

SPORT SCIENCE
Vol. 7, Issue 2. December 2014.
INTERNATIONAL SCIENTIFIC JOURNAL OF KINESIOLOGY
Publisher: Faculty of Education – University of Travnik, Bosnia & Herzegovina
Print ISSN 1840-3662, Web ISSN 1840-3670
UDK 796, Catalogued in: COBISS BH

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Print & Web:

Print: Print doo 72270 Travnik, Aleja Konzula 5. B&H; Printed: 300 copies
Front page design and DTP/Web preparation: Maid Omerović & Aljo Delić, Travnik – B&H
Webhosting: TOTHOST - Zagreb, HR;

Publishing

Sport Science publishes twice a year in English with Bosnian abstracts.

Communication:

Sport Science – International scientific journal of kinesiology.
Faculty of Education – University of Travnik
72270 Travnik, Aleja Konzula 5., Bosnia & Herzegovina
Tel.: +387 (0)30 540876, +387 (0)61 475 922, Fax: +387 (0)30 540 876
E-mail: info@sportscience.ba

Full journal text available on <http://www.sportscience.ba/>

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Editorial Note

Dear All,

We are introducing a new issue of the scientific journal “Sport Science” composed of scientific articles from the field of sports. During all the years of its existence, the journal has been used as a relevant source of new scientific and professional information. With no tendency to be immodest, we believe our journal made a great contribution in linking scientific knowledge and practical work in sports. We intend to continue to work on improving the science and practice more intensively in the future. The Scientific Committee of the journal is made up of relevant professors from the field of kinesiology, which can be seen in the choosing of high quality papers, which speaks of the seriousness and value of the journal. This can be achieved primarily through competent and fundamental reviews and engagement of top reviewers from abroad.

We wish to thank all the authors who, with their scientific and professional papers, enriched the contents of this issue and made an immeasurable contribution to the current problems in the fields such as transformation processes, sports games, sports management and marketing, basic sports, teaching methods in sports, rights in sports, as well as in the field of sports medicine.

We invite all professors, researchers, theoreticians and practitioners in the field of sports science to contribute to the further development of the journal with their scientific papers and suggestions, and help us to position the journal on the international scientific scene.

We start the New Year hoping we would live up to your expectations and continue our successful collaboration in the future. We thank you for your support and hope that the upcoming year will be more successful in all aspects, including the scientific aspect.

Editor in Chief

Dr sc Damir Ahmić

NORDIC WALKING

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Original scientific paper

Summary

Walking is a prime example of an everyday activity which requires neither specific skills nor specific equipment. This has changed in the past few years, however, as market has emerged for different kinds of walking (power walking, race walking, treadmill walking); latest and the fastest growing »recreational« activity in Europe is Nordic Walking. Manufacturers, mediators and practitioners of Nordic Walking have produced frames, where we find discrepancies and similarities between the frames created by the institutions and those created by the walkers themselves. The dominant framing is transformation of walking into a sport.

Taking in consideration some of the facts of Nordic Walking compared to normal walking:

4,5-5,5 ml/kg/min higher oxygen uptake, up to 20 bpm higher Heart Rate, 20-25% higher energy consumption, 26% less load on the knee, we understand better why in Finland there is 61% of women and only 39% of men from appr. 800.000 Finns practising NW at least once a week. Also risk of injury is much lower with NW than some other activities; 0.19-1.5 / 1000h of participation. Phenomena of reducing neck&shoulders and low back pains, lower depression, anger, vigour, fatigue, osteoporosis; all these together with the fact that subjective strain increases less than physiological load – is putting pressure on Fitness&Health professionals to renew their programs, to add Nordic Walking into their personal education plans. Same applies to responsible institutions in sport and medicine, even governments – to look closer at Nordic Walking World phenomena and to bring it's values to the health benefits of population; experience in the world (INWA sources) last 8 years is that women took a lead in recognising and accepting Nordic Walking in this sense.

Key words: *nordic walking, development, definition, benefits.*

Introduction

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This paper reviews 34 scientific articles published on Nordic Walking in years 1992-2005. Studies are classified according to the target group into four categories.

1. Studies related to health

First research results on responses to pole walking training were published in 1992 by Stoughton, Larkin and Karavan from the University of Oregon. They studied psychological profiles (mood states) as well as muscular and aerobic fitness responses before and after 12 weeks of exerstriding or walking training in sedentary women. Exertriding is a modified form of walking that incorporates the use of specially designed walking stick (Exertriders[®]) in a standard walking workout. This study group consisted of 86 20-50 year old women whose fitness was at moderate level. Maximal aerobic power (VO_{2max}) varied between 34-37 ml/kg/min. A study group was divided into three sub-groups. Control group did remain all their exercise habits. Walking and Exertrider groups did walk 30-45 minutes four times a week at the intensity corresponding to the 70-85 % maximum heart rate for twelve weeks. In Exertrider group both the walking speed and the distance walked were slightly less than in the walking group.

In both groups the maximal aerobic power and maximal treadmill time increased significantly. These increases were 8 and 19 % on an average. A slight increase in maximal ventilation occurred in the Exertrider group, but not in the walking group. Muscular endurance did improve in the Exertrider group by 37 % and in the

walking group 14 %. Muscular strength assessed using triceps pushdown and a modified lateral pull-down did not improve in either group. Exerstrider walkers showed significant improvements in depression, anger, vigor, fatigue, total mood disturbances and total body-cathexis scores. The walking group showed significant improvements only in vigor and total body-cathexis. It was speculated that the Exertrider group may have felt more unique and special because of their opportunity to do a new and more enjoyable method of walking.

Exerstriders were also compared to the weighted vests, ankle weights, hand and wrist weights, weighted gloves and Powerbelts[®] by Porcari (1999) with similar results as above.

A Finnish study (Anttila et al. 1999) did compare Exel polewalking with the regular walking training for 12-weeks on 55 female office workers. The EMG-measurement showed that electrical activities of the muscles in the upper body (neck-shoulder-upper back) were significantly higher when walking with poles. Polewalking training diminished neck and shoulder symptoms and subjective feeling of pain. Mobility of the upper body increased as well. The similar results were obtained also in the study by Karvonen et al. (2000). They did study neck-shoulder area pain on 31 44-50 year old person who had no previous experience on Nordic Walking. Exercise group did train twice a week for ten weeks and for 60 min per session. Nordic walking did decrease neck and shoulder pain in general and at work. In addition, the disturbance of neck and shoulder stiffness and pain in the movement of head

were significantly decreased. A third study (Koskinen et al. 2003) did examine the effectiveness of NW on ageing employees on their postural control as well as to the muscular strenght of lower extremities and the middle trunk. Subjects (n=24) were 45 to 61 year old , majority of women. They did NW three times weekly and partly instucted. The group did improve in health-related fitness parameters evaluated by the Fitness Test battery developed by UKK Institute.

The aim in Parkatti et al. study (2002) was to examine the benefits of NW on functions important to everyday life among older sedentary individuals in Virginia, USA. Altogether 18 73-year old (62-87 yrs) person participated. They did exercise was 60 min twice a week for 12 weeks (10 min warm-up, stretcting in the middle and cool-down at the end) by Nordic Walking. Functional capacity battery of tests included: chair stand, arm curm, chair sit and reach, scratch test, 2 min step in place and "up and go" test was used before/after intervention. Also a health questionnaire was used. The results of all functional tests were statistically signifigantly better after training. The study showed that NW is suitable for elderly and effective to affect on functional capacity.

Purpose of a research by Kukkonen-Harjula et al (2004) was to study training responses of brisk walking with or without poles on cardiorespiratory fitness (both in submaximal and maximal exercise) and on some other indicators of health-related fitness in healthy middle-aged women. Training prescription was aimed at moderate intensity (50-85 % of HR

reserve, HRR). Two-hundred-and-twelve women volunteered. Their age was 50-60 years, no major health problems, BMI 20-30 kg x m⁻² and leisure exercise training no more often than twice weekly. After screening examinations 121 women were accepted and randomized into a NW or a walking (W) group. Walking and NW techniques instructed in small groups. Training was 4x weekly for 40 mins, intensity 53% HRR, Borg 13.7. The increase in peak VO₂ (about 8 % in both groups) during 13 weeks' training was modest. Study also showed that the mode of maximal exercise testing (with or without poles) had no influence on peak VO₂ and its change during training in women with initially little familiarity with NW technique.

In a study by Aigner et al. (2004) 20 untrained healthy individuals (average age 47 years) were studied while walking with or without poles on separate days. The speeds of walks were 7.9 km/h on an average and mean heart rates 165 and 158 bpm with and without poles. The corresponding blood lactate levels were 5.7 and 5.0 mmol/l. In all speeds between 3 to 7 km/h heart rates and lactates were significantly higher in Nordic Walking compared to regular walking.

Heikkilä et al (unpublished 2004) did study NW in 13 33-54-year old overweight (BMI 32 kg/m²) individual. Subjects did exercise NW 4 months regularly HR controlled with progressive load. The results did show that subjects did lose weight (- 5kg on an average), and body fat (waist -6.6 cm), improved in aerobic fitness (+29%), and in blood lipids. The key factors, according researchers, to these very positive results were that intensity of

training was moderate-high and that it was progressive in nature.

Wilk et al. (2005) did study NW in 16 acute coronary disease patients in Poland.

Based on this exercise intervention they concluded that NW is a purposeful activity for cardiac rehabilitation.

2. Studies related to fitness

The physiological responses to walking with and without Power Poles[®] were studied by Hendrickson (1993) and by Porcari et al. (1997). Power Poles are specially constructed, rubber-tipped ski poles designed for use during walking. Hendrickson's study group consisted of sixteen fit women (VO_{2max} 50 ml/kg/min) and men (59). They did walk with and without poles on a treadmill with the speeds of 6-7.5 km/h. There were no differences in the responses between males and females. It was found that the use of poles significantly increased oxygen uptake, heart rate and energy expenditure by approximately 20 percent compared to the walking without poles in fit subjects. In Porcari's study on 32 healthy men and women walking with poles resulted in an average of 23% higher oxygen uptake, 22% higher caloric expenditure and 16% higher heart rate responses compared to walking without poles on a treadmill. RPE values averaged 1.5 units higher with the use of poles and the pattern of responses was similar for men and women.

A dual-motion treadmill Cross Walk has been studied by Knox (1993), Foley (1994) and by Butts et al. (1995). The Cross Walk Dual Motion Cross Trainer is a motorized treadmill designed to increase the energy cost of walking by

incorporating arm activity during walking, thus increasing the muscle mass used during exercise. The activity is not the same as field walking with poles, but can be used as reference to NW. Knox did study thirty-seven 17-35 year old women and they all performed six 5-min steady-state exercises with and without arm activity. Walking with arm activity increased significantly heart rate, ventilation, oxygen uptake and energy expenditure compared to the walking without arm activity. E.g. heart rate increased 17-31 beats per minute. Rating of perceived exertion as well as energy expenditure increased with an average of 14 percent. In Butt's study both the 24-year old women and men were studied with a similar design. In this study arm work increased energy expenditure by 55 % on an average compared to the regular walking, but did increase rating of perceived exertion only little. This was consistent with the results from the Foley, who did study Cross Walk in 24-year-old men.

Rogers et al. (1995) did compare energy expenditure during submaximal walking with Exerstriders[®] in ten 24 year old fit women. Mean maximal aerobic power (21 vs. 18 ml/kg/min) and heart rate (133 vs. 122 bpm) were significantly greater during the walking with poles compared to walking without. Also the total caloric expenditure in a 30 minute session was significantly greater during pole walking (174 vs. 141 kcal). In contrast, the rating of perceived exertion did not differ significantly between the two conditions.

Laukkanen (1998, unpublished) did compare heart rate during normal and fast walking speeds with and without Exel

Walker poles. Ten middle-aged men and women were studied on an indoor hall track. The heart rate increase, measured with telemetric Polar HR monitor, was between 5-12 bpm and 5-17 bpm in women and men.

Gullstrand & Svedenhag (2001) from Sweden did study acute physiological effects on walking on a treadmill with or without poles. This study on 13 55-year old subjects did show that VO_{2max} , VE, blood lactate and HR did increase, but RPE (rating of perceived exertion) remained unchanged in NW compared to regular walking

The effects of Exel's Nordic Walker pole training on heart rate responses was studied in ten men and women. Their heart rates were 5-12 and 5-17 beats $\times$ min⁻¹ higher for moderate and vigorous Nordic Walking in an indoor sports hall in comparison with walking without poles (Laukkanen 1998).

In the study published by the Cooper Institute group from Texas, USA the metabolic cost of NW was compared to normal walking in 22 31-year-old men and women (Morss et al. 2001, Church et al. 2002). Participants of this study did walk on an outdoor 200-m track with Cosmed K4b for oxygen consumption and Polar Vantage heart rate monitor for HR measurements. Study indicated significant increases of oxygen consumption (20% on average), caloric expenditure and HR in NW compared to normal walking. The range of increase was large, i.e. in oxygen consumption 5-63% indicating differences in poling intensity and technique. Perceived exertion did not differ between the walks. Same group did also compare separately metabolic cost of high intensity

poling (Jordan et al. 2001). In high intensity poling NW increased HR 35 bpm on an average compared to regular walking.

In a study by Willson et al. (2001) the purpose was to determine whether walking with poles reduces loading to the lower extremity during level over ground walking. Three-dimensional gait analysis was conducted on 13 healthy adults who completed 10 walking trials using three different poling conditions (selected poles, poles back, and poles front) and without the use of poles (no poles). Results did show that there were differences in kinetic variables between walking with and without poles. The use of walking poles enabled subjects to walk at a faster speed with reduced vertical ground reaction forces, vertical knee joint reaction forces, and reduction in the knee extensor angular impulse and support moment, depending on the poling condition used.

A study done in Germany by Ripatti (2002) 24 individuals (48 ± 8 yrs) did NW for 6 weeks 2 times weekly for 60 min (65-85 %HRmax). This improved their endurance capacity even walking at lower speed.

Mänttari et al (2004) did conduct a pilot study for Kukkonen-Harjula et al. intervention study (2004). In this pilot they compared the cardiorespiratory and musculoskeletal responses of NW and W in field conditions in middle-aged women, with three self-guided exercise intensities. After screening examinations 20 middle-aged women performed a maximal exercise test on a treadmill with poles. All the subjects were familiar with Nordic walking or cross-country skiing. These results showed that Nordic walking

increased the mean HR compared to regular walking only from 2.6% to 4.9% and the mean VO_2 from 2.5% to 10.8%, during the three different self-guided walking intensities. This increase seems to be due to the increased muscle activity in the upper body muscle groups. Compared to previous studies the statistically significant mean differences between NW and W were modest.

3. Studies related to sports

In a Norwegian study by Haugan and Sollesnes (2003) 16 sports students (22 yrs) were measured in a laboratory walking at the speeds of 5.5, 6.0 and 6.5 km/h with or without poles on an elevated treadmill (17%). Half of the subjects were cross-country skiers. Oxygen uptake increased significantly at all speeds when using poles in walking in others, but not in c-c skiers.

4. Other

Nordic Walking has also been under study in The Netherlands. Lande et al. did publish in 2003 a systematic review of the physiological effects of pole walking.

Parkkari et al. (2004) did evaluate injury risk in various commuting and lifestyle activities in a cohort of 3657 15-74-year old Finns. The individual injury risk per exposure time was overall relatively low, ranging from 0.19 to 1.5 per 1000 hours of participation. Highest risk in all recreational and competitive sports was in squash (18.3) , judo (16.3) and orienteering (13.6). In Nordic Walking (pole walking) the risk was 1.7. In the cohort 11 % participated actively this sports.

In a questionnaire study by Schmidt et al. (2004) 226 German adults (66% women) who practiced NW regularly were interviewed during winter 2003-2004. The average age was 52 yrs and BMI 25 kg/m². The main motivation for NW was health, 12% wanted to test something new, 6% did it as an option for c-c skiing in summer. 71% worked out for arm and trunk muscles, 23% in order to reduce joint load. 54% would prefer to have a similar net of trails like those for hiking.

Nordic Walking has also been studied from the consumer perspective (Shove and Pantzar 2004). Authors conclude that popularity of the NW has arisen through the active and ongoing interaction of images, artifacts and forms of competence; a process in which both consumers and producers are both involved.

Summary

To summarize, the training effects of Nordic walking on cardiorespiratory fitness and endurance have been shown to be similar to walking training in middle-aged and elderly women. In fit individuals

and in men intervention studies are missing. In the studies, the improvement in Nordic walking was reached by lower speed and thus by shorter distance walked, because the cardiovascular strain was greater in Nordic walking than in ordinary walking without poles if the same speed was used. Walking with poles improves mainly aerobic fitness, muscular endurance, decrease neck-shoulder area disabilities and pain and can have positive effects on mood state. In order to improve muscle power, uphill walking is required. Pole walking affecting on body coordination and motor fitness has been published little. Nordic Walking is safe activity and individuals are motivated to Nordic Walk mainly due health reasons.

Taking into consideration following effects of NW: the impact on general mood-state, decrease of neck-shoulder tension, decrease of low-back pain, better health and appearance, eagerness to try&do, we can partly understand why women are taking a lead in such a novell exercising approach as Nordic Walking is.

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NORDIJSKO HODANJE

Sažetak

Hodanje je prost primer svakodnevne aktivnosti koja ne zahteva ni posebne veštine niti specifičnu opremu. To se, međutim promenilo u poslednjih nekoliko godina, razvojem tržišta

za različite vrste hodanja (šetanje, hodanje, hodanje po traci); najnovija i najbrže rastuća rekreativna aktivnost u Evropi je „nordijsko hodanje“. Proizvođači, medijatori i praktičari nordijskog hodanja su proizveli ramove, gde se mogu naći naći razlike i sličnosti između ramova stvorenih od strane institucija i onih koje su napravili sami hodači. Uočljiva je transformacija hodanja u sport. Uzimajući u obzir neke od činjenica poređenjem nordijskog hodanja sa normalnim hodačima: (4,5-5,5 ml/kg/ min veća potrošnja kiseonika, do 20 bpm viši otkucaji srca, 20-25% veća potrošnja energije, 26 % manje opterećenja na kolena), mi smo bolje razumeli zašto u Finskoj ima 61 % žena i 39 % muškaraca odnosno 800.000 Finaca koji praktikuju nordijsko hodanje barem jednom nedeljno. Takođe, rizik od povreda je mnogo niža kod nordijskog hodanja nego kod nekih drugih aktivnosti; 0.19-1.5/1000h učešća. Fenomeni smanjenja bolova u vratu i ramenima, lumbalnog bola, manja depresija, bes, zamor osteoporoze; sve to zajedno sa činjenicom da subjektivno naprezanje raste manje od fiziološkog opterećenja – zahteva od Fitness & Health profesionalaca da obnove svoje programe, i uključe nordijsko hodanje u svoje planove obrazovanja. Isto važi i za odgovorne institucije u sportu i medicini, čak i vlade treba pažljivije da razmotre fenomen nordijskog hodanja u svetu i iskoriste sve vrednosti u korist zdravlja stanovništva; istraživanja u svetu (INWA) poslednjih 8 godina su pokazala da su žene te koje su više prepoznale koristi i prihvatile nordijsko pešačenje u tom smislu.

