions were set into groups with the aim of estimating features of physical

activity of the pre-school children. Results: For the statistics processing methods of descriptive statistics were used, which were used for numerical and percent presentation of frequency of some answers of the examinees, and the answers were presented comparatively in tables for both samples. Results of this research indicate to trend of decrease in physical activity of the pre-school children in both Montenegro and Serb Republic. Discussion and comments were integrally presented and discussed for all groups of answers to polled questions. Discussion: Dynamic development and more and more important role of physical education in modern society development as well as in the life a modern man has encouraged much more active attitude of science towards the field of the human activity (Bjelica, D. & Krivokapić, D., 2010.). Anyway, for the obvious trend of decrease in physical activity of the pre-school children, there is a need for its intensifying, in order to provide as optimal as possible influence on their mental and physical development. ``Physical development of an individual is best realized through activities that are intensified, conceived and versatile``(Bjelica, D. & Krivokapić, D., 2011). In that attempt, analysis of the position and role of the teacher as well as creating of stimulating ambient that enables, stimulates and encourages their professional development and permanent education is especially important. Taking into account the given results of this research, there is an opinion that additional education of parents of the pre-school children on importance of optimal physical activity for growth and development of the children in that period of their childhood, could partially decrease negative consequences resulting from unsatisfying level of their physical activity. References: Bjelica D, Krivokapic D (2010). Teorijske osnove fizicke kulture, Fakultet za sport i fizicko vaspitanje i Crnogorska sportska akademija, 37-38. Bjelica D, Krivokapic D (2011). Teorija igre, Univerzitet Crne Gore, 115-116.

SUBJECTIVE AND OBJECTIVE ESTIMATION OF THE LEVEL OF PHYSICAL EDUCATION IN SERVICE OF CONSERVING HEALTH STATUS IMPROVEMENT.

Krivokapic, D.[1], **Radulovic, B.**[2], **Krivokapic, O.**[3]
[1] University of Montenegro (Niksic, Montenegro), [2] Primary school "Braca Ribar" (Niksic, Montenegro), [3] Primary school "Radoje Cizmovic" (Niksic, Montenegro)

Introduction: Results of ever increasing number of research indicating to number of benefits of regular physical activity has influenced formation of many directions on recommended volume and intensity of exercise which is in the service of keeping and improving of a modern man`s health. From the aspect of risk estimation on health endangering, the major attention should be paid on identification of people who do not fulfill even necessary minimums regarding doing the physical activity. Participation in some kind of physical activity represents the most variable component of the overall daily calorie consumption of sedentary population because it mostly depends on the level of knowledge on influence of the physical activity, degree of self control and persistence of each individual to persist in attempting to keep and improve their health. Methods: This paper was conceived on methods of the American College for Sports Medicine ACSM (2009) which is one of the most referent sources in promotion of positive effects of physical activity on a modern man`s health. According to directions in the above mentioned source, there will be five elements of physical form to be analyzed that are related to health: cardio respiratory form, defined as a competence of cardiovascular and respiratory system to `deliver` oxygen to active musculature during continued physical activity; body structure referring to relative or percent share of different tissues within the body and which are related to health status; muscular strength, representing the ability of the human body to do the activity for which a high level of muscular strength is necessary; muscular endurance, defined as an ability of muscles or muscular group to do repeated contractions

within a long time period; flexibility, representing the ability to make big amplitude moves in a particular joint. Results: Results of so far research have established a clear connection between physical activity and health. One of the most important publications in which this connection is emphasized is the report of the American Ministry of Health, called Physical activity and health (1996), which gives a number of useful effects on health status of people who participated in some form of physical activity. Exact minimal volume and intensity of physical activity enough to cause positive effects on health status is still unknown, so the estimation of elements of physical form related to health became important for many institutions occupied with health of people. Discussion: For each of the above mentioned elements of physical form related to health, there were different subjective and objective procedures established that can be used for their estimation. Carpensen CJ. Powell KE, Cristenson GM Besides (1985), it is very important to take into account a clear aim for which a certain estimation is done, because it enables implementation of the most appropriate protocol for estimation of each element of physical form. In that sense, subjective and objective estimation of the level of physical activity of an individual is essential for preservation and improvement of their health status. References: American College for Sports Medicine, Guildelines for exericise testing and Prescription.8th ed. Philadelphia: 2009 Lippincott Williams&Wilkins, 248-52. Carpensen CJ, Powell KE, Cristenson GM (1985). Physical activity , ehercise, and physical fitness: definitions and distinctions for healt-related research. Public Health Rep., 100(2), 126-31. U.S. Department of Healt and Human Services and Centers for DiseaseControl and Prevention. Physical Activity and health: A report of the Surgeon General. Atlanta (GA): 1996 National Center for Chronic Disease Prevention and Health Promotion, 89-90.

Psychology

ANALYSIS OF THE PSYCHOMETRIC PROPERTIES OF THE TURKISH VERSION OF THE TEST OF PERFORMANCE STRATEGIES (TOPS) IN ATHLETES.

Micoogullari, BO.[1], **Kirazci, S.**[2], **Tasgin, Ö.**[1], **Uzum, H.**[3]
[1] Nevşehir University (Nevşehir, Turkey), [2] Middle East Technical University (Ankara, Turkey), [3] Abant İzzet Baysal University (Bolu, Turkey)

Introduction: The first purpose of this study was to examine reliability and validity of TOPS questionnaire for Turkish population. Original version of TOPS questionnaire designed by Thomas et al., (1999) that aimed to assess psychological processes thought to underlie successful athletic performance as delineated by contemporary theory in competition and during practice. The TOPS was designed to assess eight psychological strategies used in competition (i.e. activation, automaticity, emotional control, goal-setting, imagery, negative thinking, relaxation and self-talk) and eight used in practice (the same strategies except negative thinking is replaced by attentional control). Methods: In generating the sample for this study, we sought to include male and female athletes who were training and competing in a wide variety of sports across a broad range of performance standards. The final sample consisted of 620 athletes (mean ± s: age 21.25 ± 4.87 years) drawn from eight different locations. Data were obtained from 433 males (22.47 ± 5.30 years) and 187 females (20.97 ± 4.78 years). With the TOPS, athletes are required to respond to the 64 statements about psychological preparation strategies on 5-point scale ranging from 1 (never) to 5 (always). TOPS questionnaire was administered to 100 participants with two week interval for testing its test-retest reliability. Exploratory factor analysis was used to reveal factor structure that related with the validity level of TOPS for Turkish athletes' population. Results: Principal Component Factor Analysis with

Oblique Rotation for testing factor structure of Turkish version of TOPS supported 8 factor structures for 620 exercise participants and 64 items explain 69.50 % of variance. Internal consistency in eight factors construction were .89 (factor 1,self-talk), .85 (factor 2,emotional control),.80 (factor 3, automaticity), .82 (factor 4, goal-setting), .84 (factor 5, imagery), .87 (factor 6, activation), .90 (factor 7, negative thinking) and .82 (factor 8, relaxation). In the full-scale construction internal consistency was .88. Test-retest correlation coefficients based on two week interval were .66 (factor 1,self-talk), .63 (factor 2,emotional control), .58 (factor 3, automaticity) .61 (factor 4, goal-setting), .63 (factor 5, imagery), .66 (factor 6, activation), .72 (factor 7, negative thinking) and 0.62 (factor 8, relaxation). It can be concluded that the TOPS has quite strong psychometric properties. It can be used as a research tool to examine a number of interesting research questions in the prediction of important training and competition behaviors. It has also been found to be useful in applied settings both for profiling athletes' strengths and weaknesses so that interventions can be appropriately targeted, and for assessing the benefits of those interventions. Discussion: The current findings support the authors' hypothesis that the findings of the factor analyses, together with the descriptive statistics clearly support previous literature in identifying the use of motivational (e.g. self-talk and goal-setting), imaginal, relaxation, attentional control and emotional control strategies as an important feature of athletes' psychological preparation for competition and training situations (Hardy et al., 1996a, Thomas et al., 1999; Frey et al., 2003; Lane et al., 2004; Jannes et al., 2007; Katsikas et al., 2007; Taylor et al., 2008; Katsikas et al., 2009; Crust & Azadi, 2010). References: Hardy L, Jones G, Gould D (1996a). Understanding Psychological Preparation for Sport: Theory and Practice of Elite Performers. Chichester: Wiley. Thomas PR, Murphy SM, Hardy L (1999). Journal of Sports Sciences, 1999, 17, 697-711. Lane AM, Harwood C, Terry PC, Karageorghis CI (2004). Journal of Sports Sciences, 2004, 22, 803–12. Frey M, Laguna LP, Ravizza K (2003). Journal of Applied Sport Psychology, 15, 115-28. Jannes CR, Verniers K, Portzky MI, Verbrugge HA (2004). Psychometric properties of the Test of Performance Strategies in a Flemish athletic sample, 12. Europen Congress of Sport Psychology, Poster Presentation. Katsikas C, Donti O, Psychountaki M (2007). The foundation of the competition strategies of the TOPS questionnaire, 12. Europen Congress of Sport Psychology, Poster Presentation. Taylor MK, Gould D, Rolo C (2008). High Ability Studies, 19(1), 19–36. Katsikas C, Argeitaki P, Smirniotou A (2009). Journal of Biology of Exercise, 5(1), 29-38. Crust L, Azadi K (2010). European Journal of Sport Science, 10(1), 43-51.

Sociology

ATTITUDES OF SPORTS FANS IN MONTENEGRO TOWARD NATIONAL IDENTITY AMONG THE FREQUENCY OF THEIR PARTICIPATION IN SPORT ACTIVITIES.

Popovic, S.[1], **Bjelica, D.**[1], **Vasiljevic, I.**[1], **Hadzic, R.**[1]
[1] *University of Montenegro (Niksic, Montenegro)*

Introduction: Sport and national identity have been strongly connected through entire history, mostly due to the reason that an individual sportsmen or a national sport team may represent a certain group of people united around a single goal or the same ideas (Popović & Bjelica, 2013). Hence, they, accompanied with the sports fans, represent an entire nation and foster a sense of national pride amongst members of a given nation (Bogdanov, 2011). Consequently, this research was aimed at gaining relevant knowledge about the attitudes of sports fans that constantly attend the matches of national team toward national identity, mostly due to the reason the authors of this research believed that it could vary according to the frequency of their participation in sport activities in a month. Methods: The sample included 669

respondents who participate in sport activities more than 20 times (n=165), 11-20 times (n=98), 5-10 times (n=130), 1-4 times (n=108), less than ones a month (n=71) and as well as sports fans who never participate (n=97). The sample of variables consisted of 19 items, and the subjects were evaluated it by a seven-point Likert scale. Regarding the statistical analysis, descriptive statistics and Two-sample Hotelling's T-Square test were employed. Results: Based on the results it was concluded that significant differences occurred between sport fans who participate in sport activities more than 20 times (M±SD=4.52±1.51) and those who have never participated it (M±SD=4.26±1.50), those who participated less than ones (M±SD=4.29±1.53) and those who participate 1-4 times a month (M±SD=4.37±1.38), as well as between sport fans who participate in sport activities 11-20 times (M±SD=4.46±1.35) and those who have never participated it and those who participate it less than ones a month. Discussion: Sport is well positioned when we talk about the development of national identity, due to the reason there are many evidence from the previous literature (cited in Popović and Bjelica, 2013) that achievements of national sports teams and organization of major sports events can increase it. In addition, this study recognized stronger affiliation of the subjects who participate in sport activities more to the nation. Although sport is not only one factor that can influence national identity, the results of this study suggest that the personal involvement of sports fans in sports activities might also strengthen its self-esteem and national pride. References: Popović S, Bjelica D (2013). Sport Mont, 37-39, 61-66. Bogdanov D (2011). Influence of National Sport Team Identity on National Identity. Unpublished Doctoral Dissertation. Tallahassee, FL: The Florida State University.

ATTITUDES OF SPORTS FANS IN MONTENEGRO TOWARD NATIONAL IDENTITY AMONG THEIR AGES.

Bjelica, D.[1], **Popovic, S.**[1], **Hadzic, R.**[1], **Vasiljevic, I.**[1]
[1] *University of Montenegro (Niksic, Montenegro)*

Introduction: It is widely known that sport and national identity have been strongly connected through entire history. An individual sportsmen or a national sport team may represent a certain group of people united around a single goal or the same ideas (Popovic & Bjelica, 2013). Hence, they, accompanied with the sports fans, represent an entire nation and foster a sense of national pride amongst members of a given nation (Bogdanov, 2011). Consequently, this research was aimed at gaining relevant knowledge about the attitudes of sports fans that constantly attend the matches of national team toward national identity, mostly due to the reason the authors of this research believed that it could vary according to their ages. Methods: The sample included 669 respondents who have been divided into six subgroups: younger than 20 years old (n=326), 20-30 years old (n=203), 30-40 years old (n=46), 40-50 years old (n=30), 50-60 years old (n=42) as well as sports fans who were older than 60 years old (n=22). The sample of variables consisted of 19 items, and the subjects were evaluated it by a seven-point Likert scale. Regarding the statistical analysis, descriptive statistics and Two-sample Hotelling's T-Square test were employed. Results: Based on the results it was concluded that significant differences occurred between sport fans who are older than 60 year old (M±SD=4.72±1.10) and all other groups, except those who are 40-50 years old (M±SD=4.49±1.48). On the other hand, the significant differences were also occurred between sport fans who are 50-60 year old (M±SD=4.45±1.39) and those who are 20-30 years old (M±SD=4.39±1.44) and those who are younger than 20 years old (M±SD=4.42±1.17). Discussion: It is the fact, judging from some evidence from the previous literature, that sport is well positioned when we talk about the development of national identity (cited in Popovic and Bjelica, 2013). Consequently, the achievements of national sports teams and organization of major sports events can increase it, while this study recognized stronger affiliation of the subjects who are

older to its nation. Although sport is not only one factor that can influence national identity, according to the results of this study the tendency of national strategies must be much more focused on strengthening self-esteem and national pride of young population. References: Popović S, Bjelica D (2013). Sport Mont, 37-39, 61-66. Bogdanov D (2011). Influence of National Sport Team Identity on National Identity. Unpublished Doctoral Dissertation. Tallahassee, FL: The Florida State University.