Ključne reči: nordijsko hodanje, razvoj, definicija, koristi .

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SELF-CONFIDENCE, COMPETITIVE ANXIETY AND PREDICTORS OF FREE THROW SUCCESS

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Original scientific paper

Summary

The goal set before this research is oriented towards determining the correlation between aspects of competitive anxiety and self-confidence with precision for making free throws in basketball. The Competitive State Anxiety Inventory-2; CSAI-2, Martens et al., 1990 was used on the sample of 55 basketball players from four clubs in BH (N=55). We examined the forms of anxiety (cognitive and somatic anxiety) and the level of self-confidence just before the game (30 minutes before the game). For the same subjects we took official club statistics with the emphasis on long range competitive precision shooting parameters (shooting percentage for one point during the season). Multiple regression analysis results for the examined sample indicate that the above mentioned variables (cognitive anxiety, somatic anxiety and self-confidence) are not significant predictors of success in competitive precision when making free throws in basketball. This result is somewhat in line with the findings of similar previous research.

Keywords: competitive anxiety, self-confidence, free throws, basketball.

Introduction

For the presence of anxiety in sports in general, it can be said that it is omnipresent. Individual sports athletes, as well as those that come from team sports, are all affected by anxiety. It affects athletes of different age, different backgrounds and level of competition, and in combination with stress is one of the most important factors that influence athletic performance.

Anxiety can be defined as a negative emotional state with feelings of nervousness, worry and bad premonitions,

related to the general psychophysiological activation of the organism (Weinberg and Gould, 1995). We can look at it from several different aspects that are closely linked with fear: loss of self-confidence as a result of the defeat, a threat to one's personality, unpredictability or fear of the unknown, fear of disrupting the daily habits and fear of negative evaluation by others (Cox, 1994).

However, we should distinguish between certain forms of anxiety: anxiety as a state and anxiety as a trait (Spielberger, 1999). Situational conditioned form of anxiety, i.e., anxiety as a state, is characterized by subjective experiences of tension, fear,

nervousness and concern with the arousal of the autonomic nervous system (Spielberger, 1999).

In sports psychology, anxiety is generally accepted as an unpleasant feeling which usually rises when a person doubts own ability to be able to cope with external or internal demands (Woodman and Hardy, 2001).

Focusing on competitive anxiety, Martens et al. (1990) recognize cognitive and somatic anxiety. Thus, the cognitive state of anxiety is associated with the degree of worry and negative thoughts, and somatic state of anxiety participates in the changes observed in the physiological activation that does not derive from activities, but from stress.

Although there are many ways and approaches to defining and interpreting anxiety, some theories explain how anxiety affects performance. Thus, *attention control theory* (Eysenck et al. 2007) suggests that the impact of anxiety on performance boils down to the fact that anxiety takes the attention away from that information which is relevant for the completion of the chosen task, to the less relevant information, and thus interferes with performance.

Therefore, it is assumed that increased anxiety will make a person focus on disruptive factors, whether external or internal, rather than on the information essential for executing the task. If a person focuses on the audience, it is very possible that s/he will lose the essential information for the performance. An example of internal disturbance is focusing attention on concerns that often result from performance pressure (Eysenck and Calvo, 1992; Sarason, 1988; Wine, 1971).

The attention control theory (which relies on the *theory of processing efficiency* Eysenck and Calvo, 1992) also offers an explanation why anxiety does not always impair performance. Although concerns may occupy the memory functionality and capacity, adverse effects of anxiety can be compensated by other emerging processes that involve increasing effort for the task or activity to be maintained or improved (Eysenck and Calvo, 1992). In this case, the efficiency of task performance can degrade, while the performance itself remains unimpaired, or even improved. In other words, while the efficiency of performance remains unchanged, processing efficiency decreases, because anxious people should make more effort to achieve results. These assumptions have received considerable empirical support in studies that have looked at the relationship between anxiety and motor-perceptual tasks (Mullen and Hardy, 2000; Mullen, et al., 2005; Murray and Janelle, 2003, 2007; Smit et al., 2001; Williams et al., 2002; Wilson et al., 2006).

The interest of researchers to investigate the impact of competitive anxiety stems from a number of findings that suggest that anxiety has a negative impact on athletic performance (Martens et al., 1990; Smith, Smoll and Schutz, 1990). The ability of athletes to cope with intense anxiety is the basis for success in competitive sports, especially at the highest level (Gould, Eklund and Jackson, 1992a, 1992b; according to Craft, Magyar, Becker and Feltz, 2003). Researchers suggest that there are significant differences in performance and its relationship with anxiety in athletes who engage in individual and team sports (Martens et al., 1990; Terry et al., 1996). The number of

athletes who play together can reduce the effect of anxiety on performance. Some authors suggest that athletes in individual sports suffer much larger negative effects of anxiety than those in team sports (Martens et al., 1990; Terry et al., 1996).

The value of the explanation of variance of athletic performance using anxiety components varies through research. Edwards and Hardy (1996) predicted 10% of the variance of performance. Swain and Jones (1996), using their modified CSAI-2 questionnaire, managed to explain 23.4% of variance, and so did Sonstroem and Bernardo (1982), by measuring basketball performance. Looking at the relationship of all three components that are measured using the CSAI-2 (cognitive and somatic anxiety, self-confidence) with athletic performance, we can talk about the different impacts of each component. Thus Craft et al. (2003) concluded that *self-confidence* is the strongest predictor of athletic performance, while a modest impact of both cognitive and somatic anxiety was found.

In his dissertation, Kais (2005a) explored the impact of pre-competitive anxiety and self-confidence on athletic performance in volleyball and basketball. The obtained results indicated that the level of cognitive anxiety was positively correlated to athletic performance (measured on the basis of subjective assessments of trainers), and that the direction of the perception of anxiety and somatic anxiety did not correlate with athletic performance. Cognitive and somatic anxiety and self-confidence were relatively stable prior to the different competitions in basketball and volleyball.

The goal, and also the main issue of this paper, is reflected by establishing the correlation of aspects (cognitive and somatic) competitive anxiety and self-confidence with the precision in making free throws in basketball. We consider examining the predictive capabilities of the above psychological constructs in predicting competitive precision in basketball to be particularly interesting.

Method

Respondents

The sample comprised of players from four Bosnian and Herzegovinian basketball clubs (N = 55; M age = 19.1; SD = 3.13) who participate in the highest ranks of competition.

Instruments

- **CSAI-2 - Competitive Anxiety Test (Martens et al.1990)**

CSAI-2 is a questionnaire consisting of 27 questions, which measures the level of competitive anxiety through three subscales: cognitive anxiety scale, somatic anxiety scale and self-confidence scale. The questionnaire consists of 27 questions and takes about 5 minutes to complete. For the development of the questionnaire they used factor analysis with varimax rotations on the sample of 242 respondents. The results showed three subscales with 9 items each that best defined cognitive and somatic anxiety and self-confidence with the internal consistency coefficient between .79 and .90. Items in the questionnaire are four-fold, of Likert type. CSAI- 2 was marked by separately counting each of the three subscales, which range from 9-36 points. A higher score means greater cognitive and somatic

anxiety, as well as a higher level of confidence. A questionnaire in which two or more questions have been omitted is considered invalid.

- **Measuring athletic precision (one-point shot)**

Monitoring and recording of competitive precision was carried out during the games of the regular basketball season. Data collection was done by assistant coaches, which, in addition to standard statistical parameters, kept extended statistics for the needs of their teams, as well as this research. The variables that were analyzed were the derived number of one-point shots at the basket, the number of one-point shots that were made, and the percentage of realization of the one-point shot. The study involved 70 games.

Description of measurement conditions

The measurement of competitive anxiety was performed twice - for the first time

during the evening practice a day (24 hours) before the official game, and for the second time 30 minutes before the start of the game. Both times, the respondents filled out the questionnaire in their locker room, where they were so arranged that they could not see what the other respondents' answers were to some of the questions. This required complete silence. None of the respondents left the room before everyone had completed the test.

Results

Descriptive statistics of the examined variables shown in Table 1 tell us about the severity of the presence of cognitive and somatic anxiety and self-confidence levels, as well as the values of competitive shooting range precision in basketball players (free throw percentage) during the season. For the tested sample of basketball players, it can be said that they have a relatively highly expressed self-confidence, and a moderate presence of both cognitive and somatic anxiety.

Table 1. Descriptive statistics for the subscales CSAI-2 and competitive precision in basketball players

Variables	M	SD	N
cognitive anxiety	18.22.	5.95.	55
somatic anxiety	16.76.	4.81.	55
level of self-confidence	27	3.69	55

competitive precision-free throw percentage during the season	65.98	13.05	55
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Analysis of correlation among the studied variables shown in Table 2 shows only one statistically significant correlation. Namely, only somatic anxiety shows a weak positive correlation with the free-throw percentage. The positive direction of

this correlation is interesting, but it can be said that players who show a higher level of somatic anxiety at the same time have a higher free throw percentage, i.e., they make free throws more accurately.

Table 2. Correlations among the studied variables

	1.	2.	3.	4.	5.	6.
1. cognitive anxiety	-					
2. somatic anxiety	.74**	-				
3. level of self-confidence	-.47**	-.39**	-			
4. competitive precision-free throw percentage during the season	.14	.31*	-.04	-		

* $p < .05$; ** $p < .01$

In order to examine whether based on the tested variables for competitive anxiety we could predict the value of competitive precision in basketball players, we conducted a regression analysis, with results shown in Table 3. The obtained results show that in our case (as seen

through competitive anxiety subscales), we don't have significant predictors of competitive precision in basketball players. In addition, we think that the height variance (11%) is worth mentioning, with which predictors explain success in making free throws.

Table 3. Multiple regression analysis results with the precision of making free throws as criteria variable.

Criteria	Predictors	β	Rsemiparc
competitive precision-free throw percentage during the season	cognitive anxiety	-.06	-.04
	somatic anxiety	.39	.27
	level of self-confidence	.12	.11
R= .33 R² = .11 F= 2.12; p>.05			

Discussion

Data obtained from the correlation analysis show that among the studied variables (subscales of competitive anxiety and competitive precision in basketball players), we obtained only one statistically significant correlation, the one between somatic anxiety and the free throw percentage during the season. This finding is contrary to theoretical assumptions and results of the *attention control theory* (Eysenck et al. 2007). Namely, we already stated that the attention control theory suggests that athletic performance is affected by anxiety in a way that increased anxiety will make a person focus on disruptive factors, whether external or internal, rather than on the information essential for executing the task. This implies that we should expect a negative correlation between anxiety and athletic performance. In our case, a weak positive correlation of somatic anxiety in the free-throw situations suggests that the presence of somatic anxiety does not adversely affect making the free throws, on the contrary, the presence of anxiety

(especially somatic) enhancing free-throw making.

This result is somewhat unexpected because the papers by other authors, for example, a meta-analysis by Craft et al. (2003) as well as the findings by Kaisa and Raudsepp (2005b) reported that cognitive anxiety was positively correlated with athletic performance of basketball and volleyball players, while the negative correlation between somatic anxiety and performance was found, but self-confidence did not correlate with performance (Craft et al. 2003; Kais, 2005). On the other hand, there are some studies that speak in favor of our results, that the presence of competitive anxiety enhances the performance of basketball players (Swain and Jones, 1996).

Although not statistically confirmed, we consider interesting the correlation obtained between the level of self-confidence and precision of making free throws. Namely, contrary to the expectations, we have obtained (although statistically insignificant) negative correlations between self-confidence and competitive precision (-.04 for one point).

Based on the obtained data, we will not speak in terms of a conclusion, but rather about the trends that deserve further investigation.

The direction of the obtained correlation is interesting, which implies that self-confidence interferes with competitive precision in basketball players. How do we explain this somewhat paradoxical fact? One explanation would be based on the factors affecting the formation of our self-concept, incorporating self-confidence. "Significant others", among others, affect the creation of our self-concept (Mead, 1934 according to Lacković-Grgin, 1994). "Significant others" thus create our self-confidence as well, which can be built on the realistic basis as well as on unrealistic basis. In our case, we can talk about respondents that probably somewhat overestimate their own ability, basing this self-confidence on the indicators from practices, and not competitive situation. Again, we wish to note that this is a tendency rather than a conclusion.

Regression analysis results show that in our case (as seen through competitive

anxiety subscales) we cannot talk about significant predictors of competitive precision in making free throws for basketball players. Realistically speaking, it was illusory to expect that we would, in addition to a number of factors such as motor and functional abilities, perceptual skills, technical and tactical preparation, etc., get some significant predictions on the tested sample size. In addition, it is worth emphasizing that our results are somewhat in line with previous similar studies (10% of the variance of performance - Edwards and Hardy, 1996), while those obtained by Swain and Jones (1996), and Sonstroem and Bernardo (1982) are lower (23% of the variance of performance).

We would put the emphasis on the value of the explained competitive precision using anxiety components, knowing that such components are subject to change. Changes can be achieved by planned and systematic programs that are based on the application of psychological knowledge about anxiety.

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SAMOPOUZDANJE I TAKMIČARSKA ANKSIOZNOST KAO PREDIKTORI USPJEŠNOSTI IZVOĐENJA SLOBODNIH BACANJA

Sažetak

Pred ovo istraživanje je postavljen cilj usmjeren na utvrđivanje povezanosti aspekata kompetitivne anksioznosti kao i samopouzdanja sa preciznošću izvođenja slobodnih bacanja košarkaša. Korišten je Upitnik stanja predkompetitivne anksioznosti (Competitive State Anxiety Inventory-2; CSAI-2, Martens i sar., 1990) na uzorku od 55 košarkaša iz četiri bh. kluba (N=55). Ispitani su oblici anksioznosti (kognitivna i somatska anksioznost) i nivo samopouzdanja neposredno pred utakmicu (30 minuta prije početka utakmice). Za iste ispitanike su uzete zvanične klupske statistike sa naglaskom na parametre takmičarske šuterske preciznosti (procenat šuta za 1 poen tokom sezone). Rezultati multiple regresijske analize, na ispitanom uzorku, ukazuju na to da navedene varijable (kognitivna anksioznost, somatska anksioznost i samopouzdanje) nisu dovoljno značajni prediktori uspješnosti takmičarske preciznosti izvođenja slobodnih bacanja kod košarkaša. Ovakav rezultat je donekle u skladu sa nalazima sličnih dosadašnjih istraživanja.

Ključne riječi: *kompetitivna anksioznost, samopouzdanje, slobodna bacanja, košarkaši*

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THE ROLE OF SPORT MANAGERS AND THEIR SIGNIFICANCE IN SECURING PERSONAL RIGHTS IN SPORT

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Originalscientific paper

Summary

This paper presents personal rights in sport, regulated by the UN Charter of Human Rights. We presented certain forms of discrimination and violation of certain rights of an individual and groups present in sport. We defined the significance of managers of sport organizations in solving the problems related to the rights of an individual in sport. We suggest possible solutions of the current problems that appear in sport.

Key words: *rights, sport, sport management.*

Introduction

Sport, recreation and other forms of physical activities represent a significant segment of man's activities, from the aspect of maintaining and enhancing the psychophysical abilities and general health condition as well as fun and recreation. Demographic structure of people who practise recreational sport comprises all age categories, from the age of 7 to 77. Motivation and needs of people who practise recreational sport are different: fun, recreation, need for excitement, relaxation, socialization, sport challenges, fashion and following the lifestyle trends. This demographic structure and diversity represent an imperative for serious approach of sport managers to establishing and maintaining every individual's rights.

Sports law is a term which provokes a serious academic debate with different points of view of that area. While Beloff's book *Sports Law* (2000) emphasises the significance of the institution, Court of Arbitration for Sport (CAS) its ability to solve the problems which appear in sport, Woodhouse (1996) claims that „there is no such thing called sports law. He emphasises that the problems in sport could be classified and solved within the contract law, administrative law, the competition law, intellectual property rights, defamation and labour law”. Even besides these claims, more and more lawyers specialize in solving legal problems which appear in sport. Special

boards are also formed which deal with increasing number of disputes.¹

Personal rights in sport are regulated by the UN Charter of Human Rights and comprise a wide range of rights, where the most significant aspects are:

- Fighting discrimination (gender, race, religion etc.)
- Freedom in sport
- Personal safety
- Associations
- Sports creativity
- Education and learning²

Discrimination in sport represents a serious problem that sportsmen face in many sports clubs and associations. Discrimination has no direct relation with sport but with society. Problems from the society are reflected in sport and represent a significant problem for individuals exposed to discrimination, as well as in sports organizations and with legal representatives of sports activities.

Racial and religious discrimination are more present in sport than the gender discrimination. The reason for that is that the competitions are separate for each gender. Racial discrimination is especially present in football, which is logical considering the mass aspect of it and media favouritism of football events. The example of extreme racial incidents happened at European Football Cup in Klagenfurt (Austria 2008). In the game between Germany and Poland, large group of supporters with neo-Nazi tendencies was shouting anti-Semitic messages („All

Polish people have to wear yellow stars“). Around 140 people were detained.³

Usually sports clubs form separate sections based on gender, in order for the sports women to train and compete with the people of the same gender. Problems can arise in less developed and less populated areas, where athletes of both genders train together, and often compete together as well, because of the mass aspect of the problem.

In sport there are still stereotypes on physical abilities of women and their abilities to achieve certain scores present. Women are often forced into particular sports, events and competitions made especially for them. The results that women achieve are usually underestimated, which significantly influenced the limits set to means that are invested in the development of women's sport. Partly, the media are to blame for the marginalization of women's sport, as well as for presenting the women's sport in pejorative context. Violence against women, exploitation and harassing in sport represent the men's need for physical domination and power, which is traditionally shown in men's sport⁴. Besides the discrimination against sportswomen, in sport we can find discrimination against women as leaders in sports organizations, on both national and international level.

¹Beech J. & Chadwick S. “Sports management”, 2010, p. 294.

²Raič, A., Maksimović, N. “Sports management”, Novi Sad: Faculty of Physical Education, 2004., p. 123

³Peucker Mario „Racism, xenophobia and structural discrimination in sport“, Country report, Bamberg, March 2009, page 16.

⁴„Woman, gender equality and sport“, UNITED NATIONS, Division for the Advancement of Woman, Department of Economic and Social Affairs, December 2007.

The first two women members of the International Olympic Committee were elected in 1981, which was a first step on a long road of gender equality within international sports associations. At the Centennial Olympic Congress, held in 1994, they reached a decision to form the Women and Sport Working Group that meets once a year and gives suggestions for the improvement of women's position in sport. The result of this is accepting aimed percent (10%), as a minimum of presence of women in The Executive Boards of National Olympic Committees – NOC and International Sporting Federations – ISF⁵.