SPORTS BETTING AS A NEW SOCIAL PHENOMENON IN REPUBLIC OF MACEDONIA.

Anastasovski, I.[1], **Nanev, L.**[1]
[1] *Ss. Cyril and Methodius University (Skopje, Macedonia)*

Introduction: The sports betting in the country for the first time appear in 1999. In 2013 there are over 200 sports betting with the approval of Ministry of Finance. Interest in sports betting every year is growing and also growing significantly and the number of gamblers, 40 percent1 of the population of Macedonia „Betting", which raises this phenomenal occurrence in the country at the level of euphoria. Sports betting term as a „general activity of predicting sports results by placing a bet on some sports event. The difference between sports betting popularly called „betting" and other games of chance in the illusion of what is likely to gain. Citizens who is a betting they are believe of more likely to benefit because they themselves choose sporting events that will make their money and themselves make possible combinations of play within the rules that generally apply to all sports betting. Methods: Data processing is performed in contingency tables based on the values as well as testing their differences. We crossed by one variable estimates about monthly bet and age of people (in horizontal lines), numerically at frequencies and percentage. Results and Discussion. In our country the reasons for betting is a diametrically opposite, the ability to gain or poor socio-economic status and poor standards of living is the main reason why they bet massively. In this research we are have the clear result more of 40 percent of citizens in Republic of Macedonia is betting. The sports betting in the country is witnessing a „transitional poetics of misery." People how is a „Betting" even of them 71.5 percent doing it for economic reasons. For the same reasons they are gambling citizens of all ethnic groups Macedonians, Albanians, Serbs, Turks, Roma, and population with less educated, people with more educated, and those with smaller with larger incomes, those living alone and those living with their families, staff and unemployed. References: Anastasovski I, Nanev L (2011). Sport and Law, Book, Skopje: Faculty of physical culture, Fleksofraf-Kumanovo, 71-118. Anastasovski I, Nanev L, Klimper I (2009). Prevention and repression for violence in the football stadiums in Republic of Macedonia, Book, Skopje, FFM, Fleksograf-Kumanovo, 34-6. Le Bon G (2005). Psihologija gomile. Algoritam: Beograd.

PERCEPTION OF BOSNIA AND HERZEGOVINA'S QUALIFICATION TO FIFA WORLD CUP 2014 BY DIFFERENT ETHNIC GROUPS.

Özkan, Ö.D.[1]
[1] *Virtua Research and Consultancy (Istanbul, Turkey)*

Introduction: Generally, in Balkans, particularly in Bosnia and Herzegovina, football fandom is very much associated with the fact of ethnic tension. Football is often used as a metaphor for warfare, while in turn, during the Yugoslav Wars, ironically football terminology was used to metaphorise the

significance of ethnic slaughtering. In fact, it is very commonly uttered that the starting flame of the Yugoslav Wars was sparkled in Zagreb Maksimir Stadium in May 13, 1990 after a match between Red Star Belgrade and Dinamo Zagreb. During the Yugoslav Wars, fan groups acted as recruitment agencies for organizing paramilitary groups who were convicted for organizing war crimes. This was the case in Bosnia as well. Although almost two decades have passed since the war in Bosnia, the effects of ethnic nationalism in football fandom is still inevitable. Recently, national football team of Bosnia succeeded to participate in the 2014 World Cup, which will be organized in Brazil, causing euphoria in the country. However, it is a controversial issue whether if all the ethnic groups, namely Bosnian Croats and Bosnian Serbs respectively did attend the celebrations. In other words, it is a question mark if they perceive Bosnian National Football as their "national" team. In this sense, this paper aims to discuss the perception of this success by different ethnic groups relying on interviews with different fan groups in the country. Methods: The presentation will rely on two basic resources: [1] An ethnographic study which was conducted in Bosnia in 2007/2008 as a part of PhD dissertation titled Football Fandom as a Factor Behind Formation of Cultural Differences: A Case Study on FK Sarajevo and FK Zeljeznicar Football Fans and ongoing observations of the presenter on Bosnian football since then. [2] Deep interviews with leading football fan groups of different clubs with different ethnic backgrounds like Velež Mostar, Čelik Zenica, Sloboda Tuzla (predominantly Bosnian Muslim), Zrinjski, Široki Brijeg (predominantly Bosnian Croat), Borac Banja Luka, FK Slavija (predominantly Bosnian Serb) which will be organized due to the start of the second half of the Premier League of Bosnia and Herzegovina by March 2014. Results: The results of the interviews will be analyzed at the end of the interviews. On the other side, it has been observed that Bosnian Serbs' and Bosnian Croats' perception of national team of BIH differs from Bosnian Muslims'. The paper will discuss this perceptional difference due to different dynamics of identity construction. Discussion: The discussion will discuss the inclusionist and exclusionist cultural dynamics and their effect on the process of identity formation. The concept of identity deriving from the Latin origin idem, which means „sameness" does not in fact only refer to absolute sameness, but also to differentiation. In this sense, it is not enough only to construct identity through similarities, but also it is important to construct differences as well. Constructing, or defining differences is not only important on how we define the others, but also how others define us. References: Duke V, Crolley L (1996) Football, Nationality and the State, 83-100. Giulianotti R (2003) Football: A Sociology of the Global Game, 1-39. Jenkins, R. (1996) Social Identity. Kuper S (2003). Futbol Asla Sadece Futbol Değildir (Football Against Enemey), 7-74. Wilson J (2006). Behind the Curtain: Travels in Eastern European Football, 98-183. Vrcan S, Lalic D (1999) From Ends to the Trenches, and Back: Football in the Former Yugoslavia (in Armstrong G, Giulianotti R, Football Cultures and Identities), 176-189.

Sport Management

THE MANAGERIAL CONCEPTS OF THE QUALITY AND PERFORMANCE AND THEIR INTEGRATION IN THE SPORT ORGANIZATIONS.

Nová, J.[1]
[1] *Masaryk University (Brno, Czech Republic)*

Introduction: This paper explores the possibilities of interconnection between the concepts of quality management systems and the concepts of the performance in sports organizations so to achieve the greater effectiveness and efficiency in terms of their operations. Therefore the paper provides an

overview of the quality management systems and principles which are applicable in sports organizations and special attention is also paid to the analysis of the Balanced Scorecard principles in the sport context. Via the chosen methodology the author analyses the potential of this performance measurement tool for the integration into quality management system in sports organizations. Methods: In the paper the author used different methods of scientific research namely systematic observation, desk research, descriptive and causal method as well as the inductive and deductive method. The methods of analysis and synthesis of the existing perspectives were exploited in order to analyse and describe the interrelatedness between the different concepts. Results: The profound analysis and synthesis of the existing theoretical and practical tools applied in the quality of sport and performance of sport has proved the rightfulness of the assumptions that these two concepts can be based on their logic integrated in the managerial practice in one framework. Discussion: Implementing the integrated concept of the quality management and performance management in the sport organizations can be very efficient, considering the characteristics of the quality management systems and performance measurement. This approach can improve the realisation and results of the core processes in sport organizations and enhance their accountability towards the stakeholders´ requirements and expectations. References: Hoye R at al. (2012). Sport Management - principles and applications. Third edition. Routledge NY. Kaplan RE, Norton DP (1992). Harvard Business Review, 71-9. Nová J (2013). Current Concepts of the Quality in Sport and Their Possible Utilization in the Czech Republic. In: Conference Proceedings Prague, November 2013.Economics, Management and Marketing of Sport 2013, International Conference.

SATISFACTION OF FOOTBALL PARTICIPANT FROM SOCIOCULTURAL ACTIVITIES IN STADIUMS ACCORDING BY GENDER.

Küçük, V.[1], **Bulgurcuoğlu, A.**[2], **Kepoğlu, A.**[3], **Yorulmazlar, MM.**[1], **Özçalı, Ü.**[4]
[1] Marmara University (Istanbul, Turkey), [2] Cent College (Istanbul, Turkey), [3] Sıtkı Koçman University (Muğla, Turkey), [4] Halic University (Istanbul, Turkey)

Introduction: This study is related to customer satisfaction based on stadium marketing, which gradually increases its importance in the sports industry in the last years and attendance to stadiums and spectators. Sports facilities and management are conducted completely or partially by private sector enterprises in some countries. As for Turkey, because of both sociocultural importance and not being met by the private sector in terms of amount and quality, investments for sports activities are directed by the government in line with a semi-centralized approach (Ekenci, 1990). Method: The search is limited to three football matches each, played by Galatasaray, Fenerbahçe, Beşiktaş and İstanbul Büyükşehir Belediyesi sports clubs in their stadiums. Spectators who are 15 years old and above and watch Turkish Super League football matches at stadiums compose the population of the research, 1025 spectators who watch matches at Ataturk Olympic Stadium, Inonu Stadium, Sukru Saracoglu Stadium and Turk Telekom Arena Stadium compose the sample of the research. 439 of the sample spectators watch the matches at the open tribune, 385 of them watch at the closed tribune, 122 of them watch at the numbered tribune and 105 of them watch at lodges. 24 of the spectators participated in the search don't answer this question. Results: Percentage distribution of the parametres related to frequency of watching football matches at the stadiums: 30,5% of the sample watch once a week, 27,4% of them watch once two weeks, 11,5% of them watch once a week and 30,6% of them watch once a month and less often. Discussion: Women spectators want the stadiums to be used for more sportive purposes other than football matches more than men spectators. The Football Federation has chosen a different method to hinder the violance and

abusive rave in the tribunes during the 2011-2012 season; they decided that only women and children below 12 could watch the Super League matches of the clubs punished with a stadium ban. It is seen that women mostly watch matches not alone, but with friends or family. According to cecamore vd, 71% of the women spectators are married or live together with their boy friends by the results of 2007-2008 questionnaires. So, while women want to watch the matches with their partners, men like watching with their friends. (Cecamore, Fraesdorf.Langer & Power 2011). References: Erkan N (1989). To pay regard to requirements of users in planning the sports facilities, hygienic and ergonomic approach. General Planning Problems of Sports Facilities in Turkey. İstanbul. Ekenci G (1990). Ataturk Faculty of Education Science of Sports Magazine, 2, 86-92. Cecamore S (2011). Fraesdorf K. Langer R. And Power A. Sports Fandom: What Do Women Want? A Multi-sport Analysis of Female Fans. FIFA Master 11th Edition 2010-2011. CIES, 18 th of March, 2013.

EFFECT OF THE AUDIENCE SATISFACTION ON THE STADIUM CONSTRUCTION CHARACTERS BY AGE GROUPS.

Bulgurcuoğlu, A.[1], **Küçük, V.**[2], **Kepoğlu, A.**[3], **Yorulmazlar, MM.**[2], **Özçalı, Ü.**[4]
[1] Cent College (Istanbul, Turkey), [2] Marmara University (Istanbul, Turkey), [3] Sıtkı Koçman University (Muğla, Turkey), [4] Haliç University (Istanbul, Turkey)

Introduction: “Sports consumers’ behaviors are about the journey itself not about the place to be achieved.” (Funk, 2008). The main driver for sports consumer is the atmosphere at sports competition among all other value-added drivers. According to the theory which is also supported by the empirical evidence, is the emotionally attracted atmosphere by feeding the need of pleasure of the spectator, it motives them to go to the competitions (Ulrich and Königstorfer, 2009: 326). One of the critical elements of basic product of a sport organization with spectators is the schedule as well as players. Stadium marketers, at least can control a part of their own schedules. They can determine the product lines of products during before competition, first half, and half time, second half and after competition periods. Method: The search is limited to three football matches each, played by Galatasaray, Fenerbahçe, Beşiktaş and İstanbul Büyükşehir Belediyesi sports clubs in their stadiums. Our search model is a descriptive search model. In this model, researcher observes the facts, causes no changes to the facts during the search. In other words, he analyses the facts and tries to describe them. The questionnaire form which is composed of a total of 32 questions - 13 questions about stadium marketing and customer satisfaction and 19 questions about the socio economic levels and attitudes of customers – has been prepared in order to collect data for the purpose of determining the behaviours of the spectators who watch football matches at stadiums, their expectations from the stadium service and satisfaction level. Spectators who are 15 years old and above and watch Turkish Super League football matches at stadiums compose the population of the research, 1025 spectators who watch matches at Ataturk Olympic Stadium, Inonu Stadium, Sukru Saracoglu Stadium and Turk Telekom Arena Stadium compose the sample of the research. 439 of the sample spectators watch the matches at the open tribune, 385 of them watch at the closed tribune, 122 of them watch at the numbered tribune and 105 of them watch at lodges. 24 of the spectators participated in the search don’t answer this question. Results: When the ages of spectators are increased, their pleasure related to the stadium transportation is decreased. When the age group of spectators is decreased, their pleasure related to the environmental planning is increased. Pleasure level of services at parking area differs according to the age groups. Young spectators are much more pleased with the given service than other age groups. Age groups between 15-25 are much more pleased with the

entrance and exit ways of disabled people than other age groups. Age groups between 15-25 are much more pleased with the seating position in stadium than other age groups. Age groups between 15-25 are much more pleased with the health services provided at the stadium than other age groups. Discussion: The environmental perception of spectators contributes the approach and avoidance perceptions and that determines the participation (Greenwell et al, 2002; Hill and Green, 2000; Tomlinson et al, 1995). In the better environment interaction among spectators can reach to the maximum level. According to the age groups of answerers, their judgments vary in terms of parking area services. Young answerers are much more pleased with the parking area services than mid age and elderly people. Researches done by Bitner and Melnick, proves that constructing a parking areas around stadiums is increased the spectators pleasure level. Spectators who have to spend their most of the time by looking for a parking area and have to park their vehicles away from the stadiums are frustrated (Bitner, 1992; Melnick, 1993). A lot of researchers indicate some elements of the physical features of the stadiums between the variants of age groups have a meaningful relation. These meaningful varieties are between the age and the physical features of the stadium. Greemvell, Fink and Pastore (2002), indicate that the spectators perception, who are at the age of 50 and over, in terms of physical features and service personnel of the stadium, are much more higher than the younger spectators (Greemvell et al, 2002). Kelly and Turley (1999), indicate that spectators between ages 46-55 give much more importance to the stadium entrances than the age groups between 18-30 and 31-45 (Kelly and Turley, 2001), Westerbeek (2000), indicates that elderly spectators give much more importance to the stadium environment than younger. (Westerbeek, 2000). It can be said that it is much more easy to attract young people to the stadiums rather than elderly people. It can be said that in order to attract elderly people to stadiums, environmental features should be improved and much more effort is required. By dividing among spectators attention, which focused on basic services, to the extensive areas a pleasant atmosphere can be created at the stadiums so that much more participation and revenue can be achieved. References: Funk D. (2008). Consumer behavior in sport and events. Marketing Action: Routledge. 4-45. Uhrich S. and Königstorfer J. (2009). Effects of atmosphere at major sports events: a perspective from environmental psychology. Wakefield KL. (1995). The pervasive effects of social influence on sporting event attendance. Journal of Sports and Social Issues. 19:335-351. Serarslan MZ. (2009). Futbol Pazarlaması. İstanbul: TFF-FGM Futbol Eğitim Yayınları - 9. Greemvell TC. Fink JS. and Pastore DL. (2002). Perceptions of the service experience: using demographic variables to identify customer segments. Sports Marketing Quarterly. 11 (4): 233-241. Hill B. and Green BC. (2000). Repeat attendance as a function of involvement, loyalty, and the sports cape across three football context. Sport Management Review. 3:145-162. Tomlinson M. Buttle F. and Moores B. (1995). The fan as a customer: customer service in sports marketing. Sport Marketing Quarterly, 3(1): 19-33. Bitner MJ. (1992). Services capes: the impact of physical surroundings on customer and employees. Journal of Marketing. 56: 57-71. Greemvell TC. Fink JS. and Pastore DL. (2002). Perceptions of the service experience: using demographic variables to identify customer segments. Sports Marketing Quarterly. 11 (4): 233-241. Kelly SW. and Turley LW. (2001). Consumer perceptions on service quality attributes at sporting event. Journal of Business Research. 54:161-166. Westerbeek HM. (2000). The influence of frequency of attendance and age on “place”-specific dimensions of service quality at Australian rules football matches. Sport Marketing Quarterly. 9 (4): 194-202.

Sport Statistics and Analyses

EFFECTS OF MOTORIC ABILITIES ON THE SPECIFIC MOTORIC ABILITIES WITH FOOTBALL PLAYERS AGED BETWEEN 14 AND 16.

Osmani, A.[1], **Mamaj, D.**[2]
[1] University Education Institution AAB (Prishtina, Kosovo), [2] KEC-Primary School Third Millennium (Prishtina, Kosovo)

Introduction: The research issue of this work is to examine the effect of motoric abilities on the specific motoric abilities with football players aged from14 to 16. According to the research issue, the following task was set: to establish the influence of the predictor system of six motoric tests on the two-criterion specific motoric tests. Methods: The group of tested persons in this research consists of 54 male football players aged from 14 to 16, who had active training in football club Prishtina. Their active football experience was two years at least. The sample of variables covers 6 motoric and 2 specific motoric variables. For each space individually there are calculated basic statistic indexes and the effect of the motoric abilities on the specific motoric abilities is established through the linear regressive analysis. Results: From the obtained results, presented in the 3 tables, the conclusion follows that the motoric variables had significant participation in the prediction of success in acquiring specific motoric abilities that are an important part of football. Discussion: Results similar to those obtained in this research are also evident with: Malina (2003), Swenson, & Drust (2005), Vaeyens, et al. (2006), Reilly, et al. (2000) and other eminent authors. We can confidently state that activities in which the trained football players were engaged show promise of high sports achievements. References: Malina RM (2003). Growth and maturity status of young soccer players. In T Reilly & AM Williams (eds.) Science and Soccer. Routledge, New York. Reilly T, Williams AM, Nevill A, Franks A (2000). Journal of Sport Sciences, 18, 695-702. Svensson M, Drust B (2005). Testing soccer players. Journal of Sports Sciences, 23(6), 601–18. Vaeyens R, Malina R M, Janssens M (2006). Br J Sports Med, 40, 928–34.

URBAN PARAMETERS FOR PLANNING THE NETWORK OF FACILITIES FOR PHYSICAL CULTURE IN MONTENEGRO.

Popovic, GS.[1]
[1] University of Montenegro (Podgorica, Montenegro)

Introduction: The aim of this paper is through research, which is related to the overview of the existing network of facilities for physical culture in the municipalities of Montenegro, to highlight the urban parameters on the basis of which the systematization and classification of space used for active physical culture is carried out. The evolution of sports areas in Montenegro in the late 20th and early 21st century, in which period the development of quality sport occurred, resulted in the construction of a large number of modern facilities for various sports. The presented material goes in that direction. Methods: Urban planning as a very important factor for proper development of a city, both in a physical and in an economic, social and cultural sense, has resulted in significant urban indicators necessary for determining the disposition and size of structures intended for physical culture facilities - urban spaces for recreation and sport. Through this example the network of sports facilities over time is perceived, shown by graphical and analytical indicators. The methods used in this paper are based primarily on the

methods of observation, research and the use of historical documents. Results: Based on analyzes of the overview of the state of the existing facilities that are located on the territory of Montenegro, the planned facilities and elements that are defined in the valid rulebook, which derived from certain legal standards for this type of structures, the network layout of physical culture facilities has been set. The example of classifying structures in the municipalities of Montenegro can be subject to serious criticism, especially regarding the evaluation criteria according to which the classification was performed. Discussion: The influence of location factors (agglomerates) on the place and activities, respectively, in the environment and the interdependence that exists in their inter-active relationship, led to certain questions that should be answered. So, it is necessary to analyze the existing classification of physical culture facilities in Montenegro, on the basis of which a new classification model of physical culture facilities should be established, as a key factor in forming urban space for recreation and sport. References: Equipement sportifs et socio-educatifis (1977). Moniteur des travaux pub lics et du batiment, Paris. Sportivnie sooruženia (1976). Fiskultura i sport, Moskva. Whittick A. (1974). Encyclopedia of urban planning, Mc Graw-Hill, New York. Grupa autora (1996). Sportski objekti u Crnoj Gori (stanje i bonitet), Podgorica.

THE RELATION OF SOME MORPHOLOGICAL CHARACTERISTICS vs. MOTOR ABILITIES IN BASKETBALL.

Mehmeti, I.[1]
[1] *Universit of Montenegro (Niksic, Montenegro)*

Introduction: The aim of this study is to determine whether there are differences present in anthropometric characteristics and motor abilities between junior basketball club players and their peers from high school in regard to the environment in which they reside and coaching influence. Based on scientific knowledge and scientific research so far conducted mainly by foreign researchers in the field of basketball game and relying on the scope of this paper it was expected (anticipated) the study will show differences in morphological , motor and motor situational variables specific to the basketball game. Methods: (12) male players of B.C. " Skenderaj" , and their peers (12) male students of Sec. School from Mitrovica; randomly selected during the fall semester of 2013/2014 school year, their average age was 17.66 ±1.241 years. The system of variables consists of (15 items in total), (5) variables were used to assess anthropometric characteristics and 10 variables were used to assess the motor abilities. The details of variables, tests and units of measurement are displayed in Table 1. To achieve the results after the collection of data, Descriptive statistics such as the mean and standard deviation were calculated of all variables. To seek significant difference between selected variables followed by the T-test discriminative analysis. The level of significance was set at ($p<0.05$) level. Results: The results expressed the basic statistical data mean and standard deviation of all selected anthropometric and motor measures are:age (17.66±1.241), height 170.33.±3.87),weight (62.58±5.4), palm length (17.79± 0.89), foot length (24.±0.64), the rest of data will be displayed in full paper. Discussion: Various studies have examined the physical characteristics of elite and successful teams in basketball in order to determine which factors are the most important, in senior sportsman and children, but we have no much evidence of researches done on anthropometric and motoric characteristics in youngster (basketball players).The FIBA changes in rules of 2000 may have contributed to modifying the physiological profile of basketball players, by generally increasing their level of fitness. Anthropometric and physiological profiling can contribute to selection procedures in junior basketball; however, determinants of success are multi-factorial. So far these concerns have been lacking in Kosovo basketball, due to the fact that Kosovo Basketball

Federation is not recognized by FIBA yet. References: Angyan L, Teczely T, Zalay Z, Karsai I (2003). Acta Physiologica Hungarica, 90 (3), 225-31.

PHYSICAL VARIATION AMONG NATIONAL OLYMPIC TEAMS AND IMPLICATIONS FOR RATIONAL PROGRAMS OF SPORTS TALENT SELECTION.

Grasgruber, P.[1], **Cacek, J.**[1]
[1] *Masaryk University (Brno, Czech Republic)*

Introduction: The aim of this study was to continue in the work of Hirata (1966), who collected information about body height and weight of athletes competing at the Summer Olympic Games in Tokyo (1964), and on the basis of mutual comparison of national teams, he outlined differences in height and somatic types among participating world populations, which could have very important implications for the rationalization of sports talent selection. Methods: Information on the (self-reported) body height and weight of male athletes from the Summer Olympics 1964, 1976, 1988, 2000 and 2008 was obtained from the internet database Sports-Reference.com. Subsequently, national/ethnic averages of height and BMI were computed and plotted on a graph. More than 500 values of measured body height and 250 values of sitting height collected from males in the whole world were used for comparison. Results: The historical comparison shows that when national Olympic samples are sufficiently numerous and representative, their means of height and BMI remain surprisingly stable over time. The high correlation between the height of 68 Olympic teams in Peking 2008 and available anthropometric surveys of young men ($r=0.84$; $p<0.000001$) supports the applicability of the used data and indicates that average physical measurements of national Olympic teams are primarily determined by the physical potential of populations, from which they are drawn, and not by the spectrum of Olympic sports or local sports culture. Interestingly, although there exist only limited tools for the critical evaluation of national/ethnic averages of BMI, it is noteworthy that they make up distinct regional clusters and in 9 cases that are available for comparison, they also strikingly agree with differences in the fat mass/fat-free mass ratio determined in various world ethnicities ($r=0.96$; $p=0.0008$) (Deurenberg et al., 1998). Discussion: The results of this study show that physical data of Olympic athletes could be used for a detailed mapping of human variation in height and somatotype (inferred from BMI). The documented physical differences among world nations also imply that the available potential for particular sports can vary very dramatically and rational programs of talent selection should primarily be aimed at specific sports, whose physical requirements are most similar to the prevailing body type of the respective population. References: Deurenberg P, Yap M, Van Staveren WA (1998). Int J Obes Relat Metab Disord., 22 (12), 1164-71. Hirata KI (1966). J Sports Med Phys Fitness, 6(4), 207-22.

Poster Presentations

Biomechanics

PLANTAR PRESSURE DISTRIBUTION PATTERNS DURING BASKETBALL-SPECIFIC MOVEMENTS.