Freedom in sport is one of the basic rules that attract young sportsmen. The article 4 of the Law on Sport emphasises that everyone has the right to practise sport. It states that „The practising of sport has to be humane, free and voluntary, healthy and safe, in accordance with the environment and social environment, fair, tolerant, ethically acceptable, responsible, independent from abuses and goals opposite to the sports spirit and available to all the citizens under equal conditions regardless of the age, level of physical abilities, the degree of possible invalidity, gender and other personal characteristics“⁶. Sport enables the individuals to completely express themselves creatively and emotionally. Although the „patternization“ of sports activities is the characteristic of modern sport, it is impossible to tie down the creativity. The very creativity, as a part of sports originality, represents the strongest and also the only connection left between

sport and a game, as a precursor of sport. Sports managers have to recognize the significance of creativity and freedom of athletes' expression. Their support in this direction can only help the sports people to feel free, valuable and respected, which then provokes better sports results and more quality interpersonal relations within a sports organization.

One of the most present forms of violating the rights of an individual in sport is slander or false accusations. Media have developed together with the sport. By comparing the way of reporting from the sports events, we can see a significant difference in the technical sense and linguistic. The development of market economy has influenced the appearance of cruel competitiveness, which provokes an open battle at the market. This kind of an environment represents a favourable ground for the development of „aggressive“ journalism, which goes out of the frameworks of ethics in sport. The amount of sold newspapers based on the „exclusive“ news, ratings of television analytic shows that deal with sport, the number of hits or likes on social networks and sites that deal with sport, are just some of the motives for finding the limits of responsible and objective journalism. Slander or false accusations have the goal of damaging the image and credibility of an athlete – individual, as well as sports organizations and associations. Managers must have quality sources of information, in order to notice and adequately react to the potential problems and cases of violation of rights in sport. Based on the estimate of the situation which reflects a certain legal offence, managers make

⁵Beech J. & Chadwick S. „Sports management“, 2010, p. 33.

⁶Law on Sport of the Republic of Serbia (Article 4.)

decisions on hiring professional lawyers (if they do not have a professional lawyer within their organization).

The Human Rights Act (1998) includes the rights from UN Charter of Human Rights and basic freedoms and influences all areas of legislation and disputes connected to sport, especially:

- The right to live (e.g. lack of necessary medical services in the case of *Watson v British Boxing Board of Control Ltd* – 2001)
- The right to freedom and safety of an individual (e.g. transfer of players and refraining from trade)
- The right to a fair trial (e.g. *McVicar v United Kingdom* – 2002)
- Respect for private and family life (e.g. *Flitcroft v The Sunday People* – 2002)
- Freedom of expression (e.g. newspaper articles regarding the behaviour of sports stars)⁷.

During 1970s the Council of Europe became the first European international organization that showed a real interest in the area of sport, so in 1976 it has adopted *European Sport for All Charter*, which was substituted by *European Sport Charter* in 1992. During the 1990s, EU institutions started showing more interest in the issues of organization and regulation of sport. The turning point in sports legal regulation, at EU level, was marked by the verdict of the European Court of Justice in the Bosman case in 1995. European Court of Justice was declared to be responsible for economic and equality issues in sport in Europe. This period represents the beginning of building and regulating the

framework of action in the field of EU sport, EU started intervening in sport, dominantly in the field of financial regulations⁸.

By development of sport especially in commercial sport, there is an increasing number of cases of violation of rights in sport. The irony is that the media themselves, which usually were the cause of violation of the rights of individuals (slander and false accusations), are the ones who brought many cases of violation of the rights of individuals and sports organizations to light. Football is specific because it is mass and very popular sport, as well as the sport where significant financial means are present. The increasing number of cases of violation of the rights of individuals influenced FIFA's decision to form the *Dispute Resolution Chamber(DRC)*, which consists of equal number of players' representatives and clubs from various national associations. DRC deals with disagreements about contracts between clubs and players.

⁷Beech J. & Chadwick S. "Sports management", 2010, p. 301.

⁸Kastratović, E. "Law regulation at EU level in the function of organization and management in sport", Magazine for legal theory and practice - Legal life, Layers Association of Serbia, 27, Kopaonik school of natural law, 2014

Table 1. Number and values of largest transfers in sport

	Number of transfers	Value (e)
1994-1995	5,735	€ 402 869 000
1999-2000	8,531	€ 1 704 603 000
2005-2006	15,952	€ 1 952 066 000
2010-2011	18,307	€ 3 002 198 000

The right of association represents the possibility of sports progress, cooperation and common functioning of athletes and sports organizations as legal entities. Law on sport defines all the rights and obligations in respect of association.

„Sports association, in respect of this law, is a voluntary, non-profit organization based on freedom of association of more physical or legal entities, organized based on the statute and founded because of realizing the common goal in the area of sport“⁹.

Sport represents a complex form of activities of individual or common research. It enables the physical and psychological development of children. On the professionalism of the coach significantly depends the development of a child's sports technique, creativity, socialization and psychology. Unfortunately, sport is usually seen as a competition only. People neglect the fact that sport has a significant educational

element. It enables acquiring of healthy habits and responsibilities, which represent excellent grounds for every-day life. Manager's task is to find and select sports experts who will, besides the knowledge in sports techniques, enable the athletes to acquire hygiene habits and characteristics of serious and responsible individuals.

Managers of sports organizations have to be educated in an interdisciplinary way, in order for them to apply their knowledge and skills in different situations. Task of the managers of sports organizations must imply a certain strategy based on research data. It is necessary to include experts from the area of sport, law, psychology and sociology but other interdisciplinary areas as well, to find the best possible way to solve the mentioned problems with joint suggestions.

Suggestions of necessary activities in the direction of solving problems of individual's rights in sport:

- Do a research in practice: violence, racism, discrimination and other

⁹Law on Sport of the Republic of Serbia (article 34.)

forms of violating the rights of individuals in sport;

- Define the problems that appear in detail;
- Present the obtained data to the public (sports organizations, media, educational institutions, ministries);
- Form an expert team for solution implementation;
- Promote the desired values, solidarity, tolerance, ethic, equality, sports spirit in all educational institutions and youth selections inside the sports clubs;
- Organize international sports events and shows for young athletes of different cultures, religions, races, gender in order to introduce young athletes with diversity and tolerance on time;
- Develop interdisciplinary approach to education of sports experts (coaches, managers, journalists etc.)
- Encourage the allocation of means to the sports programs which promote the right values and principles etc.

Conclusion

Complex nature of sport and its multiple significance for an individual and the society as a whole, represent the starting point on the road to solving important problems which appear in sport. Managers of sports organizations have a task but also the obligation to direct their energy towards solving the current problems that appear in the field of sport. XXI century does not accept the mistakes that have happened in the past and emphasises the solving of problems of the rights of an individual in sport. Degenerative forms and appearances in sport, in respect of racism, discrimination, violence etc. are important issues in modern and socially responsible sports management. Solving of the existing problems has to be based on cooperation of government institutions, sports organizations, individuals, media and all factors of sports activities of the modern society.

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ULOGA SPORTSKIH MENADŽERA I NJIHOV ZNAČAJ U OBEZBEĐENJU LIČNIH PRAVA U SPORTU

Sažetak

U radu su predstavljena lična prava u sportu, regulisana poveljom UN o pravima čoveka. Predstavljani su određeni oblici diskriminacije i narušavanja određenih prava pojedinaca i grupa koji se javljaju u sportu. Definisana je značaj menadžera sportskih organizacija u rešavanju problema koji se odnose na prava pojedinaca u sportu. U radu su predstavljene mogućnosti rešenja aktuelnih problema koji se javljaju u sportu.

Ključne riječi: sport, menadžer, pravo, obezbeđenje.

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A MAJORSPORTING EVENT AS A GENERATOR OF SOCIAL CHANGE

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Original scientific paper

Summary

The paper explains the importance of major sporting events for the host countries and cities, their efforts to get a chance to organize them, and in turn pragmatize them in the best possible way. The paper also examines the role of sporting events in the promotion and image creation, but also the inherent connection between sports and complementary social spheres. Affirmation options for the country, all its potentials, such as personal, sporting, cultural, political, and tourist organizations are part of the benefits the organizer needs to take advantage of. The paper concludes that the organizer must have a clearly developed strategy for all phases of the process. However, the key role is played by quality, knowledgeable and professional human resources that implement the strategy whose creativity, skills, and inventiveness depend on the extent to which the organization of an important sporting event will contribute to the promotion and economic success of the entire country. The mission of the paper is focused on generating and strategic management of the positive changes that need to accompany the event, but also on the very fact that the event passes quickly and that its true value is reflected in what remains at the service of citizens, in everyday life, after its completion.

Keywords: majorsporting event, legacy, community, professionals

Introduction

In the early 1980s, sports became a serious industry, while their power and influence have been permanently growing and becoming larger and larger. Sporting events are certainly the most responsible for this, which in addition to attracting a lot of money and interest bring numerous sponsors, fans, and athletes to smaller competitions and smaller sports in general.

The sporting industry is constantly growing and is becoming a challenge for experts in the field of sports that must materialize effects arising from the event as well as manage strategic plans by logistical and functional resources after the event. What remains as a legacy to the community after a major sporting event is reflected in the reconstruction of almost all sporting facilities in the host city and the construction of completely new facilities that will be of service not only to professional sports, but amateur sports as well, to the people with special needs and to

senior citizens. Additionally, measurable resources remain in the form of the proven ability to organize new large and complex sporting competitions in the future. In addition to sporting, there are newly built residential and commercial buildings, new jobs, and built infrastructure. In short, the largest legacy is the new ambience in the host city and country, which to their fellow citizens seem more open, elevating their everyday live to a higher level.

The primary mission of this paper is focused on the fact that a major sporting event is not autochthonous or autotelic, but instead it should be utilized by the host city and country as a driving force for channeling positive changes in society at all levels and to create a better and more desirable living environment.

THE BENEFITS OF HOSTING A MAJOR SPORTING EVENT

Important major sporting events, though lasting only a few weeks, possess great significance for the organizers both short- and long-term. They cause global media coverage that is difficult to achieve otherwise. Legacies of such events are multipractical by nature and meet the needs of both local and wider communities.

Organizing major sporting events is of national significance and represents a major challenge at the same time, providing the host city and country with numerous opportunities for promotion, renovation and construction. They determine the direction in which a given nation will move in relation to international and world communities. In addition, modern, urban areas arise due to current architectural aspirations to transform a gym into an

element of modern urbanism. (Horne & Manzenreiter, 2006)

Major sporting events, implicitly and explicitly, cause great propulsion in the host country, usually to the society, culture, ecology, politics, economics, and sports. (Pellegrino & Hancock, 2010)

Social Benefits

Organizing major sporting events has always represented a tool for development, but also for the permanent solution everyday life issue, such as, among other things, encouraging social inclusion and reducing crime rates.

The positive social effects, aside from these, could be the following: (Oldenboom, 2006)

- **Exchange of experiences** - From a historical aspect, festivals have been used as mechanisms through which societal identities were placed, values of the local community celebrated, and social connections fortified.
- **Building national and local pride** - pride in organizing a large sporting event in the community causes emotions that involve finding their own identity, vision, and motivation.
- **Increased societal involvement** - Social benefits include self improving and developing personal skills, interaction of different individuals from around the world, interaction of different groups from around the world, and contribution of volunteer programs.
- **Expanding cultural perspectives** - Cities use the opportunity to benefit from an event in order to use it as a catalyst for improving daily life.

According to some views when it comes to promotion through sports, especially through mass sporting events, it is considered that this is a very positive promotion because in sports all countries and all competitors have an equal chance of success. John Orwell used to say that sports at the national level are only mimicking warfare. We might add that it also represents a means to replace war rivalries at peacetime. In addition, one of the hypotheses is that sports are becoming a modern form of nationalism or a clear determinant of national identity. John Street believes that sports create a different identity and a different policy, and stresses the fact that they play an important role in the formation of national identity and marking of borders in order to include some and exclude other people. (Morgan & Pritchard & Pride, 2005).

Cultural Benefits

By organizing large sporting events, cities have the opportunity to decorate their neighborhoods by constantly setting up facilities that are of importance to culture and thus attract people who are not interested in the sporting event per se. The culture of the host country is best represented in the opening ceremony that includes cultural and artistic aspects.

A major event is best viewed through the prism of great cultural, sporting, and commercial events that have a dramatic effect, are attractive to the masses and, perhaps most importantly possess international significance (Roche, 2000).

Heritage is something that an event simply leaves behind, but the people continue to exploit its effects in their daily lives for a long time. Time is necessary for heritage to

develop and become important to the culture. This in turn means that, in cultural terms, revenue is achievable and possible, it is immaterial but it is generic in the long run.

The Benefits to the Environment

Organizing major sporting events is necessary, among other things, in order to change the way people think and behave toward their own environment and green spaces.

"Sustainable Sports" is a relatively new concept both in the segment of sports as well as in the protection of the environment. The issue of environmental protection and environmental standards was first activated at the Olympics in Tokyo in 1964. Exceptional approach by the organizers led to the fact that these games were used to build new centers for industrial waste treatment, recycling, as well as to begin cleaning polluted rivers (Trkulja, 2008).

There are different actions that host cities use to secure an advantage in the candidacy process:

- reducing gas emissions that lead to the creation of the greenhouse effect
- providing facilities that will continue functioning in the same way
- minimizing waste at every stage of the project
- minimizing the impact of major sporting events on wild animal species and people in the vicinity of the event

Political Aspects

Obviously, this is a topic that may cause a lot of debate when it comes to sporting events and it is simply impossible to separate sports from politics. These two processes occur simultaneously and must thus be considered and analyzed. The immanent relationship between sports and politics shows, in fact, how powerful of a political character a sporting event can produce. Unfortunately, from past experience we must stress that politics often used, we are free to say and abused sports and sporting events for their own personal and selfish purposes, while sports have been those that depend on the benevolence of politicians and politics.

By organizing major sporting events, the host city or country can send a positive image of themselves if they work together with the government and the leaders who help in the implementation of this goal, which primarily has to be shared.

However, the essential problem arises when politics start to represent sports as a heteronomous social field, as a field of which politics have to take care. Politics then, under the metaphor of the "semantic umbrella" declaratively begin to act as the sports guardian, as someone who will care about the sports because the sports are not fit to do that themselves. In essence, the primary and perfidious intention of politics and politicians is masked - to have a monopolistic position in sports. In such a constellation sports become a "golden cage" of politics, and as long as they benefit sports will not be allowed to become independent.

Those involved in organizing large and prestigious sporting events can improve their own political image by their mere presence near the event, as well as to develop their relations through contacts with

sports and commercial organizations involved in organizing the event. Another reason why governments support organizing major sporting events is that these events provide the opportunity to return the invested funds in the form of economic, physical, or other benefits (Malfas & Theodoraki & Houlihan 2004).

Sports are the best example of how ideology and politics widen and swallow those domains of human daily life that are seemingly free and neutral. For the social system it is critical that sports grab the attention of the masses, create mechanism for channeling and directing dissatisfaction without touching on the relations in which the dissatisfaction and conflicts would arise. For every policy, sports are, among other things, a "safety valve" that allows the discharge of accumulated political exclusion and aggressive passions. Theorists of social conflicts believe that safety valves, in the form of specific institutions (sports), serve to maintain a certain social order (Koković, 2000).

It seems that sports, in dialogue or conflict with politics, have failed to win a genuine autonomy. Sports often did not mind the swagger and point grabbing of politics. On the other hand, sports have been deceived, diluted, and deadened by the care and paternalistic surroundings of politics, which openly or covertly used sports for advertising or commercial purposes. Politics are interested in sports and abused them more than they do them any good (Letica, 1989).

Sports in their original form were usually created spontaneously with inherited virtues, healthy body, healthy mind, and fair play. However, with the emergence of violence, fraud and mischief, sports have

become completely discredited. When sporting events began to gather a large number of prosumers, they have increasingly become a training ground for many of the negative values and political messages, which otherwise by their noble, universal, and humanistic nature they should not be promoting (obviously, this is a symbiotic and perfidiously delegated relationship between politicians, club administrations, and fans).

Economic Effects

One of the most important reasons behind the decision of the city to host a major sporting event is a potential positive impact of the event on the local economy, which can be reflected on the overall social status of the local community.

The host city can use a single economic potential that accompanies a major sporting event to change its structure and allow it to begin the process of self-sustaining through recurring revenues from tourism, industrial areas, the events that will follow the main sporting event, or even create new economic relations with other regions or countries. Another key advantage is improving the image of the city. A major sporting event has a positive impact on the local industry, which derives benefits through additional demand in the construction sector and the goods and services sector. Also, the improvement of the system of public transportation, health systems, and infrastructure can lead to the creation of new industries and new jobs (Preuss, 2004).

Up until the 1990s, organizing such events usually brought the hosts mainly losses. As of 1984, the situation has started to significantly change, in a way that the

economic benefits of the Olympics in Los Angeles brought the host city earnings in the amount of a little less than \$250 million (Burton, 2003).

A major sporting event occupies a central place in the plans of the host city while the economic benefits are most often seen in the following:

- construction of new stadiums and supporting facilities
- consumption by visitors during the event
- using marketing to attract new investments
- tourism promotion
- rapid urban development
- new jobs

Development of Sports

A big event is not the only thing that contributes to the development of sports. Each event that provides an opportunity to take part, especially for beginners, has the potential to be utilized in the development of sports. However, for such short-term impact to grow into a long-term legacy, it should be well thought out and planned. Continually managing new opportunities for watching sports and taking part in them requires strategies that will be connected to earlier initiatives.

National and International Federations are aware of how important it is for their sports to be seen on television and major events like the Olympics because it may increase the number of people who will engage in the sport. Organizing more events entails the possibility of winning more medals and more public attention. Certain sporting organizations can be more interested in this benefit than the benefits that come from

organizing the competition itself (Masterman, 2008).

Thus, everyone should be allowed free access to local clubs, and it is in turn up to the clubs to provide opportunity to those who have potential to engage in sports. There is no sports development or top results without natural selection. We have become witnesses that sports in modern society have become "the privilege of the rich," of those who can pay membership fees, courses, and trainers. But such a disastrous relationship leads to the loss of quality as there is no selection criterion that differentiates the best. It is canceled out by the mere act of paying membership fees, so that private clubs formed on commercially marketable principles have only one goal, and that is massification of selection. Besides, professional sports are under no obligation to engage in socialization; their task is to produce a superb athlete and a superb result.

CONCLUSION

Based on all of the above, we conclude that sports as a social phenomenon of global proportions have been experiencing their full recognition in the last seven decades, when sporting events started to acquire mass characteristics. Such developments, in principle, cause the attention of not only the fans but also the media, companies, politics, and sponsors. With the advancement in the organization of social life one observes the development of sports in their present form. Today, sporting events have great significance, perhaps as never before, which leads to countries supporting and promoting sporting events more and more, as part of their development strategies in a global sense.