Liu, C.[1], **Lin, CY.**[1], **Cheng, YE.**[1], **Ho, WH.**[1], **Liu, Y.C.**[2]
[1] University of Taipei (Taipei, Taiwan), [2] Chung-Hua University (Hsin-Chu, Taiwan)

Introduction: The plantar pressure is an effective biomechanical marker for understanding the foot-injury mechanisms during different movements identified. Movements commonly observed in basketball games include forward-backward movements (such as running, sprinting), sideway movements (such as V-cut, crossover cut) and jump movements (such as step-back jump, vertical jumps (McClay 1994). These previous studies revealed that the distribution characteristics of plantar pressure were different among soccer-specific movements (Eils et al, 2004; Queen et al, 2007; Wong et al, 2007; Orendurff et al, 2008a; Queen et al, 2008). The objective of this study was to investigate the distribution characteristics and differences of plantar pressure caused by various basketball-specific movements including sprinting, V-cuts, step backs, and crossover cuts. Methods: The repeated-measures experimental design was used in this study. Nine outstanding high-school male basketball players were performed various basketball-specific movements on a wooden floor. These movements, sprinting, V-cuts, step backs, and crossover cuts, characterized by specific foot directions and movement patterns. The insole plantar-pressure data was recorded by using the Medilogic Foot Pressure Measuring System (T&T medilogic Medizintechnik, GmbH, Munich, Germany). This pressure insole contains 64 sensor nodes with a sample-rate of 50 Hz. The peak pressure (PP) and calculate pressure-time integrals (PTIs) were detected by an insole plantar pressure measuring system. Results: Plantar pressure caused by various basketball-specific movements primarily on the forefoot, particularly on the medial forefoot. In addition, when comparing the differences in plantar pressure caused by various basketball-specific movements, the sprinting and crossover right cuts exerted higher pressure on the lateral forefoot and midfoot than the V-cuts, step backs, and crossover left cuts did. The V-cuts, step backs, and crossover left cuts exerted higher pressure on the medial and lateral heel. Discussion: The objective of this study was to investigate the distribution characteristics and differences of plantar pressure caused by various basketball movements including sprinting, V-cuts, step backs, and crossover cuts. The major finding of this study was that the plantar pressure for various basketball movements was exerted mainly on the forefoot, particularly on the medial forefoot. In addition, different basketball-specific movements displayed different characteristics of plantar-pressure distribution: Sprinting and crossover right cuts exerted higher pressure on the lateral forefoot and midfoot compared to V-cuts, step backs, and crossover left cuts, whereas V-cuts, step backs, and crossover left cuts exerted higher pressure on the medial and lateral heel. References: Eils et al (2004). Am J Sports Med, 32(1),140-5. McClay et al (1994). Journal of Applied Biomechanics,10(3), 205-21. Orendurff et al (2008). J Foot Ankle Res,1(S1), O23. Queen et al (2007). Am J Sports Med, 35(4), 630-6. Queen et al (2008). Br J Sports Med, 42, 278-84. Wong et al (2007). Br J Sports Med, 41, 93-100.

Coaching

THE EFFECT OF BREATHING ON THE DISTANCE BETWEEN CENTER-OF-BUOYANCY AND CENTER-OF-MASS IN COMPETITIVE SWIMMERS.

Watanabe,Y.[1], **Wakayoshi, K.**[1], **Shiraki T.**[1], **Tachi, M.**[2], **Nomura T.**[3]
[1] Biwako Seikei Sport College (Shiga, Japan), [2] Nara University of Education (Nara, Japan), [3]Kyoto Institute of Technology (Kyoto, Japan)

Introduction: Buoyancy is an important parameter in swimming. Previous studies suggested that gender, arm position, and lung volume influence natural buoyancy characteristics (Gagnon & Montpetit, 1981; McLean & Hinrichs, 2000). However, these data have not fully described the changes in natural buoyancy. For example, most previous studies measured center-of-buoyancy when participants held their breath. The purpose of this study was to examine the effect of breathing on the distance (d) between Center-of-buoyancy (CB) and Center-of-mass (CM), and its relation to glide-swimming performance. Method: The participants of this study were 14 male and 22 female Japanese Junior elite competitive swimmers. A reaction board (Hay, 1993) was used to locate CM for each participant while they lay in prone position with both arms held above the head (a streamline posture). The participant submerged and took the same posture for the measurement of CB. In both measurements, the changes of CM and CB were measured in relation to the changes of the lung volume which was measured by a flow instrument. The distance covered by glide-swimming was measured with the participant pushing off from the wall. Results: The result of d showed significant differences ($p<.05$) between the male (1.93 ± 0.21 cm) and the female swimmers (1.36 ± 0.17 cm) during hovering position (a neutral buoyancy). However there was no significant difference during full inspiration (male: 2.28 ± 0.44 cm, female: 2.01 ± 0.35 cm). The distance of the glide-swimming was not significantly different between the male and the female swimmers. Discussion: The results of this study showed that the change of CB with breathing was larger for the female swimmers than for the male swimmers. Also, the distance between CB and CM became smaller in the female swimmer during neutral buoyancy. These results indicated that the female swimmers have a potential to use buoyancy more effectively and could maintain a better horizontal streamline position. References: Gagnon M, Montpetit R (1981). Journal of Biomechanics, 14, 235-41. McLean SP, Hinrichs RN (2000). Research Quarterly for Exercise and Sport, 71(2), 182-9.

SPORT NUTRITION KNOWLEDGE OF COACHES.

Vasiljevic, I.[1], **Bojanic, D.**[1], **Petkovic, J.**[1], **Muratovic, A.**[1]
[1] Universiuty of Montenegro (Niksic, Montenegro)

Introduction: Decades of research support the theory that when there are sports competitions the question of what to eat and drink in order to enhance sport performance. Nutrition is one of the most important factors in achieving top performance athletes. According to most studies conducted in the world's top athletes receive information from their coaches when it comes to sports nutrition, especially of the coaches involved in fitness training. (Burns, Schiller, Merrick & Wolf, 2004).The aim of this study was to determine the knowledge of sports nutrition in sports coaching. Mthods: The sample was composed of 30 licensed coaches from Montenegro (football, handball, basketball, volleyball, athletics and tennis). Knowledge of sports nutrition was tested by means of a standardized questionnaire. The questionnaire

was designed to determine the knowledge manager on sports nutrition, the ingredients that are necessary in order to provide a sufficient amount of energy to training and competition, the dietary supplements, meal prior to the competition as well as dehydration and rehydration during training and competition. The survey was anonymous. The data were analyzed by statistical methods, using the statistical software STATISTICA for WINDOWS. Results: According to the results as a whole, it can be concluded that the trainer's knowledge of sports nutrition at a satisfactory level. Out of 600 responses was achieved 469 correct answers, or 78.1%. However, when looking at individual responses then satisfaction with the relative high percentage loss since the observed large gaps on very important issues related to sports nutrition. Discussion: By analyzing and comparing research results (Matkovic, Prince & Cigrovski, 2006) that in a sample of 56 coaches basketball and skiing, received 77.8% of correct answers and insight into the results of our study, it is clear that the results of the approximate value of both work, which is an indicator of quality education trainers. However, viewing individual responses, worrying is the fact that one-third of respondents have very low levels of knowledge about protein supplements and believes that proteins are the main source of energy. If we take into account the fact that athletes are often used as a dietary supplement exactly as recommended by coaches, it would be expected that people advise taking these supplements know about any problems or negative occurrences that may endanger the health of athletes. References: Burns RD, Schiller R, Merrick MA, Wolf KN (2004). J Am Diet Assoc, 104, 246-9. Matkovic B, Knjaz D, Cigrovski V (2006). Croatian Sports Medicine Journal, 21, 3-7.

THE ASSOCIATION BETWEEN QUADRICEPS STRENGTH AND CARDIORESPIRATORY FITNESS IN YOUTH BASKETBALL PLAYERS.

Spahi, A.[1], **Jarani, J.**[1], **Kasa, A.**[1]
[1] *Sports University of Tirana (Tirana, Albania)*

Introduction: Studies have verified that the explosive strength training (plyometric training) associated to the aerobic training may improve performance of runners (Spurrs et al 2003; Paavolainen et al 1999). The association of lower-extremity strength on cardio respiratory fitness on youth basketball players has not yet been defined. The purpose of this study was to estimate the association between CRF and strength. Methods: The participants were 42 youth basketball players (aged 17.6; SD 0.9 yrs) from five teams, enrolled regularly in Albanian basketball championship. An isokinetic dynamometer was used to assess strength and cardio respiratory fitness was determined using an incremental running test on a ergometer. Results: According to the results, there was no statistically significant difference between the dominant limb strength on the measures of maximum (r=0.2) and average torque (r=0.04) with CRF. There was statistically significant difference between the non dominant limb on maximum torque (r=0.34; p=0.03), and peak torque (r= 0.33; p=0.042) with CRF. Discussion: This investigation encourages further study on youth basketball athletes on the training of the strength using the right program especially in exercises of dominant and non dominant limb training. It seems that conditioning professionals should devote additional time for explosive strength development during preparatory period. References: Paavolainen L, Hakkinen K, Hamalainen I, Nummela A, Rusko H (1999). J Appl Physiol, 86, 1527-33. Spurrs RW, Murphy AJ, Watsford ML (2003). Eur J Appl Physiol, 89, 1-7.

Motor Learning

IMPACT OF ANTHROPOMETRIC AND MOTOR PARAMETERS IN THE SUCCESS OF SHOT PUT.

Xhemajli, V.[1], **Myrtaj, N.**[2]
[1] University of Montenegro (Niksic, Montenegro), [2] University of Prishtina "Hasan Prishtina" (Prishtina, Kosovo)

Introduction: Athletics as a sport, first and foremost is a basic sport, adaptation of youth living with sport regime on one side and right orientation towards training process on the other side will certainly come up to the achievement of desired results. SHOT -PUT is a sport discipline of athletics in which the thrower is making efforts to throw the SHOT-PUT as far he can do it. Methods: Population from which the sample is drawn for research for this paper is defined as a population of pupils from Elementary School"Selami Hallaqi" regular male pupils from the ninth grades from the Municipality of Gjilan. In this research are included in total 100 ninth grade pupils aged 15± 6 years and were tested during school time period March – April of the year 2012. In this paper are applied ten anthropometric variables, six motor tests and one discipline parameter of athletics SHOT-PUT.To determine the relation between predicted variables (anthropometric and motor characteristics) and criteria variable (Result of SHOT-PUT) is applied regressive analysis in space manifestos. Results: The only predicted test (independent) that affects in criteria variable (dependent) or in the realization of SHOT-PUT is throwing the medical ball from the over-head level. The structure of movement during the execution of the throwing of medical ball from the over-head level is the same as the structure of movement of SHOT-PUT. Discussion: Even though it is expected that the anthropometric parameters, especially the body volume to have impact in criteria variable, such impact was not gained, the same data were found also at the records of (Milenković, D. 2009). This should be understood that more technical aspect of execution has found expression and affects in execution of the task criteria rather than morphological aspect. The only motor predicted test that affects in criteria variable or in realization of SHOT-PUT is throwing of medical ball from the over-head level with what is proved that the development of explosive force of all muscle groups has a dominant role in the distance of SHOT-PUT (Čalija, M. 1977). The gained impact leaves us to conclude that during conditional preparations with athletes of SHOT-PUT we must choose exercises that have similarities in terms of their structure at all levels of intensity of execution. References: Milenkovic D (2009). Fizička kultura, 63(2), 204-42. Calija M (1977). Fizička kultura, 2, 33-42.

STRUCTURE OF ANTHROPOMETRIC CHARACTERISTICS OF FOOTBALL PLAYERS AGED 14-16.

Xhemaili, V.[1], **Selimi, M.**[2], **Xhemajli, A.**[3], **Myrtaj, N.**[2]
[1] University of Montenegro (Niksic, Montenegro), [2] University of Prishtina "Hasan Prishtina" (Prishtina, Kosovo), [3] University of Gjilan (Gjilan, Kosovo)

Introduction: According to Bompa (2000), the characteristics features of athletes aged from 14 to 16 are marked by the period of adolescence. More than one authors have established the latent structure of different segments of anthropologic status of football players (Wong, & al., 2009; Jerković, 1986). The basic goal of the research is to determine the latent dimensions, which are the ground of the

anthropometric characteristics of football players at the age between 14 and 16. Methods: The research was conducted on 36 football players. They were treated by 12 anthropometric measures by IBP. For determining the structure of the anthropometric space there is used the normal varimax factor analysis method with Guttmann-Kaiser (GK) criterion. Results: The obtained results are normally distributed. There are extracted 2 significant latent factors. The first is defined by the anthropometric measures for assessing the longitudinal and transversal dimensions, volume and body mass. The second factor is defined by the measures of skin fold. Discussion: The established anthropometric structure of the football players in our research differs from the results that are obtained in the researches of Nemčić, et al. (2013) and Jerković (1986), where there are isolated and defined up to 4 anthropometric factors. We believe that the two isolated factors in our research are results of a well selected sample of respondents. References: Bompa T (2000). Cjelokupan trening za mlade pobjednike. Hrvatski košarkaški savez – udruga hrvatskih košarkaških trenera, Zagreb. Jerković S (1986). Relacije između antropometrijskih, dinamometrijskih i situacionih motoričkih dimenzija i uspjeha u nogometnoj igri. Doctoral Dissertation, Faculty of Kinesiology. Zagreb. Nemčić T, Fiorentini F, Sporiš, G (2013). Latentna struktura morfoloških varijabli na uzorku nogometaša kadeta. 22th Summer School of Kinesiologiests from Republic of Croatia, pg. 142-8. Wong PL, Chamari K, Dellal A, Wislőff U (2009). The Journal of Strength and Conditioning Research, 23(4), 1204-10.

Adapted Physical Activity

PREDICTORS OF PERFORMANCE IN JUNGLE ULTRA-MARATHON RUNNERS.