So, for the countries that wish to host a major sporting event the most important thing is to know what they will say about themselves and what they will show while the show is in town, and while they are under the global media spotlight. The event provides an opportunity for promotion, while the crucial factor that determines success is the quality human staff – the professionals. If the only element that they manage to highlight is their ability to organize an event professionally or that they have enough money for lavish opening ceremonies, then by the moment the games are taken over by the next host even earlier the world will forget that the event ever took place. Investing money in hosting a major world sporting event without a long-term exploitation plan of the new image of the city or country is nothing more than a failed mission.

Therefore, if a country wants to host a major sporting event, it has to have at least two strategies: one that relates to applying for hosting and getting it, or in other words getting such an opportunity and honour, and the other that relates to setting the goals and creating steps for their implementation. Therefore, what is the best possible way to tell the world your story before and during the event and create a positive image, or how are you supposed to stimulate action from the fans right after the event, be they tourist visits, foreign investments, sports, or political support?

The final phase of the strategic activities (which is also the athletic topic of this paper) refers to the repercussions of positive changes achieved through organizing a major sporting event, such as building an image, attracting tourists, attracting

investors, opening new exporting markets, better political position in international relations, building infrastructure that has a wider social importance, building sporting

infrastructure, raising the quality of sports, urbanization, creating an overall desirable living ambiance, new jobs, and so on.

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SPORTSKI MEGA DOGAĐAJ KAO GENERATOR DRUŠTVENIH PROMENA

Sažetak

Rad pojašnjava značaj sportskog mega događaja za države i gradove domaćine, njihovo nastojanje da dobiju organizaciju a zatim je pragmatizuju na najbolji mogući način. Takođe, rad se bavi ulogom sportskog događaja u promociji i kreiranju imidža ali i imanentnom vezom između sporta i komplementarnih društvenih sfera. Mogućnost afirmacije države, svih njenih potencijala, poput personalnih, sportskih, kulturnih, političkih, turističkih i organizacionih, deo su benefita koje organizator mora da iskoristi. Rad se završava zaključkom, da organizator mora da ima jasno razrađenu strategiju o svim fazama procesa. Ipak, ključnu ulogu ima kvalitetan, obrazovan i profesionalan ljudski potencijal koji implementira strategiju i od čije kreativnosti, sposobnosti i inventivnosti zavisi u kojoj će meri organizovanje važnog sportskog događaja doprineti promotivnom i ekonomskom uspehu cele države. Misija rada usmerena je na generisanje i strateško upravljanje pozitivnim promenama

koje treba da prate događaj ali i samu činjenicu da događaj brzo prođe a da se njegova istinska vrednost ogleda u onome što će ostati na usluzi građanima, u svakodnevnom životu, nakon njegovog završetka.

Ključne reči: *sportski mega događaj, legat, društvena zajednica, profesionalci.*

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LEVEL CHANGES OF MOTORIC DIMENSIONS UNDER THE INFLUENCE OF KINESIOLOGY CONTENT

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Original scientific paper

Summary

The aim of the research was to determine the level and size of changes in the selected variables for the assessment of motoric dimensions of female high school student using different kinesiology content. In a two hour gym classes per week, during a single school year, the experimental group was subjected to kinesiology content mastering volleyball and basketball games and technique, as well as general physical condition using various methodical organizational forms. The concept was programmed and designed in accordance with the curriculum of secondary technical schools of the Federation of Bosnia and Herzegovina. Using the „congruence methodology“, i.e. comparing results of the initial and final measurement, the authors wanted to determine potential structural changes in motoric abilities of the selected group of female students. Out of the total of eighteen (18) variables, we identified five (5) latent variables in the initial and six (6) latent variables in the final measurements as most influential, causing changes and total variance of the system, in both measurements. The deducted structural changes caused by applied content can be interpreted as the advantages and recommendations but may point to deficiencies when setting up structures content of teaching physical and health education.

Keywords: physical education facilities, volleyball, basketball, general physical preparation, motor dimensions, students, teaching physical and health education.

Introduction

An important part of the programmed kinesiological activities is to find appropriate methods and operators who will by their introduction, sequence and manner of performing the exercises and size of the load ensure conditions for transformational change and the conditions for raising the level of energy and activity. On the basis of such planning and programming, can be expected realization

and fulfillment of basic tasks and goals of teaching physical and health education.

As the most efficient operators and content we considered those who have positive effects on participants taking into considerations their needs and abilities. Very important elements of success in carrying out any of kinesiology content in physical education are the way the content is realised, its adaptation to the age group and prior knowledge and motivation of the participants in the classroom (e.g. desire

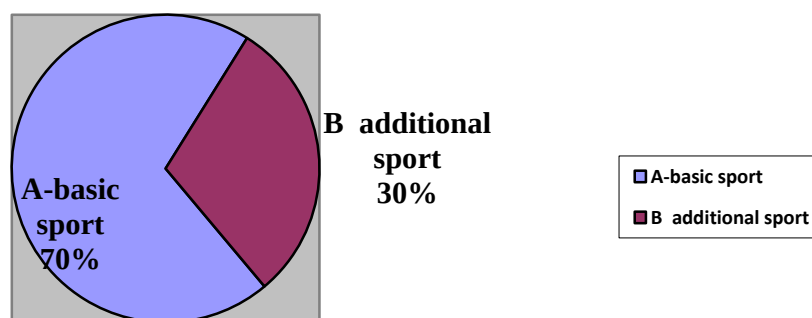
for fun, need to develop certain motoric skills, socializing with friends, developing health and general fitness, etc).

When we compare the scheduled content of physical and health education classes of different high schools, we can observe the

diversity of content and temporal distribution of various teaching units.

The Chart 1 presents the programed structure of the physical and health education classes in technical and vocational secondary schools of the Federation of Bosnia and Herzegovina.

The Chart 1. the programed structure of the physical and health education classes in technical and vocational secondary schools



The planned and programmed structure of physical and health education in secondary technical and vocational schools is consist of:

- **A sports program** of preparation and basic selected sports .
- **B sports program** of additional supplemental sports.

Both programs form a whole unit and are realized in the course of a school year. The content of A-sports training program is one of the sport discipline selected and the content of supplementary B-program is one or two disciplines that have not entered into A-program such as general physical preparation or martial arts. Time distribution of one program over another is 70:30 in favor of the main program. As a whole, these two programs are represented in proportion of 80% of the content of the annual curriculum. The remaining 20% is related to the content of the initial and final diagnostic, theoretical preparation.Planned

treatment of the experimental group consisted of 70 hours of regular teaching of physical and health education.The teaching units were related to the content of the specific practices of development of motoric skills, processing, organization and tactics of volleyball and basketball games that were realized through the application of different methodical organizational forms work, such as the frontal forms of work, group work (work in pairs, threes, fours) -team alternate form of work, work on the cells and circuit training.

Methodology

The aim of the research is to determine the changes in the treated motoric features of high school student conditioned and caused by educational content in the course of one academic school year.

The sample

Testing was conducted on a sample group of 75 secondary school students age 14 to 16 years. The research process included students who are healthy and who regularly attend physical education.

The sample of variables

The choice of variables was based on previous studies and on the basis of suitability and techniques involved and the complexity of performance, age and gender of the sample.

Variables for assessment of motor dimensions

For the assessment of selected motoric dimensions, following variables were used: hand tapping, foot tapping, 20m run, coordination test with bat, slalom with three balls, polygon backwards, slalom with two balls, dribble hand, single leg balance test with eyes open, single leg balance test with eyes closed, both legs balance test with eyes open, both legs balance test with eyes closed, lying-medicine ball throw, 30 seconds sit-ups test, long jump from place test, sit and reach test, shoulder flex test and lateral string.

The congruence method, i.e. measuring and comparing scores of the initial and final measurement was used to determine whether there has been a structural change in the motoric abilities, under the influence of the applied program content of volleyball games as part of the gym classes. In scientific research it is a frequent attempt to cover a large number of interrelated phenomena, but this hinders a deeper and clearer insight into the legality of the structure of the same. Due to such experiences, a principle of parsimony (savings) was set, which requires that a larger number of phenomena are explained with a smaller number of basic factors. As a goal of factor analysis is the condensation of a large number of related manifest variables and their reduction of the relatively small number of independent latent variables that explain the connections and relationships. The selected, separated, latent variables are considered causes or sources of variation between manifest variables. Such analysis provides information about the number of latent variables, their structure and

interconnectedness.

Results

KMO and Bartlett's Test	Initial measurement	Final measurement
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.786	.783
Bartlett's Test of Sphericity	402.943153	480.479153
Sig.	.000	.000

Table 1: KMO and Bartlett's Test motor dimensions of the initial and final measurement

As a first step, the Bartlett test sphericity and Kaiser-Meyer-Olkin test of the adequacy of the sample was taken, in order

to examine the possibility of being subjected to this set of motoric variables to any type of factorization (Table 1). Results

indicate the adequacy of the representation of the sample in both measurements. Subsequently, an analysis is performed of intercorelation between variables for assessing motoric dimensions of the control group in both measurements (initial and final measurement) .Value of intercorelation in both measurements was at the level of significance of 0.01 and 0.05, in some pairs or bonds a negative correlation value is found. This indicates that in some relationships, increased by one, is accompanied by reduced levels of other variables with which it owns intercorelative connection. The largest number of achieved correlation relationship with the other, in the initial measurement have the variables:

- for assessing the speed MBR20V
- for assessing the coordination MKOS3M

- for assessing the coordination MKOPOL
- for assessing the hand movements frequency MBRTAR
- for assessing the coordination MKOPOL

The largest number of correlation relationship in final measurement, achieved by the following variables:

- variable for assessing coordination MKOKOP, MKOPOL, MKOVL
- variable for assessing the balance MABAU10
- The variable for assessing frequency hand movements MBRTAR.

From a total of eighteen (18) variables in the initial measurement, we identified these five (5) and in the final measurements we identified six (6) of the latent variables, which can, in percentage explain the space of the total variance of the system (Table 2).

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	
1	5.312	29.509	29.509	5.312	29.509	29.509	INITIAL MEASUREME
2	1.728	9.600	39.109	1.728	9.600	39.109	
3	1.400	7.777	46.886	1.400	7.777	46.886	
4	1.269	7.047	53.934	1.269	7.047	53.934	
5	1.155	6.417	60.351	1.155	6.417	60.351	
	Experimental group						
1	5.510	30.609	30.609	5.510	30.609	30.609	FINAL MEASUREMENT
2	1.961	10.893	41.502	1.961	10.893	41.502	
3	1.418	7.880	49.383	1.418	7.880	49.383	
4	1.239	6.883	56.266	1.239	6.883	56.266	
5	1.167	6.485	62.751	1.167	6.485	62.751	
6	1.023	5.684	68.435	1.023	5.684	68.435	

Tabela 2.Matrix of isolated latent variables for the assessment of motoric dimension groups both measurements

As can be seen in the initial measurement (Table 2) five latent dimensions were isolated, which in general explain the 60.44% of the common variance.

Individual contribution to the explanation of the common variance is as follows:

*the first principal component is 29.51% (typical root of 5.31) for the second 9.60%

(1.73) for the third 7.78% (1.4) for the fourth isolated component 07.05% (1.27) and for the fifth isolated component 6:42% (1.16) .In the final measurements six latent dimensions were isolated that explain 68.44% of the common variance. This value is even greater than the value in the initial measurement. Individual contributions are: The first principal component refers to the percentage of 30.61% (characteristic root 5:51) of explained variance, the second component

explains 10.89% (1.96) of the total variance, the third isolated component explains 7.88% of the variance (1.42), the fourth component is 6.88% (1.24) explanation of the total variance, for a fifth isolated component is 6.49% (1.17) and at the end of the sixth isolated component expressed in percentage value which explains the total variance was 5.68% and the typical root is 1.023. Rotation is done by direct oblimin method.

	Initial mesurement					Final measurement					
	1	2	3	4	5	1	2	3	4	5	6
MBRTAR	.777	.134	-.393	.019	-.116	.783	-.016	-.324	.201	.459	-.071
MBRTAN	.612	.099	-.236	.257	-.262	.872	.206	-.281	.038	.112	.108
MBR20V	-.744	-.424	.374	-.061	.193	-.745	-.041	.405	-.185	-.408	-.355
MKOKOP	-.414	-.504	.611	.188	.189	-.520	-.433	.595	.060	-.230	-.198
MKOS3M	-.368	-.172	.744	.087	.510	-.338	.111	.471	-.474	-.642	.136
MKOPOL	-.381	-.444	.604	-.092	.172	-.259	-.305	.828	-.077	-.245	-.301
MKOSN2L	-.113	.107	.028	-.024	.818	-.312	.136	.769	-.071	-.226	-.135
MKOVLR	-.347	-.233	.744	-.045	.171	-.447	-.172	.644	-.239	-.417	-.011
MABAU1O	.427	.621	-.346	-.169	-.359	.443	.569	-.235	.307	.599	.113
MABAU2O	.352	.790	-.129	.173	.055	.086	.787	-.094	-.023	.112	.058
MABAU1Z	.027	-.003	-.629	.259	-.057	-.129	.578	-.443	-.045	-.274	.320
MABAU2Z	-.278	.711	-.159	.218	-.019	.113	.715	-.175	.325	-.051	.098
MESBML	.266	.243	-.290	.113	-.717	.146	.223	-.145	.865	.098	.118
MRSPTL	.561	.159	-.486	-.027	-.176	.305	-.043	-.325	.035	.768	.245
MESSDM	.765	.215	-.076	-.017	-.339	.581	.241	-.571	.326	.261	.347
MFDS	.125	.111	-.305	.841	-.069	.208	.034	-.147	.004	.039	.743
MFLISK	-.312	-.331	.563	-.287	.153	-.263	-.400	.314	.402	-.590	-.196
MFLBOS	.280	.496	-.117	.601	-.288	-.089	.190	-.308	.156	.384	.700

Table

3.Matrix of isolated components of motor dimensions, initial and final measurement

As assumed, the first principal component carries most of the explained variance (30.96%), and can be considered as the most important measure of the applied measuring instruments manifested motorical variables. The Table 3 shows the structural matrix of isolated components of motor space group at both time points of

the measurement. Biggest influence on the first principal component of the initial measurements are variable for assessing the frequency of leg and arm movements (MBRTAN, MBRTAR) and the speed of simple movements (MBR20V). No less significant, the present value projections have variables for assessing repetitive

forces troops and explosive leg power (MRSPTL, MESSDM) so this factor can be called mixed speed factor, repetative and explosive strenght. Second isolated latent component, the most saturates variables assessment of the balance of open and closed eyes (MABAU1O, MABAU2O and MABAU2Z) and variables for estimating body coordination (MKOKOP) and the flexibility of the lower limbs so that this factor can be defined as a mixed factor of balance, coordination and flexibility. The third isolated latent component manifest motor space control group, the maximum value projections are variables for estimating body coordination, hand (MKOKOP, MKOS3M, MKOPOL and MKOVLRL) and variables for estimating balance with open eyes (MABAU1O), repetative forces troops (MRSPTL) and flexibility of the hand (MFLISK) so that this factor can be defined as mixed but mixed factor coordination, balance, strength and repetative flexibility. The fourth latent isolated component is defined as a factor of flexibility because it has the largest projection variables for assessing the flexibility troops and legs (MFDs and MFLBOS). And in the fifth component of isolated motor space investigated the control group, the largest recorded projections have variables for assessing arms and legs coordination (MKOS3M, MKOS2NL) and explosive power arm (MESBML). This isolated factor can be defined as a mixed factor of coordination and explosive power.

In the final measure, six components have been identified as a main influencers on the motoric dimensions in the measurement control grupe. The biggest projections on the first principal

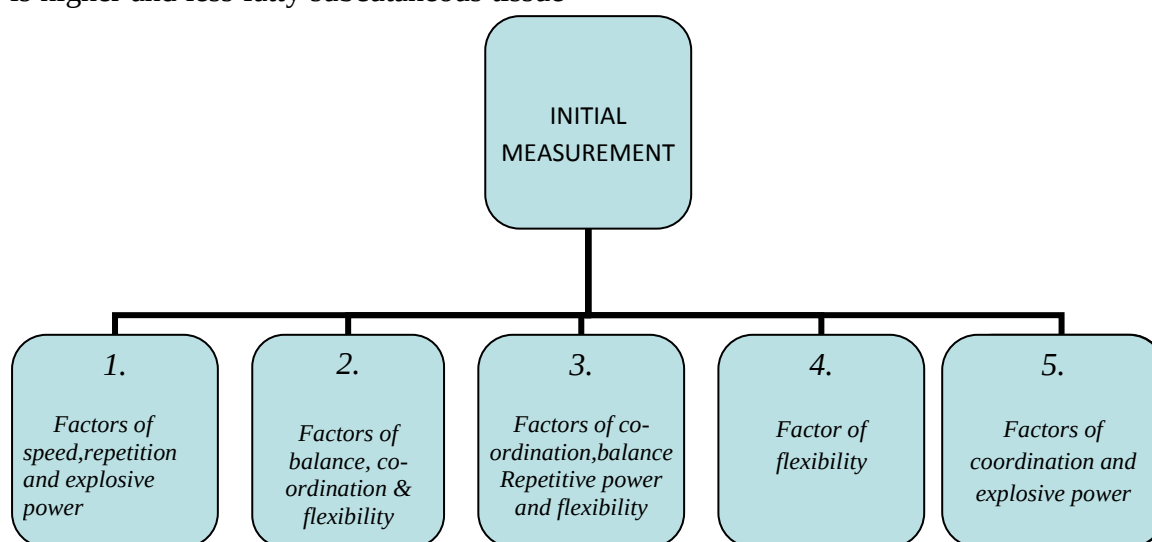
component of the final measurement of the variables for assessing the frequency of arms and legs movements, and speed of simple movements (MBRTAN, MBRTAR and MBR20V). In addition to these variables, there was a significant value of screening variables for assessing explosive leg power (MESSDM). These projections variables defining this first principal component as a factor of speed and power. All four variables for assessing the balance of open and closed eyes have achieved considerable projection in the final measurement to another isolated latent component (MABAU1O, MABAU2O, MABAU1Z and MABAU2Z) so that this factor can be defined as a pure balance factor. The third isolated latent component manifest motor space control group, the projections are variables for assessing body, arms and legs coordination (MKOKOP, MKOS3M, MKOS2NL, MKOPOL and MKOVLRL) so that it can be defined as a pure factor of coordination. The fourth latent isolated component of the final measurement, the maximum projection is variable so that MESMBL it can be defined as explosive hand strength. The fifth latent component, in the final measuring motor dimensions of the control group, were projected with the highest values of variables for estimating balance (MABAU1O), coordination of hands (MKOS3M) variable for assessing the strength of the abdominal muscles (MRSPTL) and variable for assessing the flexibility of hand shoulder belt (MFLISK). This factor can be defined as a mixed factor. In the end, the sixth latent isolated component, the maximum projection of the variables for assessing the flexibility of body and legs (MFDs and

MFLBOS) and is defined as a factor of flexibility.

Discussion

It has been observed a reduction of the five latent variables initial measurement or six factors isolated the final measurements that explain this correlation. Also, there are structural changes in the motoric dimension area, under the influence of applied program of classes. The initial measurement of motoric dimensions, reduced over the latent variables that explain the structure of the motor area of the test sample. For the age segment of 14-16 years it is a typical dynamic development of individuals with pronounced developmental differences in boys and girls. The increment of height and weight is present and the intensive development of the skeleton and muscles. The percentages of muscle tissue and adipose tissue in body weight among boys is higher and less fatty subcutaneous tissue

participates in the proportion of total body mase. With girls, the relationship representation fat and muscle tissue reversed in favor of fat. The increase of height and body weight have a negative effect on the expression of certain motoric abilities. Negative affects the coordination abilities whose level is determined by the level of expression of other motor abilities [2]. In addition to the negative correlation relationships were observed and positive ones, and that the increase in speed abilities usually go together with powerful capabilities that again partly depend on the range of motion in the joint structures and, as such, affect the balance level [1]. The development of muscls lays the foundation for the work of the total power and it is recommended that this period starts with the systematic training disciplines in which is represented stamina, strength and continue working in the area of coordination, balance and



Slika 1. Structure of the isolated variables in the initial measurement

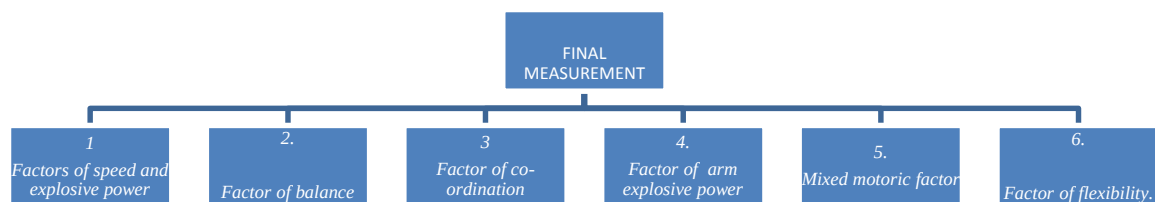


Diagram 2. Structure of the isolated variables in the final measurement

flexibility for which the recommended timing of work on their development (the pre school age) . When analyzing the structure of isolated latent variables in the final measurements, we can observe the structural change which we recognize as a result of the influence of the applied content. Volleyball and basketball as sports games belong to the group of sports which are characterized by complex manifestation of motoric skills at different levels of their development. Researches done by different authors dealing with the subject of manifestation of motoric skills in volleyball, have shown that the different phases of the game and the performance of any element techniques of participants requires a certain level of motor skills such as jumping ability (explosive leg strength), speed, flexibility, and coordination of movements as the base motoric skills. Of course, the longitudinal dimension which is characteristic of modern volleyball and claims that it sets for the successful realization of the game. Basic motor skills are important for successful implementation techniques of basketball games are agility (change of direction), speed (transmission ball counter attack, attack, feinting), explosive strength (jumping while shooting, arriving in

possession of the ball, blocking an opponent rubble), precision (passing, kicking) endurance and coordination.

These motor skills are included in the basic motor skills that are essential in the selection of both the sport and the continued use of the contents of these sports can expect changes in these abilities. The experimental program also included a teaching unit general physical training and classes, which contained a specific exercise training of motor skills by applying circular, cell type of excercises, alternately departmental etc..

On the other hand, the analysis of individual motoric abilities which variables to estimate inputs into the structure of the isolated latent variables final measurement, we can say the following:

*Ability to maintain equilibrium position, with the analysis of information on the position of the body that come through kinesthetic and visual receptors (in this case it is keeping the balance with extensive and frequent, rapid changes in body position-leaps, turns, landing, short of running out) is correlated with coordination skills, especially with agility as well as speed and powerful properties of muscles to ensure the maintenance of

equilibrium (dynamic) . This means to increase the level of any form of balance, increase the level of agility, speed and strength of muscle groups involved in keeping the same (specific balance).

*Flexibility as a motoric skill falls into the category of motor skills that have a relatively low inborn coefficient and can take a lot of influence on the development. Flexibility of the most developed in the earliest period of childhood, and girls increased risk of developing the same (flexibility depends on the structure of the joints and elasticity of muscle tissue), this is typical for the early childhood and in female population.

*The induced power increase conditional on specific muscle groups, increases the speed of the same muscle groups (except when creating the "speed barrier") excessive increase levels of shortening the duration of the movement, distortion techniques and coordination [11]. Expression and development speed as well as the majority of motoric skills depends on the growth of body weight and level of conditioning of motor skills. People with elevated body mass have a problem with any manifestation of motor skills, and thereby speed, which applies reciprocally. When talking about the level of acquired motor skills, people with a high level of technical motor skills have the opportunity of expressing the maximum speed which in turn applies the other way around.

Analysis of the level, the coefficient of the inherent mobility capabilities, speed (.90-.95) and explosive power (.80-.85), have a high inborn coefficient that limits but still leaves a space where they can cause an increase in the qualitative and quantitative levels.

Repetitive forces have a smaller inborn coefficient (.50) and a larger effect on

growth. Capacity of coordination, according to a hierarchical model of motoric functioning and structure of motor skills [12], the mechanism for the regulation of movement, its structuring and possesses a high inborn coefficient (.90 -95) .Given inborn factor, it is possible to partially affect the in time development of coordination skills. The lowest progress in coordination means a lot because of coordination directly affects all other motoric skills and their manifestations [12]. Since the general coordination is not possible influence upon completion of growth and development, the specific coordination is possible to change.

Conclusion

The main objective of this study was to determine and identify the changes in the levels of motoric skills under the influence of selected gym courses with volleyball and basketball games at the high school student aged 14 to 16 years. For this purpose, a sample of 75 respondents was used and data were collected on the success of women in the 18 motoric ability tests. In the course of solving the objective of this study, the authors determined the preliminarily status and latent (factor) of motoric skills using initial and final measurement. The goal of factor analysis in this study was not only to determine the latent structure of the investigated area, but also to establish a presence primarily qualitative changes that have occurred due to implementation of programme within the normal weekly double gym classes. Using the congruence methodology, i.e. comparing results of initial and final measurement, it was found that structural changes that occurred are a product of the applied curriculum for the

gym classes for a period of one teaching school year. In addition, Factor analysis provided a basis for conclusion that the basic structure of motoric abilities after conducting the programs for volleyball and basketball classes and general physical fitness, there was a significant qualitative change in the majority of applied variables, and that using this methodology we obtained better and more compact structure of the final measurement.

In essence, knowing the impact of the selected teaching content on the transformation of motoric skills, facilitate

quality educational programe in the area of the physical and health education in secondary schools as well as finding the optimal facilities that will meet the requirements and implement the tasks and objectives of the subject's physical and health education. Finally, the teacher as a leader of this process, its creativity and knowledge, and selected content of classes, are also crucial for any potential transformation.

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PROMJENE U NIVOIMA MOTORICKIH DIMENZIJA POD UTICAJEM KINEZIOLOŠKOG SADRŽAJA

Sažetak

Cilj istraživanja bio je utvrditi nivo i veličinu promjena u odabranim varijablama za procjenu motoričkih dimenzija ženske populacije srednjoškolca korištenjem različitih kinezioloških sadržaja. U dva sata teretane nedeljno, tokom jedne školske godine, eksperimentalne grupe bio podvrgnut kineziološkim sadržajem odbojke i košarke, igre i tehnike, kao i opće fizičko stanje koristeći različite metodičke organizacijske oblike. Koncept je programiran i dizajniran u skladu sa nastavnim planom i programom srednjih tehničkih škola u Federaciji Bosne i Hercegovine. Koristeći "metodologiju podudarnosti", tj poređenje rezultata inicijalnog i finalnog mjerenja, autori su željeli da se utvrdi potencijalne strukturne promjene u motoričke sposobnosti izabrane grupe žena studenata. Od ukupno osamnaest (18) varijabli, identificirali smo pet (5) latentnih varijabli u početnoj i šest (6) latentnih varijabli u finalnom mjerenju i ukupne varijance sistema, u oba mjerenja. U strukturnim promjenama uzrokovane Applied sadržajem može se tumačiti kao prednosti i preporuke, ali može ukazati na nedostatke prilikom postavljanja strukture sadržaja nastave fizičkog i zdravstvenog obrazovanja.

Ključne riječi: *fizičko obrazovne ustanove, odbojka, košarka, opće fizičke pripreme, motoričke dimenzije, studenti, nastava Tjelesnog i zdravstvenog odgoja.*

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EFFECTS OF A THREE TRAINING MODELS ON THE DEVELOPMENT OF THE SITUATIONAL - MOTOR ABILITIES WITH HANDBALL ATHLETES AFTER CONDUCTING 8 WEEKS OF TRAINING

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Original scientific paper

Abstract

The research analyzes and compares the changes in specific - motor abilities with young handball athletes. In the experimental procedure were involved 60 subjects, divided into three experimental groups of 20 subjects. An individually targeted program for development of the specific - motor abilities was performed in a period of 8 weeks. The three groups were working on 3 different programs for development of the explosive power of the upper and lower limbs, and the programs were integrated in the usual training process suitable for the competitive period. On this sample were applied 6 specific motor variables associated with the handball game.

Starting from the set goals and objectives of the research despite the descriptive statistics, uni variant and multivariate statistical methods were also used. Any differences in the initial and final measuring between one group and between the groups were mutually tested by applying uni variant analysis of the variance (ANOVA), multivariate analysis of the variance (MANOVA) and appropriate LSD - tests (last significant difference). The effects of the programs in the final result and the differences between the groups at the end of the research were determined by multivariate analysis of covariance (MANCOVA) and T - tests for each variable in the initial and final measurement. Statistical analysis showed positive effects of the experimental programs in development of the specific - motor abilities in young handball athletes in all three groups at initial and final measurement.

Keywords: Handball, situational motor, ANOVA, MANOVA, MANCOVA, t - test.

bigger tasks are presented ahead the handball athletes and their coaches.

Introduction

Modern top handball reached a very high quality level and consequently to that

Handball athletes are muscular, durable, skillful, and mobile and hold in a high extent expressed motor and situational-motor abilities (Strezovski et al 2001). If a handball match is closely inspected, it is obvious that key movements in the handball matches are the ones regarding the manipulation of the ball especially throwing the ball to a team player or towards the opponent's goal (Vuleta, 2013). The development of the modern sport is tied to a new technology, professional, scientific and organized support in the training process, which in the future will be more stable (Strezovski 1994). Handball game is marked by a variety of typical and atypical situations in the game. Therefore, a detailed knowledge of certain situations in the game, or situational efficiency parameters of each player in a competitive and situational condition is needed (Vuleta et al., 2003).

Using parameters derived from the aim of handball game can be assessed the situational effectiveness of games, individuals or team. If we recognize the performance that bring good results, it is possible to get better results based on indicators of situational efficiency in attack, defense and transition play in handball. However, a standardized method for the registration of such data which could give us an accurate understanding of the events on the field during and after match has not been defined yet. (Vuleta et al., 2012). Also there is a need to choose the right methods in the training process to achieve a high level of psycho-motor qualities. The ultimate result it is not possible to be achieved only on the basis of individual experience, intuition and random factors (Strezovski 2002). Procedures in the training process must be

rationally operational and based on professional and interdisciplinary scientific research. Sports results in terms of the present level of development of the methodological sports preparations appear as a product of a planned, programmed and controlled process of sports training. For the improvement of the preparedness of the athletes the implementation of the real diagnostic procedures for the measurement of the initial level of preparedness is essential, to be able to use the suitable methods to improve the required features and qualities in athletes (Strezovski at all 2001). Therefore the conditions for training are changing and its methods and tools are developing and implementing new rules, new facilities, devices and equipment. This proves that a lot of work is done towards finding new opportunities to achieve even better results. The plyometric mode of training process increasingly takes place in improving the vertical jumping with handball athletes. Plyometric exercises evoke the elastic properties of the muscle fibers and connective tissue in a way that allows the muscle to store energy during the deceleration phase and release that energy during the acceleration period Weight training has been able to improve vertical jumping performance in most cases by 2 – 8 cm or by 5 – 15 % (Adams at all. 1992)

WORK METHOD

The population from which the sample of respondents was drawn can be defined as a population of young handball athletes, participants in the youth male Cup of Macedonia. The research will include the finest male youth teams from Skopje. When selecting the sample of respondents

we were guided by the extent and quality of the competition, the relevance of the new trends in the handball game, and the ability for their smooth and successful measurement. Respondents were divided into three groups of 20 subjects. In this research were applied 6 situational - motor variables: *Velocity of the stroke from place (BUM)*, *Velocity of the stroke from step (BUC)*, *Velocity of the stroke from jump (BUS)*, *Situational - motor test No. 1 (SMT I)*, *Situational - motor test No. 2 (SMT II)*, *situational - motor test No. 3 (SMT III)*.

To determine the possible differences the following analyzes were applied: uni variant analysis of variance (ANOVA), multivariate analysis of variance (MANOVA) and appropriate LSD - tests (last significant difference). The effects of the programs in the final result and the differences between the groups at the end

of the research were determined by multivariate analysis of covariance (MANCOVA) and T - tests for each variable in the initial and final measurement.

RESULTS AND DISCUSION

When processing and analysis of the obtained data, firstly the multi variant analysis of variance (MANOVA) was applied. The results of this analysis are concerning the differences between the three groups in the six motor situational variables in the initial condition. The results of this analysis (Table 1) show that there is a statistically significant difference at the level ($p < .00$) in the whole system of the treated variables in the three groups. Due to this fact it is necessary to determine the contribution of each variable separately in this matter.

Table no. 1 Multi variant analysis of variance (MANOVA)

Wilks'Lambda	Rao's R	df 1	df 2	Q
0,35	6,06	12,00	106,00	0,00

Table no. 2 Uni variant analysis of variance (ANOVA)

	1 group		2 group		3 group		F	p
	Mean	SD	Mean	SD	Mean	SD		
SBUM	54,12	6,01	53,70	4,89	53,63	4,38	0,05	0,95
SBUCH	55,83	6,29	55,40	5,28	55,04	4,86	0,10	0,90
SBUS	57,62	5,66	57,43	5,26	56,48	5,24	0,25	0,78
SMT1	19,06	1,59	21,87	1,57	21,85	1,18	25,19	0,00

SMT2	23,55	1,05	24,44	2,58	24,23	1,25	1,42	0,25
SMT3	17,51	0,74	17,53	1,30	18,80	1,51	7,30	0,00

The results of this analysis (Table no. 2) show that two variables are standing out: **SMT 1 .03**, and **SMT 3.00**. that statistically significantly influence on differences between the three groups.

Therefore by using a post hoc **LSD** test, were made additional analysis of the impact of these variables on the intergroup differences.

Table no. 3 post hoc LSD test on the variable SMT1

	{1}	{2}	{3}
1 {1}		0,00	0,00
2 {2}	0,00		0,95
3 {3}	0,00	0,95	

From table no. 3 it can be seen that the variable **SMT 1** contributes to appear the difference between group 1 and group 2 on

level .00 between group 1 and group 3 on level .00.

Table no. 4 post hoc LSD test on the variable SMT3

	{1}	{2}	{3}
1 {1}		0,96	0,00
2 {2}	0,96		0,00
3 {3}	0,00	0,00	

From table no. 4 it can be seen that the variable **SMT 3** contributes to appear the difference between group 1 and group 2 on level .00 between group 1 and group 3 on level .00. As a result of the differences that have emerged in the initial condition

multivariate analysis of covariance (MANCOVA) was applied in the final measurement for the equalization of the groups and realistic representation of the

effects of the three training programs conducted between the both measurements.

The results of this analysis (Table no. 5) show that there is a statistically significant

difference at the level ($p < .00$) in the whole system of the treated variables in the three groups in the area of specific - motor parameters. Due to this fact it is necessary to determine the contribution of each variable separately in this matter.

Table no. 5 Multivariate analysis of covariance (MANCOVA)

Wilks'Lambda	Rao's R	df 1	df 2	Q
0,29	6,60	12,00	94,00	0,00

Table no. 6 Uni variant analysis of covariance (ANCOVA)

	1 group		2 group		3 group		F	p
	Mean	SD	Mean	SD	Mean	SD		
SBUM	57,39	5,73	58,13	6,02	57,47	5,03	0,68	0,51
SBUCH	59,85	6,24	60,05	8,08	58,71	5,29	1,20	0,31
SBUS	61,30	5,02	61,66	8,17	61,35	5,88	0,07	0,94
SMT1	19,40	1,36	17,69	1,65	19,81	1,09	25,26	0,00
SMT2	23,35	1,07	23,64	1,45	21,99	0,98	17,84	0,00
SMT3	17,17	0,73	16,98	1,38	17,41	1,19	3,26	0,05

The results of this analysis (Table no. 6) show that three variables stand out: **SMT1 .00**, **SMT2 .00** and **SMT3 .05** that

statistically significantly effect on the differences between the three groups.

Table no.7 post hoc **LSD** test on the variable **SMT1**

	{1}	{2}	{3}
1 {1}		0,99	0,00
2 {2}	0,99		0,00
3 {3}	0,00	0,00	

After conducting the post hoc LSD test from table no. 7 may be noted that the variable **SMT 1** contributes to appear the difference between the two groups. Group 1 and group 3 on level .00, and group 2 and group 3 on level .00.

From the obtained results from the corrected arithmetic means can be Table no.8 post hoc LSD test on the variable SMT2

	{1}	{2}	{3}
1 {1}		0,00	0,72
2 {2}	0,00		0,00
3 {3}	0,72	0,00	

concluded that the best results in the final measure has group 2 where the corrected arithmetic mean of the variable situational motor test 1 **SMT 1** is 17.69, second result has the group 1 with a value of the corrected arithmetic mean 19. 40 and the worst outcome have the group 3 with a value of corrected arithmetic mean 19.81.

From table no. 8 can be noted that the variable **SMT 2** contributes to appear variance between the two groups. Group 1 and group 2 on the level .00, and group 2 and group 3 on the level ,00.

From the obtained results of the corrected arithmetic means can be concluded that the

best results in the final measuring has the Group 3 where the value of the corrected arithmetic mean of the variable situational motor test 2 **SMT 2** is 21.99, second result has the group 1 with a value of corrected arithmetic mean 23. 35 and the weakest result have the group 2 with the value of the corrected arithmetic mean 23.64.