Warrell, CE.[1], **Perham, A.**[2], **Swerdlow, DI.**[3], **Rocos, B.**[4], **Morgan, P.**[4]
[1] Northwick Park Hospital (London, UK), [2] Queen Elizabeth Hospital (London, UK) [3] University College London Institue of Cardiovascular Studies (London, UK), [4] North Bristol NHS Trust, (Bristol, UK)

Introduction: This novel prospective study investigated factors associated with athletes ultra-marathon performance in high heat and high humidity (Amazon Rainforest, Para region Brazil). Previous similar studies in other less extreme environments have shown finishing times in races greater than 100km are influenced by individuals training characteristics and/or participants anthropomorphic factors. Although, much controversy surrounds these hypothesis (Knechtle B et al 2009, Rust CA et al 2013). Methods: In this study pre-race questionnaires were used to determine characteristics relating to performance of athletes participating in the Jungle based Ultra-Marathon. Variables investigated included; age, gender, weight, height, body mass index, previous race experience, longest training distance, training speed, training temperature, weekly training distance and personal best marathon times. The end point was 100km time. Pearson coefficient and Mann Whitney Rank Sum tests were used to analyse correlation of continuous and binary factors respectively with 100km times. $P>0.05$ was considered significant. Results: 37 elite and non-professional runners were included in the study. The age range was 21-67, and 31 were male. Amongst the variables measured, training speed ($p=0.005$ $r2=-0.54$) and resting heart rate ($p=0.037$ $r2=0.44$) were found to correlate statistically significantly with athletes performance at 100km. There was no correlation with weight, height or body mass index. Athletes who trained in temperatures similar to the race conditions (35oC) were significantly more likely to achieve better 100km times ($p=0.027$ $z=2.21$). Discussion: This is the first study of its kind to investigate ultra-marathon performance in the challenging jungle environment. Mean training speed, resting heart rate and training temperature, were found to correlate significantly with athletes 100km times. This is a novel

finding in a previously un-investigated ultra-marathon environment. References: Knechtle B, Wirth A, Knechtle P, Zimmermann K, Kohler G (2009). Br J Sports Med., 43(11), 856-9. Rust CA, Knechtle B, Knechtle P, Rosemann T (published online ahead of print). Similarities and differences in anthropometry and training between recreational male 100km ultra-marathoners and marathoners. J Sports Sci.

Health and Fitness

THE QUASI-EXPERIMENTAL STUDY ON THE HEALTH EMPOWERING PROGRAM MENTORING BEHAVIOR MODIFICA.

Chuntima, W.[1]
[1] *Suranaree University of Technology (Nakhon Ratchasima, Thailand)*

Introduction: This quasi - experimental research studied the effect of empowering in over nutritional adolescences in higher education through group counseling on the adjustment of their exercising and food consumption behaviors was conducted with the objective. Methods: The sample consisted of 60 overweight and obesity in Suranaree University of Technology since the year 2554. Participants were matched for sex, age, nutritional status and level of education and were randomly assigned into either an experimental group or a control group. The experimental group received the program developed based on the concepts of empowerment and group process . The control group had a normal life style . Data were analyzed by percentage , mean , standard deviation and paired t test. Result: The study found that the female was 55.5 % , average age = 20 . 4 years (SD = 1.83) attending Year 2 50.7 % , average weight of 58.6 kgs (SD = 13. 4) the average 165. 0 cm . BMI is in the normal 30.0 % , overweight 42.0 % and the amount of food per month averaged 3,853 baht , exercise behavior were moderate 71.3 % , non-smoking 83.1 % and alcohol consumption 47.7 %. Physical fitness test before and after the interval of 12 weeks of treatment . The mean score of the practice of physical fitness test were statistically significant higher than that before using the program at a level of 0.05, at the heart rest , BMI (body mass index) , hand grip , lung capacity , strength, leg muscles , and weakness. and performance of the circulatory and respiratory systems . The control group were statistically significant at a level of 0.05 the resting heart rate and the strength of the leg muscles. Discussion: The research suggests that the program developed based on the concepts of empowerment and group process is effective for adolescent behavioral modification in exercise and consumption of food. Reference: Gibson CH (1995). Journal of Advanced Nursing, 21(6), 1201-10. Cynthia L, Katherine M, Margaret D, Clifford L, (1999-2000). JMA 2002, 288, 1728-32. Wallerstein N, Bernstein E (1988). Health education Quarterly, 15(4), 379-94.

BMI OF NEWLY ENROLLED INTO TODOR KABLESHKOV UNIVERSITY OF TRANSPORT FEMALE STUDENTS.

Peeva, D.[1], **Petkov, K.**[2]
[1] *Todor Kableshkov University of Transport (Sofia, Bulgaria),* [2] *Vasil Levski National Sports Academy (Sofia, Bulgaria)*

Introduction: The paper presents the results of a study where besides using the conventional anthropometry, the individual Body Mass Index (BMI) or Ketle Index was calculated. Being established

in the mid-nineteenth century, Ketle Index gained wide popularity in the 1950s and 1960s when the problem of obesity in the developed countries acquire serious levels. The aim was to prove the relationship between anthropometric parameters and Body Mass Index as well as the possible health risks of the individual. Methods: The study was carried out on 78 first-year female students at the Todor Kableshkov University of Transport (VTU). The indicators examined were: height, weight, skin fold, waist circumference and BMI. Descriptive statistics was used with data processing and different methods were applied to establish the anthropometric parameters: Body Mass Index or Kettle Index; quantitative subcutaneous fat according to the method developed by Deurenberg; comparative analysis of the link between waist circumference; BMI and the state of the individual's body. Results: The study showed that the average BMI for the entire group of students was 23.1 and subcutaneous fat of 26.6% respectively. Nearly 10 % of those being examined are overweight combining high levels of subcutaneous fat and waist circumference, which is a prerequisite for increased risk of disease. Discussion: In the academic year 2011/2012 a study of anthropometric indicators of the newly-enrolled female students was carried out at the Todor Kableshkov University of Transport (VTU). In compliance with some studies (Popov, 1969) a slight increase of size and weight is observed with increasing the age of women during the time of study at university while according to others (Karapetrov, 1978) changes in anthropometric indicators are reported to a later age. According to the research related to introduction of Euro fit tests, BMI as an indicator of general health of the body works in combination with the coefficients of subcutaneous fat (skin fold) and the waist/hips ratio. With big values of the three variables, there are high health risks for individuals. According to some studies (Bjorntorp, 1992), the abdomen fat leads to a greater risk of cardiovascular disease and diabetes than the fats in other parts of the body. The considerable part of participants in this study had normal weight but with a tendency of its increasing that could result in bad condition of the organism. Using the advantages of physical education, it is largely possible to correct most of negative results obtained through the study, especially in relation to obesity and waist circumference. References: Deurenberg P, Westrate JA, Seidell JC (1991). Br J Nutr., 65(2),105-14. Bjorntorp P (1992). J Cardiovasc Pharmacol, 8S, 26-8.

Rehabilitation

PRATICE CRAWL – MENTAL DISTABILITIES: ADULT CHOICE OF DRIVE TECHNOLOGY ADAPTED COMPETITORS.

Dominique, R.[1]
[1] *University of Lyon1 (Lyon, France)*

Introduction: Of the two schools most stressed about the act of propelling the crawl, crawl in practice, which is the most efficient swimming, the two modes of propulsion favorites are "The outstretched arm" next to the called swimmer paddling and "The arm bent S-shaped" under the so-called swimmer impeller (N. Lanotte, S. Lem, 2012) The debate is not yet settled (Potdevin F; Pelayo P. 2006). Any swimmer has a strategy for managing its own resources considering the cost / benefit of each stroke technique report, with the aim of improving strength (Arellano, R. (1992), its movement and hence its performance (Joshua, 1992) in retarded placed in individual practice crawl competition, open to different technical conditions, what is the movement that is most often practiced, according to "the outstretched arm" or "folded S-shaped arm "under the swimmer? Methods: We record video (Pk Chollet - 2003), during two Regional championships in France adapted swim organized by the French Federation of Adapted Sport

tests crawl in Division 1 Division 2 and Division 3 according to the latest regulations for implementation first time. We question the choice: "The outstretched arm" or "arm bent S-shaped" under the swimmer, by interviews (Y.Meynaud; Duclos D.1996) professional supervisors or volunteers before tests their competitors and we competitors are questioning after their trials. Results: It appears on the video that all competitors swim the "arms outstretched" The point of view of professional or volunteer supervisors: no of them are not asked for the choice of method of propulsion is best for their competitors as they say swimming techniques they teach in their club are the same as for all disabled or not competitors. The point of view of competitors: For competitors the method of propulsion "outstretched arm" seems to them the most effective. Method "arm S" Their demand coordination of movement more difficult to obtain in the context of mental disability. Discussion: Using the method of "arms outstretched" timing of movements is easier to obtain in the case of development of a simple movement to the competitor deficient adult mind. He can repeat the gesture "outstretched arms" over the entire length as a strategy to optimize its performance (Temprado 1991; Famose 1993; Sarrazin, 1997). References: Arellano R (2004). Seminario Europeo de Entrenadores de Natación, Madrid 7-9 mayo 04. Arellano, R. (1992).Evaluación de la fuerza propulsiva en natación y su relación con elentrenamiento y la técnica. (Tesis Doctoral, Director: Jaime Vila). Chollet P. (2013). La coordination dans les quatre nageS. Actes des 3ème journées spécailisées de natation ed De Booeck 2013. Elipot, M , Dietrich, G., Hellard, P., Houel, N. (2010). Cinalysis: A new software for swimming races analysis. Procedia Engineering, 8 th Conference of the International Sports Engineering Association (ISEA), 2, 3467.

Training and Testing

COMPARATIVE ANALYSIS OF HANDBALL CADETS AND YOUNGER CADETS IN THE MOTOR AND THE SPECIFIC-MOTOR SKILLS.

Muratovic, A.[1], **Vujovic, D.**[1], **Bojanic, D.**[1], **Georgiev, G.**[2]
[1] University of Montenegro (Niksic, Montenegro), [2] Ss.Cyril and Methodius University (Skopje, Macedonia)

Introduction: Studies that deal with the problem of comparing two or more groups of handball players of different ages, are not so frequent. A number of Croatian authors contributed to these studies. In a way that they have analyzed the differences between handball players at defferent levels of competition. In this study, a survey was conducted in order to determine whether there are differences between handball cadets and junior cadets in the motor and the specific motor skills. Methods: The sample in this study consisted of 30 handball players split in this way : the cadets (15), aged 16-17 years old and younger cadets (15) aged 13-14 years. There were 12 tests (of measuring instruments) for estimating general motor abilities and 4 tests for estimating specific-motor skills. Basic statistical parameters were calculated for all the results in the variables. Statistically significant difference between the arithmetic means of cadets and junior cadets was determined by t-test for small independent samples. Results: The data obtained from the testing of differences between group of handball cadets and junior cadets showed that the handball cadets had significantly better results in the four variables (long jump in here, throwing a handball ball from the gray straddle the ground, throwing a medicine ball from lying on back and the accuracy of jump shot from 9 m), while the younger cadets achieved significantly better results in the two variables (side steps and slalom in the area between 6-9 m). Discussion: Since the results showed that handball cadets had better results (in a number of variables) than younger cadets , this study was consistent with the previous studies attempted to analyze the differences between handball players of

different ages. References: Bjelica D, Georgijev G, Muratović A (2012). Sport Science, 5(1), 71-6. Chelly MS, Hermassi S, Aouadi R, Khalifa R, Van den Tillaar R, Chamari K, Shephard RJ (2011). Journal Of Strenght And Conditioning Research. 25(9), 2410-7. Vuleta D, Milanović D, Nikolić A (2012). Sport Mont, 34,35,36/X, 34-7.

EFFECTS OF EXPERIMENTAL TREATMENT FOR DEVELOPMENT OF EXPLOSIVE POWER WITH VOLLEYBALL PLAYERS.

Selimi, M.[1], **Xhemajli, V.**[2], **Selimi, A.**[2], **Myrtaj, N.**[1]
[1] University of Prishtina "Hasan Pristina" (Prishtina, Kosovo), [2] University of Montenegro (Niksic, Montenegro)

Introduction: According to Stone, et al. (2003), the explosive power as a motor ability depends on the relation between the movement speed and the power of a given muscles' group. In volleyball, as an elite sports game, the explosive power plays an important part. In volleyball actions take a short time and they need to be performed as fast as possible. Hence, the aim of this work is to improve the explosive power of legs with volleyball players aged 14 from 16. Methods: This experimental research was conducted on 18 volleyball players at the age of 14 to 16. They were tested for 8 weeks, during training activities that lasted 45 minutes, 4 times a week – for the development of the explosive power. Before the beginning and at the end of the experiment, the players were tested by Sargent Jump Test (SJT), according Harman, et al. (1991). The significance of the difference between the two measure tests is determined by t-test for dependent samples. Results: On the base of the obtained results, it is noticed that the final measurement has better results. The difference between the two measurements is statistically significant on level p=0.01. Discussion: The experimental programme resulted in positive effects and considerable improvement of the explosive power with volleyball players. Similar results are obtained in the research of (Socha et al., 2006), where a considerable improvement of the explosive power with volleyball players is presented. References: Harman EA, Rosenstein MT, Frykmam PN, Rosenstein RM, Kraemer WJ (1991). J Appl Sport Sci Res, 5, 116-20. Socha T, Skowronek T, Socha S. (2006). J Hum Kinet, 15, 61-74. Stone MH, O'Bryant HS, McCoy L, Goglianese R, Lehmkuhl M, Schilling B (2003). The Journal of Strength and Conditioning Research, 17 140-7.

THE RELATIONSHIP BETWEEN THE PERFORMANCE AND THE FEELING OF IMPACT SOUND OF A GOLF SHOT.

Chung, P.H.[1], **Wang, H.T.**[1], **Huang, C.F.**[2], **Liu, C.**[1]
[1] University of Taipei (Taipei, Taiwan), [2] National Taiwan Normal University (Taipei,Taiwan)

Introduction: The trajectory of ball flight, the touch of hands and the hearing of impact sound are the most important feelings during a golf shot (Hocknell et al., 1996), and the feedback is more intense from the impact sound than the vibration of handgrip for the golfer (Roberts et al, 2006). Therefore, the purpose of this study was to explore the relationship between the performance and the feeling of impact sound of a golf shot in elite golfers. We would like to perceive whether the feeling of impact sound could transfer to predict the performance of a golf shot. Methods: Twenty division I college golfers (handicap: 5±3; male: 15, female: 5) were recruited as subjects. All participants conducted two trials of golf shot with

driver and 7-iron in the normal swing speed at an indoor venue. A golf simulator was used to evaluate the estimated distance and azimuth angle, and a microphone and a spectrum analyzer were used to analyze the loudness and sharpness of impact sound. Participant's perceptions of distance, azimuth angle, loudness and sharpness were surveyed after each shot. Pearson's product-moment correlation was used to compare the relationship between the performance and the perception of golf shots with driver and 7-iron in the normal swing speed ($p<.01$). Results: In the relationship between perceptions, the loudness and sharpness showed a significant correlation with the distance in driver ($r=.715$ and $.495$), and the loudness showed a significant correlation with the sharpness in driver and 7-iron ($r=.691$ and $.829$). The distance, azimuth angle and loudness showed significant correlations between the perception and the performance ($r=.473$, $.427$ and $.523$) in driver. The loudness of impact sound show a significant correlation with the perception of distance in both clubs ($r=.440$ and $.475$). Discussion: A previous study indicated that the perception of loudness and sharpness had high correlations with the performance in driver (Roberts et al., 2005). In this study, the elite golfer could transfer the loudness of impact sound to predicting the distance of performance of a golf shot with both driver and 7-iron, and the distance, azimuth angle and loudness were more perceptible with driver than 7-iron as well. Based on the kinesthetic feedback, tactile, auditory and visual sensations, the golfer could judge the quality of the shot and the characteristics of the equipment used (Barrass et al., 2006). It was difficult to distinguish between the loudness and the sharpness with 7-iron because of the lower impact sound during the golf shot. References: Barrass DF, Roberts JR, Jones R (2006). J Sports Sci, 24(5), 443-54. Hocknell A, Jones R, Rothberg SJ (1996). Eng Sport, 1, 333-7. Roberts JR, Jones R, Mansfield NJ, Rothberg SJ (2005). J Sound Vib, 287, 651-66. Roberts JR, Jones R, Rothberg SJ, Mansfield NJ, Meyer C (2006). J Mater Des Appl, 220, 215-27.

Physical Education and Pedagogics

PERCEPTION AND EXPECTED SUPPORT IN PHYSICAL EDUCATION TEACHERS.

Lazarová, Z.[1]
[1] *Masaryk University (Brno, Czeck Republic)*

Introduction: Present study, which this article is based on, is focused on examining of specificities of physical education teachers. The aim of this article (paper) is to introduce the partial results of quantitative search focused on specificities which have been mentioned with a special respect to support of physical education teachers. It is important to understand what support physical education teachers need and what support do they currently feel. The results can inspire school management and teachers themselves. Methods: For the purpose of this paper, only those items that apply to the issues discussed felt needed and fostering the physical education teachers in basic schools were chosen from the questionnaire and consequently processed. The questionnaire is assembled on the basis of the search by Voltmann-Hummes (2008), who examined the burden of PE teachers and their ability to overcome it. The basis of database of PE teachers was the list of basic schools in the Czech Republic. From each region, casually 15 schools were chosen; it means 210 schools in total. The research was attended by 136 teachers, thereof 72 women and 64 men. Ages ranged between 24 and 66 years, the system ensured anonymity. Results: On the basis of evaluation of data, it was found that to PE teachers is given the lack of support from colleagues. Conversely, greater support than they need, they feel from the family, less importantly from parents and in the end is the support from the school management. More than a third of teachers are supported from them and they take advantage of possibility of further education in the field of physical education according

to their needs. Also the degree of agreement or disagreement of teachers in individual items is presented and results are also categorized according to gender, length of experience, satisfaction and approaches to teaching. Discussion: The obtained data are compared with data from questionnaire by the original author; they are interpreted and discussed with regard to the realities in Czech schools. At the same time, the obtained data are compared with the results of those authors who have dealt with support of physical education teachers, for example, Kirsten (2012), Majeric et al. (2008) and others. References: Voltmann-Hummes I (2008). Traumjob Sportlehrer/in? Belastungserleben und Selbstwirksamkeitserwartung von Schulsportlehrkräften. Göttingen: Cuvillier Verlag Göttingen. Kirsten P (2012). Asia-Pacific Journal of Health, Sport and Physical Education, 3 (1), 17-34. Majeric M, Zvan M, Kolenc M (2008). Acia Univ. Palacki. Olomuc., Gymn. 38 (1), 59–67.

THE IMPACT OF PARENTAL INVOLVEMENT IN PHYSICAL ACTIVITY IN THE ORGANIZATION OF LEISURE AMONG CHILDREN AGED 13-16 YEARS OLD, IN KOSOVO.

Morina, B.[1], **Vehapi, S.**[1], **Koca, A.**[1]
[1] *University Prishtina "Hasan Prishtina" (Prishtina, Kosovo)*

Introduction: This paper presents the results of the research on the physical activity of the school youth in Kosovo influenced by the parents commitment and their active involvement in regular sport activities. The purpose of this cognitive study was to diagnose certain aspects of the lifestyle of young people aged 13-16 from Kosovo, with a particular focus on physical activity. The practical aim, however, was an indication of such actions, arising from past experience that would aim at improving lifestyle, and could lead to the elimination or prevention of certain causes of not making movement activity by the youth of the Kosovo. Methods: The research was conducted by the use of diagnostic survey in the group of 300 people from Kosovo aged 13-16. The research material was collected in 2012. The research material was collected in the course of the surveys. A research tool used to evaluate the lifestyle of students was a questionnaire "My lifestyle", developed by a team of European researchers (Telama R., Naul R., Nupponen H., Rychtecky A.,Vuolle P., 2002). Results: The research that was carried out shows that the level of wealth (not so much of the family, but of the whole country) may have an impact on the choice of activities taken by the youth. Also it showed that the parent's attitudes and their regular involvement in sport activities during their free time are of great importance in the student's leisure activities. It affects the students approach towards the active leisure life style. Undoubtedly socio-cultural factors and the tradition of social life, which impose certain ways of spending leisure time (as can be seen particularly in the case of the Kosovo youth). Discussion: The results of the research correspond to the results of the studies carried out among young people by Skawiński et al., who pointed out that young people spend most of their leisure time in front of the computer or TV. Similar conclusions also drew Oblecinska and Woynarowska in large population studies. Obtained results indicate that the factors encouraging the surveyed to physical activity are: relaxation, good physical condition, the benefits for health, the desire to have fun and sports career. The way of spending weekends may reflect the lifestyle of modern families. References: Bajurna B, Jakubek E (2008). Health behaviors of young people in terms of skills leisure W: Opportunities and barriers in health care [ed] Głowacka , E. Moses. Poznan, p. 175-90. Dabrowski Z (1966). Leisure children and adolescents. Warsaw: PZWS. Dumazedier J (1956). Modern Culture, 36, 56. Kurzak M. Pawelec K (2013). WSKFiT Scientific Papers, 8, 11-7. Nowak - Starz G (2008). The development and health hazards in the developmental age of the population in the period of socio-economic in Poland. Wszechnica Holy Cross: Kielce, p.49-71.

EFFECTS OF ADOPTING INTERACTIVE PHYSICAL GAMES IN PHYSICAL EDUCATION CURRICULUM.

Liu, Y.C.[1], **Wang, A.L.**[2], **Chou, C.C.**[2], **Liu, C.**[2]
[1] Chung-Hua University (Hsin-Chu, Taiwan), [2] University of Taipei (Taipei, Taiwan)

Introduction: The purpose of this study was to exam how interactive physical games and traditional physical education teaching affect physical education curriculum of junior high school students. Methods: The study is conducted through quasi-experimental design; the participants are 101 junior high school students, 31 people of whom are in the group of Xbox-360 Kinect, 35 people in the group of tee ball, and another 35 people in the group of both Kinect and tee ball. The curriculum will last for eight weeks. The tools used during the study are Xbox-360 Kinect with Kinect Sports software, the learning motivation scale for physical education classes, devices for tee ball along with the measurement of hitting ability. After the eight-week curriculum, the study collects the grades of every group pre-test and post-test, and proceeds to undertake the data processing and analysis through the statistical software, SPSS for Windows 12.0. The result of which would further be analyzed by independent samples t-test, paired samples t-test, and one-way analysis of variance to get the statistics. Results: The result of this study shows that the Kinect group and the group of both, regarding the hitting ability, have better learning effect post-test than pre-test, while all the three groups do not improve much upon hitting ability during the teaching. Also, the learning motivation of the group of both is better post-test then pre-test, and is also the best, compared with Kinect group and tee ball group. Discussion: It can be concluded that the adoption of interactive physical games in physical education curriculum can be an effective way to help the teaching, and enhance students' learning motivation and improve their hitting ability. Previous study found that the Kinect Xbox 360 protocol has showed improvements in balance and ADL in children with cerebral palsy in a school environment (Luna-Oliva et al, 2013). The physical demands for shoulder and elbow range of motion while playing the Kinect Xbox 360 are comparable to functional motion needed for daily tasks. These more recently released commercially available video games show therapeutic potential in burn rehabilitation (Parry et al, 2013). Therefore, this current study reveal that the Kinect Xbox 360 have positive effects on the physical education curriculum of junior high school students. References: Luna-Oliva et al, (2013). NeuroRehabilitation, 33(4), 513-521. Parry et al, (2013). Burns. 13, 364-71.

Psychology

THE IMPACT OF ANXIETY AND AGGRESSIVENESS IN SHOOTING PRECISION IN BASKETBALL.

Selimi, A.[1], **Selimi, M.**[2]
[1] University of Montenegro (Niksic, Montenegro), [2] University of Pristina "Hasan Prishtina" (Prishtina, Kosovo)

Introduction: Among conative factors, anxiety and aggression have an important effect in the execution of accuracy elements in basketball game. The objective of this study is based on this fact. The aim of the current study was to prove the effect of anxiety and aggression in the execution of accuracy elements in basketball game. Methods: Sixty seven (67) basketball players aged 16-18 years old were included in the study. Subjects were junior players from two different Super League basketball clubs

in Kosovo (KB Drita, Gjilan, and KB Prishtina, Pristina). In order to realize the study, 16 variables for precision in the basketball game were performed (5 sets of 5 shots from different positions, and 1 free throw), as well as two conative variables. A regression analysis was used to determine the impact of conative factors in the execution of precision basketball game elements. Results: Results of the current study show that from the conative factors applied in this research, anxiety had the biggest effect in the execution of the accuracy elements of basketball game. Multiple correlation analyses (R= 0.630) demonstrate that value of common variability between criterion variable (anxiety) and predicted variable (accuracy) is moderate (39 %). This was proved by using probability, the coefficient of which is (Sig = 0.027). Discussion: In the current research, which was conducted in a sample consisting of 67 basketball players 16-18 years old, the results obtained show that there is a significant correlation between anxiety and agresion tests with accurracy variables in basketball game. Results found in current study are in accordance with some other results presented by (Horga, S., Milanović, D. 1983, Karalejić M. 1996), which demonstrate such a correlation. Researchers have demonstrated that anxiety is closely related with accuracy in basketball game and in some cases it is crucial for team's success. Different authors (Azaïs F. Encephale, 1995, Derakshan N., Smyth S., Eysenck M.W. (2009, Humara, M. A. 1999) recommend situational training sessions aiming to reduce the effect of these conative factors. The current study shows the complexity of basketball game and the importance of the effort that we should put on the preparation of the players for the basketball game. References: Horga S, Milanovic D (1983). Kineziologija, 15(2), 19-83. Karalejic M (1996). Fizička kultura, 50(3), 179-87. Azaïs F (1995). Encephale, 21(5), 597-607. Derakshan N, Smyth S, Eysenck MW (2009). Psychon Bull, 16(6), 1112-7.

Sport Management

PROFESSIONAL SPORTS LABOR CONTRACT AND EUROPEAN LEGAL FRAMEWORK.