Table no.9 post hoc LSD test on the variable SMT3

	{1}	{2}	{3}
1 {1}		0,87	0,00
2 {2}	0,87		0,00
3 {3}	0,00	0,00	

From table no. 9 may be noted that the variable **SMT 3** contributes to appear a variance between the two groups, Group 1

Table no. 10 t-tests for small dependent samples for Group 1-Situational motor

and group 3 on the .00, and the Group 2 and Group 3 on the level .00.

	Initial		Final		%	R	t	df	P
	Mean	SD	Mean	SD					
SBUM	54,12	6,01	57,68	5,73	6.57	0,97	-10,29	20,00	0,00
SBUCH	55,83	6,29	59,83	6,24	7.16	0,95	-8,79	20,00	0,00
SBUS	57,62	5,66	61,54	5,02	6.90	0,85	-5,95	20,00	0,00
SMT1	19,06	1,59	18,17	1,36	4.90	0,91	6,07	20,00	0,00
SMT2	23,55	1,05	22,67	1,07	3.88	0,95	12,06	20,00	0,00
SMT3	17,51	0,74	16,72	0,73	4.72	0,89	10,33	20,00	0,00

Table no. 11 t-tests for small dependent samples for group 2-Situational motor

	Initial		Final		%	R	t	df	p
	Mean	SD	Mean	SD					
SBUM	53,70	4,89	58,42	6,02	8.78	0,91	-8,49	20,00	0,00
SBUCH	55,40	5,28	60,71	8,08	9.56	0,93	-6,47	20,00	0,00
SBUS	57,43	5,26	62,71	8,17	9.26	0,93	-6,38	20,00	0,00
SMT1	21,87	1,57	18,17	1,65	20	0,58	11,44	20,00	0,00
SMT2	24,44	2,58	23,73	1,45	3	0,29	1,27	20,00	0,22
SMT3	17,53	1,30	16,75	1,38	4.35	0,79	4,15	20,00	0,00

Table no. 12 t-tests for small dependent samples for group 3-Situational motor

	Initial		Final		%	R	t	df	p
	Mean	SD	Mean	SD					
SBUM	53,63	4,38	56,89	56,89	6.07	0,98	-11,80	18,00	0,00
SBUCH	55,04	4,86	58,07	58,07	5.50	0,97	-10,73	18,00	0,00
SBUS	56,48	5,24	60,06	60,06	6.33	0,98	-12,80	18,00	0,00
SMT1	21,85	1,18	20,57	20,57	6.22	0,98	21,42	18,00	0,00

SMT2	24,23	1,25	22,58	22,58	7.30	0,97	18,43	18,00	0,00
SMT3	18,80	1,51	18,09	18,09	3.92	0,98	6,99	18,00	0,00

Among the respondents from the three groups for the period between the initial measurement and the set training program and the final measurement of the situational - motor parameters, statistically significant differences after the conducted t - test for dependent small samples have in all six situational - motor variables in the initial and final measurement.

From this it can be concluded that the programs that were settled for the three groups of respondents gave the expected results.

CONCLUSION

From the presented results in this study it can be concluded that statistically significant differences appear in all three situational motor tests, where, best results had the group that worked with the second

program, second according to the achieved values is the group that worked on the first program and the last group is the group that worked on the third program. Although statistically significant differences haven't appeared between the groups in the variables that define the velocity of the stroke, according the t - tests conducted for each group individually in the initial and final measuring where the percentage of improvement of results was calculated, it could be seen a tendency that the best results are achieved with the second group that worked with the plyometric training mode, while the first group that has worked with weights achieved results that are second in row, while the third group that had worked a combination of the previous two programs has been successful as third in row.

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UČINCI OD TRI MODELA OBUKE NA RAZVOJ SITUACIJSKOG-MOTORIČKIH SPOSOBNOSTI RUKOMETAŠA SPORTAŠA NAKON PROGRAMA 8 SEDMICA TRENINGA

Sažetak

Istraživanje analizira i poredi promene u specifično - motorne sposobnosti kod mladih rukometaša. U eksperimentalnoj proceduri bilo je uključeno 60 ispitanika, podeljene u tri eksperimentalne grupe od 20 ispitanika. Izrađen je individualni program za razvoj specifično - motorne sposobnosti u periodu od 8 nedelja. Tri grupe su radile 3 različite programe razvoja eksplozivnu snagu gornjih i donjih ekstremiteta, koje su bili integrisane u programe uobičajene za takmičarski period. Na ovaj uzorak ispitanika primenjene su 6 situaciono - motorne varijabli u vezi rukometne igre. Polazeći od postavljenih ciljeva i ciljeva istraživanja pored deskriptivne statistike, korišćene su univarijantne i multivarijantne statističke metode. Sve razlike u inicijalnom i finalnom merenju testirane su primenom univarijantne analize varijanse (ANOVA), multivarijantna analiza varijanse (MANOVA) i odgovarajuće LSD - testovi. Efekti programa na konačan rezultat i razlike između grupa na kraju istraživanja određene su multivarijantnom analizom kovarijanse (MANCOVA) i t - testova za svaku varijablu u inicijalnom i finalnom merenju. Analiza rezultat je pokazala pozitivne efekte eksperimentalnih programa na razvoj specifično - motoričke sposobnosti kod mladih rukometaša kod sve tri grupe ispitanika u inicijalnom i finalnom merenju.

Ključne reci: Rukomet, situaciona motorika, ANOVA, MANOVA, MANCOVA, t - test.

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RESEARCH ON TECHNICS OF THROWING DISCUS IN ANCIENT GREECE

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Original scientific paper

Summary

The beginning of throwing discus as a competition discipline has been connected to the ancient Greece. Homer in his famous epic poem Iliad mentions competition in throwing wheel, i.e. a discus. The well-known lyric poet Pindar, who celebrated Greek heroes of different sport competitions in his odes epinikia, invented the word diskovolia. At the 7th Olympic Games in the ancient Greece in 708 B.C. the competition included the discipline of throwing discus within pentathlon. There have been different opinions on how a discus used to be thrown in those ancient times. The most likely is that it was thrown in a way similar to the modern style of throwing discus, from the spot into the distance. However, material historic sources (images on vases, sculptures, drawings etc) demonstrate certain differences which are the subject of study presented in this paper.

Key words: discus, throwing, Greece, competition.

Introduction

Discus throwing existed in the ancient Greece as an independent competition event and as a part of pentathlon. Homer mentions discus throwing in his work Iliad on two occasions:

- ✎ When the Myrmidons¹⁰ competed in discus throwing during a entertainment, at the time of Achilles absence from battles at Troy (Homer, 1977, p. 94) and
- ✎ At the completion at Patroclus funeral. Achilles offered a discus

made of iron as an award to the winner (Homer, 1977, pp. 559-560).

According to one of many legends on the beginning of the Olympic Games, a discus had a significant role. Following the prophecy at Delphi, three kings of ancient Greece: [Lycurgus of Sparta](#), [Iphitos of Elis](#), and Cleoisthenes of Pisa made a mutual agreement and created a long-lasting treaty on Sacred peace during the Games, which was respected by all the Greeks as an inviolable law even at the gravest of conflicts among numerous states. That treaty on Sacred peace was carved on a metal (bronze) discus and kept afterwards at the Temple of Hera in Olympia. Pausanias stated that he had seen it in 160 B.C.: "... On Ifit's discus,

¹⁰ Achey tribe in Tessalia's Ftiotidi, where Achillies used to rule, and the capitol was Ftia and Hellas

there were the words of Sacred peace which Eleans had proclaimed at the time of the Olympic Games; the text was not written in a straight line, but the words go in circle on the discus. " (Pausanias, V, p. 20)

The well-known Greek lyric poet Pindar¹¹, who celebrated Greek heroes of different sport competitions in his odes¹², invented the word *diskovolia* (*disk* – discus which is thrown and *voli* - throwing, and the person who threw the discus was called *diskovolos*). At the 7th Olympic Games in the ancient Greece in 708 B.C. the competition included the discipline of throwing discus within pentathlon. According Pausanias, as it has been already mentioned, three metal discuses were used during the Olympic competition. The discuses were of the same diameter and mass; they were kept in the treasury of the Sikyonians. Lucian¹³ praised Greek gymnastics in his work *Anaharsid*, in which he describes a discus: *"There is a round metal object you can find in the gymnasium. It looks like a small shield without a handle or strap. You tried it out yourself and you realized how heavy it is; besides it is slippery so it is difficult to hold. That discus is thrown up and into the distance, so competitors have to throw it as far as possible and outdo their rivals. The exercise strengthens the shoulders and makes limbs more flexible."* (Đurić, M. 1998, pp 93-94; Enciklopedija fizičke kulture 1975, p. 679)

The subject of this historical research refers to the discus throwing as a competition event in the ancient Greece. A large number of researchers provided various analyses and

hypothesis on possible ways of discus throwing performance thus creating a tempting challenge to conduct an experiment under conditions similar to those in the ancient Greece. The aim of the research was to establish the most authentic way of discus throwing performance in the ancient Greece.

Generally, the researches in the field of athletics so far have been studying the issues related to the process of training, while the technique of performance have not been studied so much. According to the analysis of images on Greek vases and kinograms done by various authors, approximate idea can be conceived on the way a discus was thrown in the ancient Greece.

The archeological excavations in the territories where the style of living typical for the ancient Greece existed have brought to the discovery of authentic size of the discuses used then. A number of original items have been found which are kept in museum around the world. The discus used by the ancient Greeks was a flat, round stone in the shape of a lens, with 17-34 cm in diameter and 1.3-5.7 kg heavy. Discus size was not standardized, and the size depended on the town which discus originated from. The average weight of the preserved discuses is around 2.5kg. In later period, discuses were made of hard and heavy wood, bronze and lead. The discus then had the shape of a round, flat plate, while the modern ones are streamlined.

Different opinions have been developed based on the fact that there have been no precise data regarding the way of throwing discus in the ancient Greece. However, all the researchers agree that discus was thrown from a spot into the distance, from a particular space surrounded from three sides. Before the throwing, athletes used to dust discus and their hands with dirt in order to have a better grip of the object so it would

¹¹ He was born in Kinoskefali, near Theba (the province of Beotia) in around 518 B.C., and died in Arg in 438

¹² An ode had its established meaning as a lyric poem, and such were all Pindar's odes, 44 of them.

¹³ Well-known Greek writer – satirist (around 125 – 180 A.D. from Samosata in Komagena (the province of Syria).

not slip away because of sweaty hands or due to the smoothness of discus surface. The following researchers tried to explain how a discus was thrown: Miller (1979, pp. 30-31), Gardiner (1910), Christopoulos & Bastias (1982, pp.188-190), Swaddling (1999, pp. 65-66) who illustrated by means of kinogram the most probable way of discus throwing (Fig.1). She claims that *"there no data confirming that an athlete made more than three quarters of a turn before the actual*

throw, though today an athlete makes two and a half circles in running/spurt before throwing a discus " (p. 66). A remark has to be made regarding the previous sentence: *"...today an athlete makes two and a half circles in running/spurt before throwing a discus"*. According to Stefanovic (1992, pp.190) in the current practice and theory, a discus throwing is preceded by a 540° turn, which means one and a half turn.

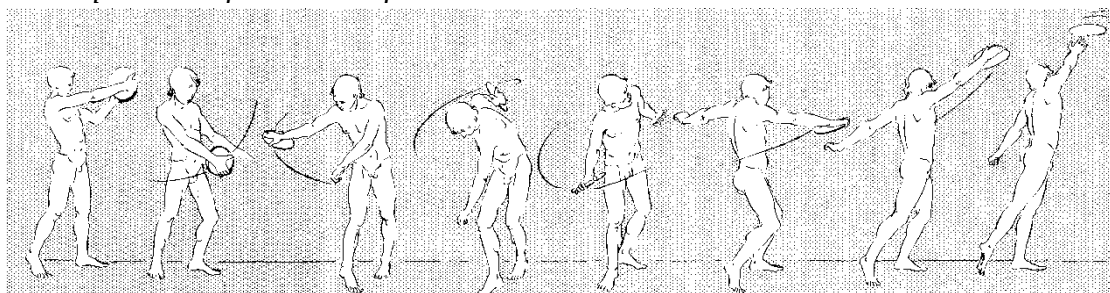


Figure 1 - Reconstruction of discus throwing according to J. Swaddling

It can be observed that certain authors tried to reconstruct the series of movements in discus throwing after studying images of athletes shown on ancient vases, coins or sculptures and eventually present these movements through a sequence of pictures in order to explain as clearly as possible the way how discus was thrown in the ancient Greece.

The place of discus landing was marked by a stick stuck into the ground (Fig.2). It has been assumed that the athletes threw discus three times, taking care not to cross the throwing line upon throwing the discus, which was not allowed, otherwise the throwing would not be valid.

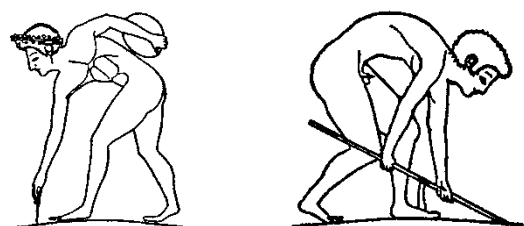


Figure 2 - Marking and measuring the length of discus throw

Some experts think that ancient technique of discus throwing was more difficult than today's because it required better coordination, harmonization of movements and good balance in ancient throwers, but despite of more strength and energy applied, that technique was less successful than the

modern one. That style of throwing discus is called the Hellenic style.

There are not many preserved recordings of the results of ancient discus throwers which were called "discobolus", but the throw of a certain Phayllus of Croton is remembered because he threw 5.25 kg heavy discus 95

feet (28.17m). According to Statius, Phlegias of Pisa threw his discus furthest sending it across the river Alpheus in Olympia. In his mythological epic Thebaid, Statius describes this occasion with following words: *"He (i.e. the athlete) kneels with his both knees on the ground, picks up the strength, raises the discus above his head and throws it so high that it seems hidden by the clouds"*



Fig. 3 - Throwing a discus with music accompaniment

Following the stories of ancient storytellers, there was not a single case of injury or death during the competitions themselves, but such things happened at practice when athletes or viewers were insufficiently careful walking in the area where the discus was supposed to

(Enciklopedija fizičke culture A-O, 1975, p. 679).

Judging by scenes on vases, it could be assumed that both practice and competitions were accompanied by flute playing (Fig.3) which suggests that an athlete must have thrown a discus in harmony with the tune, in order to send the discus as far as possible.



Fig. 4 - The coin 3 drachmas worth from the 5th century B.C.

Methods

The following methods were used in this experimental research: historical, experimental, statistical. The subject sample (N=5) used in this research consisted of the students of the Faculty of Sport and Physical Education in Belgrade. The variable sample consisted of following ways of performing the discipline:

- Throwing discus with the right foot ahead (DDN)
- Throwing discus with the left foot withdrawal (DLNP)
- Throwing discus with the left foot ahead (DLN).

Technique description and ways of measuring the results

All the variations in performing the discipline and the equipment used have been chosen based on the reconstruction of the event made so far (animation, kinograms, pictures etc.) The experiment was carried out on the sand flat surface near Belgrade. The subjects were barefoot wearing only sport shorts. At the same time, the video was recorded of different performances of discus throwing. Applying the research techniques on the recorded performances of the given athletic discipline, the evaluation objectivity of different ways in throwing discus is achieved. The results of discus throwing are expressed in meters (m), and only the best

results out of three attempts are taken into consideration.

Interpretation of results and discussion

Descriptive statistics results

This data collection is formed from three characteristic series, that is three variations of discus throwing techniques: throwing discus with the right foot ahead (DDN), throwing discus with the left foot withdrawal (DLNP), throwing discus with the left foot ahead (DLN). The results of three ways of discus throwing, expressed in meters, are shown in Table 1.

Table 1 - Results of three ways of discus throwing

Subject	DDN (m)	DLNP (m)	DLN (m)
1	25.80	25.95	31.78
2	21.60	25.30	28.47
3	17.20	17.87	18.75
4	15.70	16.99	17.66
5	18.10	18.90	19.70

For describing each of the three characteristic series consisting of the same five subjects (N), the following are used: range (O), minimum value (Min), maximum value

(Max), arithmetic mean (M), standard deviation (SD) and variation coefficient (V) and they are displayed in the Table 2.

Table 2 - Descriptive statistic indicators in three ways of discus throwing

	N	O/R (m)	Min (m)	Max (m)	M (m)	SD	V
DDN	5	10.10	15.70	25.80	19.6800	4.0506	16.407
DLNP	5	8.96	16.99	25.95	21.0020	4.2802	18.320
DLN	5	14.12	17.66	31.78	23.2720	6.4052	41.027

After the data have been processed, the following results have been got: range, i.e. the greatest difference was in the results of discus throwing with the left foot ahead (DLN) and it was 14.12 m, while the smallest difference was in throwing with the left foot withdrawal and it was 8.96 m. Discus flew the shortest distance in throwing with the right foot ahead (DDN), with the result 15.70 m, and it flew furthest in throwing with the left foot ahead (DLN) with the result 31.78 m. The arithmetic mean (M) shows that on the average the discus flew furthest (23.27 m) in throwing with the left leg/foot ahead (DLN), while it flew shortest in throwing with the right leg/foot ahead, with the average result value 19.68 m. SD has the

greatest value in throwing with the left leg/foot ahead (DLN) which is 6.4052, and the smallest in throwing with the right leg/foot ahead (DDN) which is 4.0506. Variation coefficient, which refers to the homogeneity of group results, is not relevant for the research because only the best results are considered in an athletic competition – therefore it is taken only as an auxiliary indicator.

Comparative statistics results

Comparative statistics was done by comparison of certain statistical relations among three ways of discus throwing and t-test of small dependent samples among three ways of discus throwing.

Table 3 - Results of comparative statistics relation DDN - DLNP

DDN - DLNP					
N	r	p	t	df	p
5	0.946	0.015	-2.127	4	0.101

The table 3 shows that it can be observed that there is high correlation ($r=0.946$) at the significance level $p=0.015$ between discus throwing with the right foot ahead (DDN) and the one with the left foot withdrawal (DLNP). Since t-test ($t=-2.127$)

does not show statistically significant difference regarding the length of the throw ($p=0.101$), that means that the result in throwing with the left foot withdrawal (DNLP) was better.

Table 4 - Results of comparative statistics relation DDN-DLN

DDN - DLN					
N	r	p	t	df	p
5	0.976	0.005	-3.077	4	0.037

The table 4 shows that there is high correlation ($r=0.976$) statistically significant at the level $p=0.005$ between discus throwing with the right foot ahead (DDN) and the one with the left foot ahead (DLN). Since t-test ($t=-3.077$) shows

statistical significance at the level of significance ($p=0.037$), that means that throwing with the left foot ahead (DLN) assures significantly/characteristically longer distance than throwing with right foot ahead (DDN).