Shatku, S.[1], **Çela, K.**[2]
[1] Sports University of Tirana (Tirana, Albania), [2] University of Tirana (Tirana, Albania)

Introduction: Contracts and labor are amongst the most ancient and important institutions of law, where parties assess between themselves mutual engagement, innovations, potentials, evaluations and capacities. In our case, the sports labor contract is one of the newest fields of the contractual system, and amongst the best paid in the sports labor market. The study goals of this review were: to highlight the importance of scientific, practical, legal protection of labor athletes and their contract; the importance of increasing demand for legal support in sports competitions; to stress the value of sports contracts in the labor market. Methods: It has been used Jabref program for the referred downloads articles by using Medline database followed by keywords like: sports labor contract, legislative techniques of sport law, sports European cards, sports ethical code, and plurality principles of sports law. Results: Sports and labor brought peace without the existence of contract1. There are undoubtedly several question marks related to the efficacy, jurisdiction and potentials of signing, continuation and termination of the sports labor individual contract. Sportsmen, always referring to their contracts are destined to sell their sports work, talent and fame for the achievement of results.2 At the other hand, the sports associations are public entities, with public or private legal character, which aim to support the sportsmen through subsidizing and financial or promotional treatment. The European sports chart, the recommendations of the council of Europe and the UN conventions aim to support the engagement of employers, either public or private, in the encouragement, harmonization, and improvement of sports labor, not only in national but also in

European and Olympic levels. There are several cases when the European court of human rights and the European court of justice sanctioned states, their sports federations, sports organizations, or any other party which abused sports labor, failed to strictly respect sports activities, or did not take measures for the economic and health indemnification of their federated sportsmen. Discussion: In conclusion of this review we have to say that every athlete has the right under the European Sports Charter and the rules of the Council of Europe to be protected by law and assignments. Finally sports contracts of employment should be based only document to enable the process of movement and transfer of athletes from one club to another, and from one country to another according to European legal requirements, to avoid abuse and corruption in the work and process sports. References: Kaufmann-Kohler G. et al (2003). Legal Opinion on the Conformity of Certain Provisions of the Draft World Ant-Doping Code. Cassese S, Alterio ED, Bellis MD (2011). The Enforcement of Transitional law Private regulation, Pulbic Law and private regulation in the global legal space.

Sport Statistics and Analyses

GENDER DIFFERENCES IN ROWING STRATEGY.

Rachnavy, P.[1]
[1] *Suranaree University of Technology (Nakhon Ratchasima, Thailand)*

Introduction: Strategy is recognized one of the main factor that increase rowing effectiveness, So many research evidences support that optimal strategy can effect on an individual or team rowing. The purpose of this study was to identify gender differences in rowing strategy during The 26th Southeast Asian Games (SEA Games). Methods: Analysis of racing strategy was conducted on the basis of the official results of the Southeast Asian Games regatta. Split times for each 500 m pieces were analyzed. Boat velocity for each quarter of the event was calculated and then compared between genders. Results and Discussion: The result show that male rowers demonstrated a significantly greater boat velocity compared to Female. There is significant difference in rowing strategy between male and female. It was found that race strategy significantly depended on boat type. Some differences were found between race strategies of rowers from different countries. References: Baudouin A, Hawkins D (2002). Br J Sports Med, 36, 369-402. Garland SW (2005). Br J Sports Med, 39, 39-42, Foster C, Schrager M, Snyder AC et al (1999). Sports Med, 17, 77-85. Foster C, Schrager M, Snyder AC et al (1993). Med Sci Sports Exerc, 25(3), 383-8.

REPETITIVE STRENGTH OF THE STUDENTS 14 YEARS OLD.

Halilaj, B.[1], **Gllareva, I.**[1], **Vehapi, S.**[2]
[1] *University of Montenegro (Niksic, Montenegro),* [2] *University of Prishtina "Hasan Prishtina" (Prishtina, Kosovo)*

Introduction: The aim of the study was to verify of the actual status of motor development, respectively the development level of components of the repetitive strength of the students 14 years of age, male gender. Also the other purpose of this research work is the verification of the strength of correlation between variables that measures repetitive strength and authentication latent structure of the

dimension of the repetitive strength component in terms of its topological division. Methods: In this study were included 82 pupils of the primary school Qamil Ilazi in Kacanik and all tested ones were in a good health condition. All measures were done before noon during the regular teaching hours in physical education gym within the school during the period of September-October of 2002. Four motoric tests that measure repetitive strength were applied: Pull-up, Sit-Up, Back extension, Push-up. It was expected the gain of the significant correlations between the variables that measure repetitive strength and the latent structure of this dimension was expected to be focused on two latent factors. Used methods for the analysis of data are the standard methods from the SPSS, respectively Correlation method and Factorial Analysis Method. Results: From the descriptive statistical parameters is obvious that the results are in normal statistical distribution in all variables measured. This has enabled the continuation of the use of further inferential statistical methods which are earning high correlation values between the tests of repetitive force, while in the latent structure were differentiated two latent factors within the dimension of repetitive strength. Discussion: Based on the current motoric status, namely the component of repetitive strength of 82 pupils, age 14 of primary school Qamil Ilazi, in Kacanik. Based on the values of MAX D asserted distribution showed normal statistical distribution in all variables. Factorial analyze has extracted two latent factors within the dimension of repetitive strength, based on the overview from the table of parallel projections, the first factor which carries the most information is: Factor of repetitive force of arms, which has achieved the highest value of correlation with NFH tests .892 and MDK .807, and the second factor is the Factor of repetitive force of body correlating with tests MTU .892 and LTM .665. References: Metikoš D, Prot F, Hofman E, Pintar Z, Oreb G (1989) Mjerenje bazičnih motoričkih dimenzija sportaša. Zagreb: Sveuciliste u Zgrebu. Pišot R, Planinšec J (2005) Struktura motorike v zgodnjem otroštvu. Koper: Univerziteta in Primorskem. Šturm J, Strel J (1984). Primerjava nekaterih motoričnih parametrov mladine v osnovnih šolah SR Slovenije v odobju 1970/1971–1973. Ljubljana, FTK.

COMPARISON OF ANTHROPOMETRIC AND MOTOR CHARACKTERISTICS BETWEEN TWO VOLLEYBALL CLUBS IN PRISHTINA.

Gjonbalaj, M.[1]
[1] *University of Prishtina "Hasan Prishtina" (Prishtina, Kosovo)*

Introduction: The increase in sports results today not only identifies the quantity (volume and intensity) of the work put in, but also the quality (changing the stereotypical notion of effort, eliminating redundant movements, rationalizing the sport in all elements etc). All of these circumstances and factors referred in this paper are stimulated through practical methods for processing positive results and aiming to present a realistic and factual reflection of the current condition, particularly emphasizing the evaluation of several anthropometric and motor characteristics of the players in both volleyball clubs from Prishtina. Methods: These methods are elaborated among arithmetic methods, variance, standard deviation and standard error of the arithmetic mean, the coefficient of variance, the maximum and minimum score test, the score in accordance to the Pearson correlation coefficient-whereas the instruments measured 14 variables such as anthropometric 8, 4 motors and 2 situational. The main purpose to which is addressed in this paper is verifying the situation and the differences between the players in two of the clubs by analyzing the results from the variables I have chosen. Results: The results show that there is a significant differentiation between one volleyball group to the other in terms of motor, anthropometric and situational. This is proven by the results of the data based on the parameters abovementioned. Discussion: Results acquired on in

the research, verifies the hypotheses which sets forth previously, it helps to us to understand that the main goal in this research has largely been achieved. Statistical methods that have been processed results may explain the state of anthropometric and motor characteristics. Moreover, with the help of T-test we came to understand the valuable statistical differences between two clubs which have been subject to research. These results are best justified considering the fact that the first group of fallow this year was much more successful than the second group. In the current discussion on the results obtained from anthropometric and motor variables give us a clear picture of the actual situation on morphological characteristics and motor skills, the players of these two groups/clubs. References: Bompa T (2000) Periodization: Theory and Methodology of Traning. Ilinois, USA. Frohreich H, Irmgard D, Konzag K (1992) Voleyball Spielend Trainieren. Berlin, Germany. Tahiraj E, Rexhepi F (2010) Some main morphological characteristics and locomotive-technical of national teams at the grand prix 2010 in volleyball (women). 14-symposium for the sport to Physical Education in young people, Ohrid, Macedonia. Kostic R (2000) Theory and Methodology of Sports Training Volleyball games, Nis, Serbia.

ANALYZE OF RESULTS OF THE KOSOVO SWIMMERS ALONG EIGHT YEAR PERIOD, BREASTSTROKE TECHNIQUE AT DISCIPLINES 50 AND 200 METERS.

Gllareva, I.[1], **Halilaj, B.**[1], **Koca, A.**[2]
[1] University of Montenegro (Niksic, Montenegro), [2] University of Pristhina "Hasan Prishtina" (Prishtina, Kosovo)

Introduction: The first purpose of this study was to analyze swimming at several competitions through eight years period. Our aim was to see progress of Kosovo swimmers from 2002 to 2009. This research has had the aim to see trends and changes between these periods, analyzing them in two different swimming techniques breaststroke at 50 and 200 meters, swim distance by senior swimmers. Methods: The data was collected from Kosovo swim federation and it was collected through eight year competition at Kosovo swim championships. The system of variables consists of two, grouping them in 4 years per period and trying to see the trend and progress through these years, comparing them with other 4 years which are part of second period. Used methods for the analysis of data are the standard methods from the SPSS, respectively, trends and t-test, correlation and method of univariant analyze of variance (ANOVA). Results: The results on swim competitions have changed through the years and the changes are statistically significant. The positive statistical changes are evident in 2007 and 2008 because we can see that results have improved within those competitive years. Discussion: Based on the results, we have seen that the results have changed progressively in both variables, but the values that are larger changes in the second variable. Characteristic of the trend of increasing results is that in the last two years they have stagnated and the trend is negative. A note is that along the eight-year period Kosovar swimmers have continuous progress in both disciplines addressed in this paper. References: Kennedy P, Brown P, Chengalur SN, Nelson RC (1990). International Journal of Sport Biomechanics, 6, 187-97. Ludovic S, Didier C, Jean Claude C (2007). Medicine & Science in Sports & Exercise, 39(10), 1784-93. Mason BR, Formosa DP (2011). Competition analysis. In: Ludovic S, Didier C, Inigo M (Eds). World book of swimming: From science to performance, p.411-424. New York: Nova Science Publishers, Inc. Seiffert L, Boulesteix L, Carter M, Chollet D (2005). International Journal of Sports Medicine, 10, 286-93. Seifert L, Toussain HM, Alberty M, Schnitzler C, Chollet D (2010). Human Movement Science, 29(3), 426-39. Strzala M, Tyka A, Krezalek P (2007) Human Movement Science, 8(2), 112-9.

THE ROLE OF SUBJECTIVE-DESCRIPTIVE SEARCH IN PHYSIATRIST RESEARCHES.

Mahmutovic, E.[1], **Dolicanin, Z.**[1], **Nurkovic, J.**[1]
[1] *State University of Novi Pazar (Novi Pazar, Serbia)*

Introduction: Lumbar pain syndrome (LPS) covers pain difficulties with dysfunction of lumbosacral spine and mucle defensive reaction to pain (spasm) and often symptoms of compressive lumbar radiculopathy. It is the most common pain syndrome of the modern man and almost 80% of population goes through an episode of LPS at some point in life. LPS is a patological condition which affects different age populations and most commonly reported at people of age group between 45 and 55. Methods: The observed range of the examinations covers 30 people suffering from LPS who are hospitalized, treated at special clinic „Novopazarska banja“ in Novi Pazar in period between july 2011. and june 2012. Out of all patients, 20 (66,7%) registered were women and 10 (33,3%) were men, age average of 49,5±9. All patients were included in multimodal rehabilitation program at which along with standard LPS physical treatment, McKenzie's mechanical diagnosis and therapy and Kinesio Taping was included. Measuring value upon which subjective pain assesment was based, was VAS and the parameter which was used as functional measuring value in study and evaluation of disability was ODI. VAS result were monitored after the first treatment, on second day of treatmen and at the end of 15 day rehabilitation treatment. For ODI, patients were to fill in a questionaire at admission and discharge. Statistic package for data professin SPSS was used. Results: Intensity of pain measured by VAS pain scale spanned from 0 to 10. The average value of pain intensity score before the beginning of rehabilitation was 8,06, on the first examination 5,69 , second control examination 4,36, at the end of the rehabilitation program 0,46 ($t=21,71$; $p<0,01$). The result of function disorder measured by ODI spanned from 10% to 48%. The measuring was done on admission and final examination. Oswestry score had the average of 44,4% at the beginning, but 14,4% ($t=29,12$, $p<0,01$) at the end of the treatment. Discussion: Usefulness of application of functional questionaires confirms conclusion of study of Devečerski and Pantelinac (1), that Oswestry and VAS questionaires are useful in assesment of patients' expirience of disorder as well as creating intergrated, diagnostic, therapy and educationally - preventive actions at patients with lumbal syndrome. Application of ODI and VAS questionaires at patients with LBS is of great importance for assesment of effect of disorder on psychophysical, functional and working ability and quality of life as well as planning of diagnostic, educational and therapy actions. References: Devečerski G, Pantelinac S. Značaj funkcionalnih testova u fizijatriji. Vol II, Suplement 21. Kongres fizijatara Srbije. Zbornik radova; 135-6.

THE STRUCTURE AND CHANGES OF ANTHROPOMETRIC AND MOTORIC DIMENSIONS BETWEEN HANDBALL PLAYERS AND VOLLEYBALL PLAYERS.