Table 5 - Results of comparative statistics relation DLNP-DLN

DLNP - DLN					
N	r	p	t	df	p
5	0.991	0.001	-2.262	4	0.086

The table 5 shows that it can be observed that there is also high correlation ($r=0.991$) which is statistically significant at the level $p=0.001$ between discus throwing with the left foot withdrawal (DLNP) and the one with the left foot ahead (DLN). Since t-test ($t=-2.262$) is not statistically significant because it is close to the significance limit ($p=0.086$), that suggests the tendency that more practice would probably brought about greater difference in throwing results.

Analyzing the video recording of subjects throwing discus, it was observed that all of them performed the first variation in a similar way. The average result in discus throwing with the right leg/foot ahead was 19.68 m, which is relatively short distance, while the longest distance was 25.80 m.

The average result in discus throwing with the left foot withdrawal was 21.00 m, while the longest throw was 25.80 m. Since there is high correlation (0.946) at the significance level $p=0.015$ between discus throwing with the right foot ahead and the one with left foot withdrawal, so t-test ($t=-2.127$) shows no significant difference in the length of throw

($p=0.101$), that means that the average result in discus throwing with left leg/foot withdrawal was minimally better, by 1.32 m.

The average result in discus throwing with the left foot ahead was 23.27 m, while the longest throw was 31.78 m.

Since there is high correlation ($r=0.976$) at the significance level $p=0.005$ between discus throwing with the right foot ahead and the one with left foot ahead, and t-test ($t=-3.077$) is statistically significant at the significance level ($p=0.037$), that means that discus throwing with left leg/foot ahead provides significantly longer throw than throwing with right leg/foot ahead (3.59 m on the average).

Since there is high correlation ($r=0.991$) between discus throwing with the left foot withdrawal and the one with the left foot ahead which is statistically significant at the level of $p=0.001$, so t-test ($t=2.262$) is not statistically significant because it is close to the significance level ($p=0.086$) and shows the tendency that more practice would probably brought about difference

in average throwing results, which is 2.27 m.

Kinogram shown in Fig.1 (J.Swaddling,1999) is identical and refers to the way of discus throwing with the left foot ahead. Comparing the way the subjects moved during the experiment and the above mentioned kinogram, it can be concluded that there is considerable similarity in the way the throwing was performed and it was probably the way the throwing was done at competitions in the ancient Greece.

Conclusion

Based on the research of different ways of discus throwing in the ancient Greece and possible ways of performing the discipline, the following was concluded:

- ✎ There is difference in the results of three ways of discus throwing (throwing with right foot ahead, throwing with left foot withdrawal, and throwing with left foot ahead) in average and maximum values of throws. The average result in throwing with right foot ahead was 19.68 m, while the longest throw was 25.80 m. The average result in throwing with left foot

withdrawal was 21.00 m, while the longest throw was 25.95 m. The average result in throwing with left foot ahead was 23.27 m, while the longest throw was 31.78 m.

- ✎ All the authors mentioned in this research who studied the way of discus throwing always gave/showed/discussed only one possible way of performing discus throwing.
- ✎ I suppose that all three ways of discus throwing were possible: throwing with right foot ahead, throwing with left foot withdrawal, and throwing with left foot ahead, but at different times in the long history of the Olympic Games. It can be assumed that over the time they appeared in the same order.
- ✎ I suppose that the athletes chose the way of discus throwing that suited them best.
- ✎ There have been insignificant differences in the interpretation of discipline performance in the ancient Greece and possible way of performance so far.

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ISTRAŽIVANJE NAČINA IZVOĐENJA TEHNIKE BACANJE DISKA U ANTIČKOJ GRČKOJ

Sažetak

Počeci bacanja diska, kao takmičarske discipline, vezani su za antičku Grčku. Još je Homer u svom poznatom epu Ilijada, spomenuo nadmetanje u bacanju kotura odnosno, diska. Čuveni liričar Pindar, koji je u svojim epinikijama (odama) opevao grčke junake sa raznih sportskih takmičenja, je tvorac reči diskovolia. Na VII olimpijskim igrima u antičkoj Grčkoj 708. godine p.n.e. u takmičarskom programu je bila prisutna disciplina bacanja diska u okviru petoboja. Postoje različita mišljenja o načinu bacanja diska u antičkoj Grčkoj. Najverovatnije se bacao na način kako se i danas izvodi bacanje diska – sa mesta u daljinu. Međutim, materijalni istorijski izvori (slike sa vaza, skulpture, crteži i dr.) ukazuju na izvesna odstupanja što je i predmet razmatranja ovog istorijskog istraživanja.

Ključne reči: disk, bacanja, Grčka, takmičenja

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CRITICAL PERSPECTIVE OF THE OLYMPIC MOVEMENT IN MONTENEGRO

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Original scientific paper

Summary

To be successful in determining route and range of the Montenegrin Olympic Movement, it is crucial to look beyond sport system itself and social aspects. It is clearly that through sport and social “frame”, research would provide expected outcome in western hemisphere countries, but when it comes to society of Mediterranean influence (geographically), socialist principles (before) and market oriented concept of living (win no matter what), broader aspects should be taken into consideration, such as legal, political and economical.

Key words: *perspective, olimpic, movement.*

Sport as a subset of society: appropriate paradigm

Jan Boxill cites from Robert Simon a definition of sport that could be a good starting point for developing a paradigm for understanding how sport fits within the broader context of our society: (1) it is a freely chosen and voluntary activity; (2) it is governed by rules; (3) it is physically challenging; and (4) it involves a mutual challenge to achieve excellence.¹ So while this definition represents a good starting point for a deeper investigation, it is not sufficient as it does not consider other aspects which will be addressed in this paper. Later in the text, Jan Boxill quoted David Halbertsman:

“When most oarsmen talked about their perfect moments in a boat, they referred not so much to winning a race as to the feel of the boat, all eight oars in the water together, the synchronization almost perfect. In moments like that, the boat seemed to lift right out the water. Oarsmen called that the moment of swing...it allowed you to trust the other man in the boat. A boat did not have swing unless everyone was putting out in exact measure, and because of that, and only because of that, there was the possibility of true trust among oarsmen.”²

Much earlier, in the “Republic”, Plato emphasized that “there are two arts which I would say some god gave to mankind, music and gymnastic... not for soul and

¹ Jan Boxill, (2003). *The Moral Significance of Sport, Sport Ethics*. Malden: Blackwell Publishing Company, p. 1.

² David Halberstam, (1985). *The Amateurs* New York: William Morrow, p. 40.

body incidentally, but for their harmonious adjustment.”¹

Remarks from above in some respect open a horizon to discuss about role of sports within a society. The question to follow is what values should be promoted by and through sport within sport institutions because these values should play a foundation of modern society?

Constellation of Olympic Movement in Yugoslavia and position of Montenegro within

After WWII, the development of sports in Yugoslavia was heavily supported and regulated by the state and this resulted in establishment of the country as a powerhouse in a number of team sports worldwide and school sport (education through sport from kindergarten to the university sport) in general terms. Yugoslav stakeholders at that time were fully aware of the situation in the global arena of international relations, which could be described by Orwell skepticism:

“I am always amazed when I hear people saying that sport creates goodwill between the nations, and that if only the common people of the world could meet one another at football or cricket, they would have no inclination to meet on the battlefield. Even if one didn't know from concrete examples (the 1936 Olympic Games, for instance), that international sporting contests lead to orgies of hatred, one could deduce it from general principles.”²

¹ Plato, *The Republic*, book III, section 412.

² George Orwell, (1986). “The Sporting Spirit”, in *I belong to the left: The Complete Works of George Orwell*, vol. XVII: 1945. Oxford, 1986, p. 441.

Aron is probably more precise, stating that a football match is not simply an event pitting team against team; it is confrontation of nations through sports match (country).³ Yugoslavia remained not aligned to either the US or USSR during the Cold War era, which allowed it to experiment with the best of both worlds in terms of sports development- the worker-athletes model (USSR) and the student-athlete model (USA).⁴ The institutional support was granted to both models on all levels, including the educational system, the military, and public service). Back then, gender, racial, ethnicity, and religion was taken into account and inclusivity was sometimes excessive.⁵ At the institutional level, the situation was slightly different as political background (commitments to the party) was a determining factor to be involved as a stakeholder in sports organization. Regardless of the high level of political involvement, Montenegro reaped the benefits of that development. In the spirit of Isocrates stated in *Antidosis*, the importance of training the minds as well (not only the body) of athletes in order to be prepared for completions:

“Are twin arts; parallel and complementary- by which their master prepare the mind to become more

³ Raymond Aron, (2001). *“Peace and War; A Theory of International Relations”*, Zagreb: Golden Marketing.

⁴Well explained in Cristoph Bertling, (2007). The Loss of Profit? “The Rise of Professionalism in the Olympic Movement and the Consequences for National Sport Systems”, *Journal of Olympic History* 15, No. 2.

⁵Socialist principles introduced pragmatic plans to ensure equal representation of Yugoslav citizens no matter of religion, ethnical, class or any other differences,

intelligent and the body become more serviceable, not separating sharply to kinds of education, but using similar methods of instruction, exercise, and other form of discipline. Watching over them and training them in this manner, both the teachers of gymnastic and the teachers of discourse are able to advance their pupils to a point where they are better men and where they are stronger in their thinking or in use of their bodies”¹ A similar philosophical approach existed in former Yugoslavia at that time; participation in sports (physical education, professional and recreational) was well structured (organized from national to community level) and open to everyone with focus on educational, health and community development aspects.

Vulnerability of the Montenegrin Olympic Movement

During the 1991-2001, former Yugoslavia went through several transitions and civil wars and shortly speaking existence of large grey sector and black market, tycoons controlling big state companies, hyperinflation, state-controlled smuggling, over 25% of unemployment rate.² This had a devastating effect on the society as a whole, including the development of sports. The living standards plummeted with GDP growth went down 30% by 1993 and record low per capita 649.8\$ in December same year.³ Sport in

Montenegro was a luxury not afforded to the majority of the population. The team sports (basketball, handball, volleyball, and waterpolo) continued to do well in various global competitions, though pervasive underinvestment and low economic development impacted both sports in the educational (drop certified coaches and physical education professors) and health sector (drop of psychologists and doctors of sports medicine).

Since 2006, Montenegro is an independent state experiencing a lack of institutional support for the growth of sports, including management, funding, personnel, and infrastructure.⁴ Sport was seen only through the prism of professional sport and a results oriented philosophy. Internal political situation transmitted into sport, where stakeholders adjusted their focus on maximizing their private profit. State sport institutions (National Olympic Committee, Sports federations, and clubs) became property of individuals who used state leverage to acquire power. By Gasset, the sportive instinct with joyous excess, rather than with labor: “Sportive activity seems to us the foremost and creative, the most exalted, serious, and important part of life, while labor ranks second as a derivative and precipitate. Nay more, life, properly speaking, resides in the first alone; the rest is relatively mechanic and a mere functioning.”⁵ Unfortunately, Montenegrin example of political and sports synthesis

¹ Isocrates, with an English translation done by George Nolin, (1929). vols 3. London and New York, vol II, pp. 289, 291

² OSCE, (2005). *Policing The Economic Transition in Serbia*, Belgrade.

³ <http://www.tradingeconomics.com/serbia/gdp-per-capita>

⁴ <http://www.upravazamladeisport.me/sports/biblioteka/nacionalni-program-razvoja-sporta>

⁵ Jose Ortega y Gasset, (1961), “The Sportive Origin of the State”, in *History as a System: And Other Essays Toward a Philosophy of History*, translated by Helene Weyl, New York, pp. 18.

disable an opportunity to enjoy participating into sport (active or passive).

From utilitarianism philosophy to realism (neo-realism)

From professional sports, if it's possible to single out a certain sport (handball), the perception of general population is complemented by a sport stakeholder view and reflected in the Gasset's State and utility theory:

“The first house built by man is not a home for the family, still nonexistent, but a casino for a young man. Here they prepare for their expeditions and perform their rituals; here they indulge in chanting, drinking, and wild banquets. Whether we approve of it or not, the club is older than the family, the casino is older than the domestic hearth.”¹

Gasset argumentation carried out by utility theory is hardly sufficient to disclose Olympic movement in Montenegro and without welcoming broader clarifications would not provide an answer which could be a starting point to restore a sporting system or perception of it from 80s, having in mind overall socio-economical-political constellation in the country. The reality of the Olympic movement on the ground in Montenegro tends to be more in correlation with realism, but not one from medieval philosophy (such as Anselm of Canterbury), the one (political) still existing (evolving) from Thucydides through Machiavelli all the way to the structural perception of realism at Kenneth Waltz.² Realism, driven by self-interest,

found a perfect soil (Montenegro), after crash of socialist country in period of transition (still ongoing process). Situation where you don't have a central authority, economic differences between citizens means fertile soil for entering private owners into state oriented sport institutions in order to increase their power (read influence) to the maximum.

Situation with no categorization of sports and no clear criteria for funding and overall support for sport, it's an open space for manipulation. One of the most obvious examples is constellation inside national sports federations. During socialist times, sports organization-clubs (founding members of national federations) were in the public ownership (not state). In the last decade, most of those clubs were privatized by individuals with little or no sport background. As an endgame, national sport federations nowadays are unity of individual clubs owners, very often neglecting basic legal obligation of sport statute's which is development of mass participation, promotion of education and healthy lifestyle through sport. Previously mentioned constellation within the Montenegrin Olympic Movement resulted in establishing NOC of Montenegro as union of all national sports federations working as central sports organization (umbrella) but without any instruments (commissions) to coordinate or to control legal obligations of federations.³

¹*Ibid.*, p.29.

² For better understanding of the paragraph see also: Anselm of Canterbury, *The Major Works*, Oxford World Classics) edited by Brian Davies and

Gill Evans, (1998);, Thucydides, *History of Peloponnesian War*, Croatian Matica, Zagreb (2009)., Machiavelli Niccolo, *Il Principe*, edited by L. Arthur Burd, Oxford (1891)., Kenneth Waltz, *Theory of International Politics*, University of California, Berkley (1979).

³See Statute (only Montenegrin version) at: <http://www.cokcg.org/onama/statut/>;

Conclusion

As the country was falling apart, bureaucratic institutions tended to remain as continuation of socialist rule with use of market oriented tool aspects in situation of transition in order to achieve power in a certain segments of society. Earnings, economic sanctions, wars, created insecure environment which had unforeseeable consequences on system of overall education (physical education). From organizational prospective (sports), type of privatization (non transparent one) used for turning sports organization from public to private ownership, put the whole sport

system at danger of depending on individual good will for how sport was going to be run. Olympic movement is constantly under unsuccessful struggle to regain position from 80s, and to place sport as an important segment of education, health and community development. Unsuccessfully, mainly because of athletes and sports stakeholders rushing into making profit without any significant strategic approach and the tardiness of state authorities to work on an overall national (country) strategy and position of the Olympic Movement within.

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KRITIČKI OSVRT NA OLIMPIJSKI POKRET U CRNOJ GORI

Sažetak

Da bi se uspješno odredio put i domet Olimpijskog pokreta u Crnoj Gori, od ključnog je značaja da se pogleda ne samo društveni aspekt sporta. Proučavanjem sistema sporta zemalja zapadne hemisfere kroz društveni okvir, obezbjeđuju se osnovne pretpostavke za adekvatno istraživanje, ali kada je u pitanju društvo mediteranskog uticaja (geografsk), socijalističkog nasljeđa i prihvatanje liberalnog koncepta ekonomije (pobjeda bez obzira na sve), širi aspekti se moraju uzeti u obzir, poput pravnog, političkog i ekonomskog.

Ključne riječi: perspektiva, olimpijada, pokret.

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DIFFERENCES IN BODY MASS, BODY HEIGHT AND EPLOSIVE, REPETITIVE AND STATIC STRENGTH BETWEEN 16-YEAR-OLD MALES AND FEMALES

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Original scientific paper

Summary

This study utilized a sample of 16-year-old males and females. Two anthropometric tests were administered to the sample, as well as 5 motoric tests that measured explosive, repetitive and static strength. The main purpose of the study was that in addition to validation of current status of measured parameters in both samples to verify whether there are significant differences between the two genders along the dimensions addressed in the study. Findings indicate that differences are evident and for all cases of this age group the difference was in favour of males. The research confirmed that for the 16-year-old age group: 1) There are significant differences between the two genders, and 2) All identified differences are in favour of male sample.

Keywords: *Anthropometric characteristics, motor abilities, correlations, differences.*

Introduction

In school practice, in Physical Education course in particular, it is necessary to continuously track the effects of course content on developments of various aspects of anthropologic status. This puts teachers in the position to face the need that their work is organized relying on latest scientific achievements in the field as well as sports fields. It is important to track and determine relations that are in place among various differences of anthropologic status as well as to verify how the organized process affects positive changes in these relations. Due to this, it is important to gather as much factual

information as possible, which would clearly indicate certain segments that must be taken into consideration when implementing various activities.

Dimensions of strength represent the most significant skills and a required basis for all sports. Also, this dimension is specific in the sense of differences that exist between genders at different age groups. These differences should be taken into consideration when implementing exercises with mixed groups in school practices in order to achieve desired effects.

Bilić (2005) in his doctoral thesis in a two-stage study (with a sample of 400 students

in first stage and 400 students in the second stage) researched students in grades 5-8 of elementary school and identified structural quantitative differences from year to year and confirmed that there are significant differences that should be taken into account while organizing the learning process.

PURPOSE OF THE STUDY

The main purpose of the study is to verify differences in some anthropometric characteristics and tactile dimensions of 16-year-old male and female students. The purpose of the study is limited to:

1. Verification of the correlation ratios, and
2. Verification of the difference between the two genders with regard to development level of anthropometric characteristics and dimensions of explosive, repetitive and static strength.

HYPOTHESIS

Given the topic and purpose of the research, the following hypotheses are tested:

H1. There will be significant statistical correlations between morphological and motoric area.

H2. There will be significant statistical differences between the two genders of the same age group.

WORK METHODOLOGY

Sample of respondents

In this research participated the sample of the Secondary School of students from the school "Adem Gllavica" in Lipjan. Age of the students is 16 years. Group consist of 110 students, 60 of them are males and 50

are females. All they are attending the same school.

Sample of Variables

There were measured two anthropometric characteristics, as well as five motoric tests that measured explosive, repetitive and static strength.

Anthropometric variables:

1. Body mass- BMASS
2. Body height – BHEIHGT

Motoric variables:

- | | |
|---|-----------|
| 1. Standing | Long |
| - SLJUMP | |
| 2. Running 30 m | - |
| RUN30m | |
| 3. Curl Up - CURLUP | |
| 4. Beck extension | - |
| BECKEX | |
| 5. Hanging with the arms in Static position 90° | - HARM90° |

Methods of data processing

Based in the research aim and hypothesis following methods were used: Arithmetic Mean, Standard Deviation, Minimal and Maximal result, Skewness and Kurtosis. The relation are treated with the linear correlation method and differences with the T-test.