Koca, A.[1], **Morina, B.**[1]
[1] *University of Pristina "Hasan Prishtina" (Pristina, Kosovo)*

Introduction: Considering the tested athletes and the tests that were applied on them, the main purpose of this research was the confirmation of the differences between the two groups in anthropometric and motoric fields. Another important purpose was the verification of the relations of anthropometric and motoric dimensions between players of these two different sports. Methods: Tis study is done on collective sport athletes (Handball players and Volleyball players). The subjects come from two clubs

from central Kosovo region. The total number is forty active team members: Twenty players from KH "Drenoci" in Gllogovc, members of Kosovo's Handball first league and twenty players from KF "Drenoci" in Skenderaj, first league players in Volleyball. It is important to mention that the study was done of a time when all the athletes were active players on these sports. The anthropometric variables used for this research were based on International Biologic Program (IPB). Results: By the end of the study it was proved that of the four variables of anthropometric dimensions and six variables of motoric dimensions, significant differences were shown on two of them: length of the hand ($P<0.01$) and the throwing of 500gr ball ($P<0.001$). It is also verified that among several variables of the two athlete groups appear interesting correlations. The results show significant anthropometric and motoric specifications in between Handball and Volleyball players, which is certainly a very useful information for planning the training process for these two sports. Discussion: In Kosovo this kind of studies have not reached the needed level. But lately many students have started to do scientific research on this field.This research could be used as valuable information on developing the motoric and morphologic characteristics of athletes that play various sports. These kind of researches are very good to be reviewd especially before sport activities because the training program and the sport activitie could be improved. As a conclusion we can say that this study has realized its purpose, because it motivates further professional sport work and research which could improve the sport quality in our country. References: Durakovic M (1995). Morfološka antropometria u sportu. Fakultet za Fizičku Kulturu, Zagreb. Petez B (1995). Osnove statističkih metoda. SNL, Zagreb. Sose H (1998) Vodic za pisanje stručnih i naučnih radova u kineziologiji. Sarajevo. Sinr E (1976). Hallen Hendball, Stutgard. Zaciorski VM (1975). Fizička svojstva sportiste, Beograd.

THE DIFFERENCES OF SOME SITUATIONAL AND MOTOR SKILLS OF YOUNG HANDBALL PLAYER UNDER THE INFLUENCE OF THE TRAINING PROCESS.

Mimoza, X.[1], **Llagjeviq-Govori, A.**[1], **Beqa-Ahmeti, G.**[1]
[1] *University of Pristina "Hasan Prishtina" (Prishtina, Kosovo)*

Introduction: The training process in handball has got many tasks which are resolved by physical, technical, tactical, psychological and theoretical preparation. This research is based on the facts and its purpose is directed to certify the changes in some basic and situational motor skills of age 13 and 14 selected handball players, under influence of 6 months training process. Methods: The research has included the sample of 38 students of secondary and middle school from Gjilan, which means they are handball players selected from "Drita" Handball Club in Gjilan of the age 13-14, who have been training three times a week. 8 variables of basic motor and situational motor skills were applied. The nature of the research requires that the authentication of changes of the results obtained at start and at the end of six months training to be through the discriminatory analysis of t-test for dependent variables. Results: The basic parameters of results obtained show not only positive changes of the results in favor of the second measurement they also show homogenization of the group and they take sides for the better results. This means that epicurtic asymmetry is compared with the first measurement where the results were bipolar and most of them were negative. The discriminatory analysis of t-test shows that a statistically significant difference was gain in all basic motor variables and motor situational variables in level $p<0.01$. Discussion: The changes obtained shows that the training process organized three times a week in a period of six months has influenced the establishment of basic and situational motor skills of young handball players. The achievement of good results in the conditional aspect

with the young handball players, depends not only on the organization training process and choosing appropriate training methods (Delija K. Simens, Z. Vuleta D.1995, Demir M. 19998) but also depends on a good selection of young handball players considering all anthropological parameters that have a dominant role in the handball game (Burns A.R. Gaines C.L. 1984, Avila-Moreno F.M 1997). During the process of perfection of the individual technical and tactical elements of the game, the movement executed with maximum effort and intensity in all directions is necessary, all of this in order to create advantages on space and time against the opponent team. References: Burns AR, Ganies CL (1984). Sport selection. New York:The Viking Press. Delija K, Simenc Z, Vuleta D (1995). Kineziologja, 27(1), 57-61.

THE DIFERENCE IN QUALITY OF ACQUALITY OF ACQUAIRING SOME TECHNICAL ELEMENTS FROM RYTHMIC GYMNASTICS,SPORTS BETWEEN ELEMENTS FROM RYTHMIC GYMNASTICS,SPORTS BETWEEN GIRLS AGED TEN AND TWELVE YEARS.

Beqa-Ahmeti, G.[1], **Xhemaili, M.**[1], **Llagjeviq-Govori, A.**[2]
[1] *University of Prishtina "Hasan Prishtina" (Pristina, Kosovo)*

Introduction: The efarts of many researchers are sports oriented research encounters any response to it which is the most appropriate time for the selection of young girls who would be potential candidate for success sin rhythmic gymnastics aged 10 and 12 years old at the speed and quality of the acquisition of certain technical elements of rhythmic gymnastics. Methods: The sample for this research have composed two groups of pupils of different ages the P.S "Zenel Hajdini" Pristina Municipality.The first group have composed 45 students 10 yers old,while the second group have composed female students aged 42 years. Applied research variables are eight elements in rhythmic gymnastics:Pas chasse,Pirouette,Pas balance,Arabescue,Hoop 1,Hoop 2,ball 1,Ball 2. At first girls are evaluated knowledge in technical elements of the rhythmic gymnastics by the three judges of rhythmic gymnastics with grades of 1-5. After evaluating knowledge in early research, the new gymnastics have undergone both treatment groups to four weeks ,two times a week by forty minutes of exercise. To prove the difference between two groups of young gymnats aged ten and twelve years is discriminatory analysis is used the t-test for independent variables. Results: Height of average values of arithmetic averages and the results obtained by discriminative analysis of t-test show that it is gained statistically significant difference between gymnasticsof rhythmic gymnastics aged ten and twelve years old at to speed and quality of acquisition in oll technical elements of rhythmic gymnastics at $p<0.01$. Discussion: The result abtained show that the application of exercise and methods in acquiring quality in some elements of rhythmic gymnastics to sports of two different groups had a positive impact. But abtained differences between new gymnasts aged ten and twelve years slow that young gymnasts aged twelve have improved the quality of execution of rhythmic elements in rhythmic gymnastics as sessed by three judges better that is certified by the t-test analysis. This brings into questions that which really is the best age to start with exercises of gymnastics elements. Many authors who think they should have started earlies and that before age seven (Šebić-Zuhrić L.,Smajlović N. 2009). References: Sebic-Zuhric L, Smajlovic N (2009). Homo Sporticus, 11(1), 22-7.

THE IMPACT OF SPORTS TRAINING OF SOME ELEMENTS FROM ACQUISITION OF RYTHMIC GYMNASTICS SPORTS GIRLS 12 YEARS AGE.

Llagjeviq-Govori, A.[1], **Beqa-Ahmeti, G.**[1], **Xhemaili, M.**[1]
[1] *University of Prishtina "Hasan Prishtina (Prishtina, Kosovo)*

Introduction: The speed of acquisitionof technical elements in rhythmic gymnastics is cognitive abilities which is of great importance in achieving high success in this sport.Than girls aged 12 years have the ability to adopt the best as quickly some technicalelements in rhythmic gymnastics within a period of one month was the main gool of this paper. Methods: The sample for this research including the number of 42 pupils aged 12 years oldof primary school "Zenel Hajdini" Pristina Municipality.Applied research variables are eight elements in rhythmic gymnastics: Pas chasse,Piruette,pas balance,Arabescue,Hoop 1,Hoop 2,Ball 1,Ball 2. At first the knowledge of girls are valued in technical elements of the rhythmic gymnastics from the part of three judgs of rhythmic gymnastics with marks from one two five. After evaluating knowledge in early research, the new gymnastics have undergone treatment of four weeks,two times a week by forty minutes of exercise. After comporation of eight session of forty minutes training with exercise is estimated the rate of acquisition of knowledge in the technical elements in rhythmic gymnastics by three judges.To prove the changes in the results of acquired of the beginning and ten and of four –months training sessions is discriminatory analysis using the t-test for depent variables. Results: From the result abtained , we notice that it earned a statistically significant difference in all the technical elements of rhythmic gymnastics applied at $p<0.01$ mas pronounced changes were obserred in Piruette variables (t=26.92) Hoop 2 (t=-26.24) Hoop 2 (t=-24.20) and Ball variable (t=22.6). Changes in other variables are smoller but statistically significant. Discussion: After compeetion of eight sessions of forty minutes training with exercises is acquiring some elements knowledge in rhythmic gymnastics sports abtained results show that new gymnasts have improwed quality of execution in gymnastics rhythmic elements assessed by three judges which is proved by the t-test analysis. Syntetic methods applied during acquisitionof nef movements (elements of rhythmic gymnastics) has contribu qualitative changes in the execution of elements indicating a better structuring of movements at levels higher than those that are peripheral similiar to the results of much research. Reference: Sebic-Zuhric L, Smajlovic N (2009). Homo Sporticus, 11(1), 22-7.

THE DIFFERENCE BETWEEN TWO VOLLEYBALL TEAMS IN SOME ANTHROPOMETRIC AND MOTOR ABILITIES.

Gjinovci, B.[1], **Nikqi, V.**[1]
[1] *University of Prishtina "Hasan Prishtina" (Prishtina, Kosovo)*

Introduction: In this research we are deal with two teams of the super league of Kosovo in volleyball. The goal of this study is to verify the differences between the two teams in volleyball in some anthropometric characteristics, basic motor skills and situational tests. Methods: For the realization of this research, there were included 12 volleyball player from the team KV "Prishtina" and 12 from the team KV "Universiteti AAB". There are applied 4 anthropometric variables (body weight, body height, arm length, forearm length), 5 basic motor variables (long jump from place, high jump from the place taping hand, taping feet, jogging with 20 meters with a fast start), and 7 situational tests (pass the ball with the fingers on target vertical expulsion of the ball with the forearm ("hammer") in vertical target, passing the ball with the

fingers in a horizontal target, the expulsion of the ball with the forearm ("hammer") in horizontal target, pass the ball with fingers to jump in the horizontal target, tennis service in horizontal target, the target service with the horizontal jump. For processing the obtained results from the measurements and proving the difference between the teams in anthrop motored parameters, was used the discriminatory analysis using the t-test for independent variables. Results: The results obtained show that the players of the two volleyball teams, involved in research do not distinguish between them in anthropometric characteristics (p> 0:05). The team KV "Prishtina" has had better results in some explosive force motor variables and situational tests (p <0:05), which are also important for success in the game of volleyball. Discussion: To prove statistical differences between the two teams VC "Pristina" and VC . "AAB" in each variable is used T - test. Through this method can be verified the change between two arithmetic means. To achieve the statistical validity of differences between two groups in sample above 20 entities, the value of must be T > 1.97, at the statistical significance level of p < 0.05. Results from our sample showed that between VC. "Pristina" and VC. "AAB", important statistical changes were in those motoric tests. High jumping, foot taping, Passing the ball with hammer to the wall, Tactical accurate Service, Accuracy of service with jump and Standing long jump length. References: Strahonja A, Jankovic V, Shnajder V (1982). Kineziologija, 14, 46-51. Forthomme B, Croisier JL, Ciccarone G, Crielaard JM, Cloes M (2005). Am J Sports Med, 33, 1513-9. Strahova A (1972). Kineziologjia, 1, 24-36.

THE DISTINCTION BETWEEN TEAMS RANKED THIRD AND FOURTH IN THE SUPER LEAGUE VOLLEYBALL OF KOSOVO.

Gjinovci, B.[1], **Nikqi, V.**[1], **Miftari, F.**[1]
[1] *University of Prishtina "Hasan Prishtina (Prishtina, Kosovo)*

Introduction: When it is about elite male volleyball players, it is always meant about players that possess such anthropometric parameters which correspond with volleyball game. In this research we are deal with two teams of the super league of Kosovo in volleyball. The goal of this study is to verify the differences between the two teams in volleyball in some anthropometric characteristics, basic motor skills and situational tests. Methods: For the realization of this research, there were included 12 volleyball player from the team KV "Granit com" and 12 from the team KV "Te Luzha". There are applied 4 anthropometric variables (body weight, body height, arm length, forearm length), 5 basic motor variables (long jump from place, high jump from the place taping hand, taping feet, jogging with 20 meters with a fast start), and 7 situational tests (pass the ball with the fingers on target vertical expulsion of the ball with the forearm ("hammer") in vertical target, passing the ball with the fingers in a horizontal target, the expulsion of the ball with the forearm ("hammer") in horizontal target, pass the ball with fingers to jump in the horizontal target, tennis service in horizontal target, the target service with the horizontal jump. For processing the obtained results from the measurements and proving the difference between the teams in anthrop motored parameters, was used the discriminatory analysis using the t-test for independent variables. Results: The results obtained show that the players of the two volleyball teams of the Super League in of Kosova, involved in the research do not distinguish between them in anthropometric characteristics (p> 0:05). The team KV "Granit Com" has had better results in some motor variables of the explosive force and the one of long jump from the place(P <0:05) and running 20 meters from a fast start (p <0:01). Situational tests are not a statistically significant difference observed between the two teams. Discussion: In order to verify the statistical significance through the t-test, the value of t-test should be established, which for significant level p<0.05 is T>1.97 above 20 entities. The

results show that statistically valid changes with valid significant tests are present in anthropometric and movement space. Table nr.15 presents the results of two teams “Graniti Com” and “Te Luzha”. In this case, the statistical valid changes are presented in three tests: high jump, 20 meters speed run and accuracy of the service in jumping. References: Liba MR, Stauff MR (1963). Research Quarterly, 35, 59–63. Strahova A (1972). Kineziologija, 1, 19-72. Nikqi V. (2008). Differences of some anthopmetric and motor characteristics as well as several situatinal testes among Kosovo Superlague Volleyball players, 35-64. Strahonja A, Jankovic V, Shnajder V (1982), Kineziologija, 11, 46-51.

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