RESULTS AND DISCUSSION

INTERPRETATION OF DESCRIPTIVE STATISTICAL PARAMETERS - MALES

In Table 1, results indicate that distribution of results in two morphological variables in the range of normal distribution considering that skewness values are lower

than 1. In both cases we have a positive skew of results, which indicates that the majority of the results are higher than their mean, which in the case of body mass is 60.2 kg, while mean of body height is 169 cm. These results indicate that the male group was homogenous. In the case of variables of this age group, there were no significant deviations from the normal distribution. In the group of motoric variables, there was a higher level of heterogeneity with regard to tests of repetitive bodystrength, more specifically of Curl Ups and Beck Extension tests, which measure the repetitive strength of the

Tab.1. Descriptive statistical parameters – Males

abdominal and backmuscles. Skewness values for these tests were .720 and .616. These values indicate a positive skew. Lower values of distribution were found in motoric tests that measures explosive strength of feet – Standing Long Jump test with value of -.296 and Running 30m test with skewness value of .375. These values indicate that male group of this age group shares significant differences in the dimension of repetitive strength. Regarding explosive and static strength, the values are more stable and the group did not show significant differences.

Descriptive Statistics ^a										
	N	Min.	Max.	Mean.	Std. Devi.	Varia .	Skewness		Kurtosis	
Bmass	60	43.00	87.00	60.22	9.99	99.77	.662	.309	.169	.608
Bheihgt	60	155.00	182.00	169.83	6.60	43.56	.079	.309	-.510	.608
Sljump	60	160.00	240.00	202.67	18.83	354.63	-.296	.309	-.159	.608
Run30m	60	4.27	5.40	4.78	.26	.07	.375	.309	-.215	.608
Curlup	60	20.00	110.00	46.92	19.78	391.43	.720	.309	.465	.608
Beckex	60	15.00	90.00	43.18	14.86	220.97	.616	.309	.758	.608
Harm90⁰	60	5.31	62.00	35.68	14.45	208.78	-.160	.309	-.588	.608

INTERPRETATION OF DESCRIPTIVE STATISTICAL PARAMETERS - FEMALES

Table 2 shows values for the female group. Here, the distribution has been much more heterogeneous in the body weight variable,

where skewness values were in the range of non-normal distribution. In the group of motoric variables and in this case for the female group of this age group, in 3 out of 5 motoric tests there were significant deviations from the normal distribution. In

the test of explosive strength of Running30m, skewness value was 1.145; in the test of abdominal muscles the value was 1.406, while the highest value was present in the test of static strength, which required students to keep a hanging position on iron in 90 degrees, where the value of distribution was 2.171. High distribution value in this test was a result of the situation where for a significant

number of girls the score was 0, while the average score was about 9 sec. Such a score was affected by body weight of children as well as by low level of static strength of girls of this age group. These values show that female group shared significant differences with regard to factors of strength and that this situation is significantly affected by post-puberty phase.

Tab. 2. Descriptive statistical parameters – Females

Descriptive Statistics ^a										
	N	Min.	Max.	Mean	Std. Devi.	Vari	Skewness		Kurtosis	
Bmass	50	41.00	68.00	52.12	6.78	46.03	.9197	.337	.151	.662
Bweihgt	50	149.00	172.00	158.76	5.04	25.41	.1997	.337	-.478	.662
Sljump	50	125.00	200.00	157.80	16.42	269.55	.5417	.337	.224	.662
Run30m	50	4.95	7.10	5.74	.44	.19	1.1457	.337	2.164	.662
Curlup	50	10.00	62.00	26.58	10.62	112.78	1.4067	.337	3.358	.662
Beckex	50	12.00	60.00	32.82	11.84	140.15	.3417	.337	-.216	.662
Harm90⁰	50	.00	45.22	8.98	10.09	101.80	2.1717	.337	5.300	.662

INTERPRETATION OF CORRELATIONS – MALES

Analysis of correlation table in Tab. 3 shows that in morphological area in both variables there was a statistically significant correlation at .616 and this shows that taller boys have a higher body weight and in this situation presence of obese students is not very significant. In correlations among morphological and motoric area, there is only one significant correlation between body height and

Standing Long Jump where the value is .234, which indicates that taller students have predispositions to jump further distances. Correlation table that measures tactile dimensions of students we see that both tests that measure the dimension of sprint strength indicate positive correlations with values of -.417. Negative sign is a result of the situation where in the running test the lower score is the better score. Jumping test showed positive correlations with the test of static strength.

Meanwhile running test had a significant correlation with repetitive back strength, which implies that students who have a larger strength at their mid-body, especially with extensive muscles showed better scores in 30m sprint running. Tests of repetitive force of the body measured by strength of abdomen and back muscles did

Tab. 3. Correlations – Males

not show correlations between them nor with tests of explosive strength. The only significant correlations was between the tests of Hanging with the arms in static position , at .250 and of the same test with repetitive strength of back muscles at the value of .452.

Correlations							
	Bmass	Bweihgt	Sljump	Run30m	Curlup	Beckex	Harm90⁰
Bmass	1						
Bweihgt	.616**	1					
Sljump	.044	.234*	1				
Run30m	-.080	-.056	-.417**	1			
Curlup	-.004	-.018	.148	-.148	1		
Beckex	-.001	-.062	.155	-.236*	.057	1	
Harm90⁰	-.037	-.167	.250*	-.164	.269*	.452**	1

INTERPRETATION OF CORRELATIONS - FEMALES

Analysis of correlation table in Tab. 4 shows that correlation value for morphological area is at .499. Correlations between morphological area and motoric tests it is worth noting the fact that in all cases, with exception of correlation of body weight with running 30m, where the value was at .546, other correlations are insignificant. Negative correlation between weight and running speed makes complete sense since it implies that students with higher weight have slower running speed. A different picture from males' case is shown in females' case with regard to jumping distance, which did not depend on body height. The correlation table of tests that measure motoric dimensions of students shows that both tests that measure the dimension of the explosive strength showed positive correlations at.617.The

jumping test showed positive correlations with tests of repetitive abdominal and back strength with values at .596 and .433 respectively. Meanwhile there was insignificant correlation with the test of static strength of arms. Running test showed a significant correlation with the repetitive stomach strength, which implies that students that have a higher strength in the mid-body region, especially with regard to abdominal muscles, showed better scores in 30m sprint running. This correlation among males was more significant between 30m running scores and repetitive strength of back muscles. Tests of repetitive strength of the body measured with strength of stomach and back muscles showed higher correlation between themselves with the value at .629. From this, we observe that among female group the puberty phase was completed earlier and that the structure of higher

order latent mechanisms, and which pertain to energy regulation of motoric area are better defined and these have affected to have a higher level of significant correlations between tests that measure different factors of strength.

Tab. 4. Correlations – Females

Correlations^a							
	Bmass	Bweihgt	Sljump	Run30m	Curlup	Beckex	Harm90⁰
Bmass	1						
Bweihgt	.499**	1					
Sljump	-.126	.100	1				
Run30m	.546**	-.013	-.617**	1			
Curlup	.140	.048	.596**	-.314*	1		
Beckex	-.002	.007	.433**	-.208	.629**	1	
Harm90⁰	-.156	-.235	.005	-.158	.226	.079	1

DIFFERENCES BETWEEN MALES AND FEMALES – T-TEST

To study differences between males and females, the t-test method was employed. In all cases when statistically significant differences were observed, those differences are in favour of the male group. With regard to weight variable, the difference between males and females is 8 kg in favour of males, while regarding body height variable, males are 11cm taller than females. This indicates that in the post-puberty phase we can already observe differences pertaining to better morphological development among males, which differences are statistically significant at confidence level of .000. In the motoric area we also observe statistically significant differences, which are also in favour of males. In the dimension of explosive strength, males had better scores. In jumping test, males had a

score of 60 cm longer than females. Also, in the 30m running test, males were faster than females for 1 sec. In the test of Curl up's, males had almost double the level of values compared to females, having on average about 20 more repetitions, while with regard to the back strength, the difference was only 10 repetitions in favour of males. There was a larger difference in the test of static strength, where males stood for 25 seconds longer than girls, and girls' scores were quite low, which makes us understand that this test can be considered as inappropriate test to measure this skill among girls. The overview of comparisons between the two genders implies that males are significantly in more favourable situation with regard to both morphological area and explosive, repetitive and static strength of certain body regions. This fact must be respected by teachers when they set requirements for meeting tasks that depend on these factors,

especially when planning these tasks for mixed groups of both genders.

	Gender	N	Mean	Std. Deviation	Std. Error Mean
Bmass	Meshkuj	60	60.217	9.988	1.289
	Vajza	50	52.120	6.784	.959
Sljump	Meshkuj	60	169.833	6.600	.852
	Vajza	50	158.760	5.041	.713
Run30m	Meshkuj	60	202.667	18.832	2.431
	Vajza	50	157.800	16.418	2.322
Curlup	Meshkuj	60	4.781	.265	.034
	Vajza	50	5.740	.436	.062
Beckex	Meshkuj	60	46.917	19.785	2.554
	Vajza	50	26.580	10.620	1.502
Harm90°	Meshkuj	60	43.183	14.865	1.919
	Vajza	50	32.820	11.839	1.674
Bmass	Meshkuj	60	35.676	14.449	1.865
	Vajza	50	8.984	10.089	1.427

Independent Samples Test										
		Levene's Test for Equality of Variance		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig.	Mean Difference	Std. Error Difference	Lower	Upper
Bmass	Equ. variances assumed	5.978	.016	4.87	108	.000	8.09	1.66	4.80	11.39
Bweihgt	Equ. variances assumed	3.527	.063	9.72	108	.000	11.07	1.13	8.81	13.32
Sljump	Equ. variances assumed	.577	.449	13.18	108	.000	44.86	3.40	38.11	51.61
Run30m	Equ. variances assumed	7.236	.008	-14.20	108	.000	-.959	.06	-1.09	-.82

Curlup	Equ.varian ces assumed	21.6 7	.000	6.52	108	.00 0	20.3 3	3.11	14.15	26.51
Beckex	Equ.varian ces assumed	1.50 6	.222	3.98	108	.00 0	10.3 6	2.60 0	5.211	15.51 6
Harm90⁰	Equ.varian ces assumed	11.1 0	.001	11.01	108	.00 0	26.6 9	2.42 4	21.88 7	31.49 6

CONFIRMATION OF HYPOTHESIS

H1. The first hypothesis was partially confirmed since we did not find significant correlations between morphological and motor areas at the expected level.

H2. The second hypothesis was fully confirmed since we found statistical significant differences between the two genders of the same age group.

SUMARY

The research aimed to identify the main differences between males and females aged 16 years. The sample of 110 students from the secondary school was treated with two anthropometric tests 5 motoric tests that measured explosive, repetitive and

static strength. The main purpose of the study was that in addition to validation of current status of measured parameters in both samples to verify whether there are significant differences between the two genders along the dimensions addressed in the study. Findings indicate that differences are evident and for all cases of this age group the difference was in favour of males. The research confirmed that for the 16-year-old age group: 1) There are significant differences between the two genders, and 2) All identified differences are in favour of male sample.

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Sažetak

Ova studija koristi uzorak 16-year-old žena i muškaraca. Dva antropometrijska testa su davani na uzorku, kao i 5 motoričkih testova koji measured explosive, ponavljajući i statičke snage. Glavni cilj istraživanja bio je da se uz validaciju trenutnog stanja mjerenih parametara u oba uzorka, kako bi provjerili da li postoje značajne razlike između dva spola. Rezultati pokazuju da su razlike vidljive i za sve slučajeve u ovoj dobnoj skupini razlika bila je u korist muškaraca. Istraživanje je potvrdilo da su za 16-godišnje dobne skupine: 1) postoje značajne razlike između dva spola, a 2) Sve utvrđene su razlike u korist muškog uzorka.

Keywords: *antropometrijska obilježja, motoričke sposobnosti, povezanosti, razlike.*

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LEGAL REGULATION OF VIOLENCE AND MISBEHAVIOUR AT SPORTS EVENTS IN SERBIA

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Original scientific paper

Abstract

The importance of sport and sporting events is much greater than a simple understanding of sport as a useful social activities and ways for positive affirmation physical abilities and promote healthy living and healthy human activities. From the earliest times, sport, unfortunately, accompanied by numerous negative consequences with which society, only in recent times, facing and fighting in a systematic, organized and orderly manner. With the process of globalization of humanity and the transition of society and social relations in many countries, with street violence is transmitted and often manifests itself through violence and misbehavior at sporting events and threatening to undermine all the "good" that sport and sporting events bring contemporary man. The Republic of Serbia is guided by international recommendations, trends and regulations, and influenced many, unfortunate events at sporting events, in an attempt to prevent and combat such forms of misconduct, in 2003 passed a special law on the prevention of violence and misbehavior at sporting events that is the basis of the legal regulation of violence in sport. This law is the basic legislative act and the foundation of the legal regulation of violence and misbehavior at sports events in Serbia. This paper presents the basic provisions of the positive and disadvantages of this law is given and a draft of the measures and the future shape of society responses to this negative phenomenon in sport.

Key words: sport; sporting event; sports law; violence; misconduct.

Introduction

As positive and certainly desirable human activity, sport is now much more than the organized physical activities and sports competition designed pastime, promoting sportsmanship and healthy values. Although sporting activity as old as human history in which they have always had a great role

and importance of the promotion of the positive values, with the changing times and trends, and under the influence of general trends and conditions, sports and sporting activities receive different dimensions and become the subject of dealing with not only athletes and sports officials, but a matter of importance for

medicine, education or economics, management and security system. With the increasing importance of sports, and under the influence of pervasive globalization process and the general atmosphere of violence, sporting events began to follow, and some other negative consequences that thanks to the commercialization of sport and these factors have become sadly commonplace. Sport is also now increasingly in the hands of the power holders, which through media and sport perform permanent impact on public opinion, especially in non-democratic regimes, while, on the other hand, excessive commercialization of sport and led to various forms of criminal conduct arising from sport and are associated with sports. Thus today the violence at sporting events appear as a companion of almost all sports events and threatened to use their influence and consequences distort everything good that sport brings to mankind through the ages. With the commercialization of sport and the increasing number of visitors to sports events, sports and healthy rivalry and the essence of sports competitions, in today's increasingly replaced conflicts, disturbing public order and peace performing other offenses and offenses on the sports field. The great importance of sport and preserve the original values that promote the sport and the athletes who are struggling, they become the basis of the struggle for the preservation of these values and the foundation of the social reaction to the violence and threatens the values. Consequently, in many countries of the world, especially in countries in transition and a host of social problems, such as the Republic of Serbia, the problem of violence in sport becomes a subject of

interest of the whole society. Thus, in today's society activities to combat violence at sporting events governing conventions, laws, customs, rules and principles of "sports law", which establishes a formal system to combat these undesirable society appearance. Among the international sports law, as a special branch of transnational law that governs the global behavior and requirements of private and public stakeholders in the sport, as well as national law, is increasingly speaks about the role of European sports law and numerous documents taken by the EU which establish the basis system to combat violence and misbehavior at sports priredbamana level of the European Union. These issues of sports rights and other issues related to the legal regulation of violence at sporting events in the Republic of Serbia are the subject of work that follows.

Phenomenon of violence in Sports and Sports events

Sport constitutes a universal tool in the design and realization of values that are changing society, develop national cohesion, promotes democracy, their basic human rights and freedoms, strengthens the economy and encourages the protection of the health of citizens, in a word, more integrated national interests.²⁹

Looking through history, sport and various sports competitions and events have always

²⁹National Strategy for Combating Violence and Misbehaviour at Sports Events for the period from 2013 to 2018, ("Off. Gazette of RS", no. 63/2013), available at: http://www.srbija.gov.rs/extfile/sr/193884/nacionalna_strategija_sprec_avanje_nasilja_nedolicnog_ponasanja_sport083_cyr.zip, Date: 23/10/2014. Year

been a rich source of mass entertainment and recreation broad masses, both as participants in sports events as well as spectators. Although the ancient and modern sport in many ways differ from the other side share one common trait - violence and aggression in sports events. These negative phenomena are expressed (and expressed today) not only among participants of sporting events, but increasingly among viewers and supporters of sports teams and that it is not only a consequence of the modern age is the fact that, for example. sporting events in ancient Rome contained a particularly brutal scenes of violence in the arenas and sports arenas, both among contestants and the audience. This trend is somewhat reduced in the late Middle Ages, when the advent of modern sports slightly affected by the reduction of violence among viewers, but the violence is, unfortunately, still remains deeply rooted in sport and practically remained commonplace.³⁰ Unfortunately, although the sport, on the one hand, stimulates the binding of various groups, nations and cultures, in many cases, on the other hand, in sports administration and diverse diversities cause violence and misbehavior that often ends with fatal consequences. This phenomenon is characterized by many states of the modern era, and not only specificity of the Republic of Serbia and the countries of the region. It is a historical associated constant throughout the history of sport and practically did not bypass almost any

country in the world. Many countries have somewhat failed to combat this problem to some extent, and only a few have managed to overcome it through the development and successful implementation of the institutional and legal framework which has developed an organized system that works and produces results. Applying critical aspect in resolving this issue is certainly grounds or the existence of stable and strong democratic institutions, as well as the legal framework, can be considered a real foundation to combat violence in sport and sporting events. Of course, in all this, of great importance is the social and economic aspects of this phenomenon, otherwise closely connected with the law, and should not be ignored.³¹

In recent years, the sport in the Republic of Serbia experienced a very difficult time and was often beaten negative accompanying phenomenon which are largely a consequence of the transformation of Serbian society after heavy nineties, then sanctions, wars and other political and social turmoil. All this has left a very negative impact on the security of sporting events and it is not only the broad social problem but greatly endangers the national security interests of the Serbian society. Vexing problem of violence in sport, which takes on different forms, with a conspicuous tendency relocation of the inside of the stadium in the surrounding areas, including the wider urban environment, it seems that the Republic of Serbia has not only reason to be upset, but alarmed, frightened and horrified ferocity and scope violence at sporting events or in

³⁰ Jovasevic D, Batricevic A. Suppression of spectator violence at sports events, *Facta Universitatis - series: Physical Education and Sport*. 2013; 11 (3): 227-237, available at: <http://facta.junis.ni.ac.rs/pe/pe201303/pe201303-04.pdf>, Date: 24/10/2014. Year

³¹ See: Bacanac, Lj., Petrovic, N., Manojlovic, N. The study of violence in sport Serbia - summary and recommendations. Ministry of Youth and Sports, Belgrade, 2010.

respect of sporting events in the last few years, which has claimed many lives, caused numerous serious and slight injuries of people and caused enormous material damage.³² It is evident that violence in the sport had the ubiquitous influence on the world of sport, viewed as a whole and frequent claims that violence in sport has a detrimental impact on society are well documented in a number of psychological and sociological studies.

National Strategy as the basis of legal struggle against violence in sport

In order to eliminate the negative consequences of violence in sport, many countries of the world have developed, the highest levels of decision-making, a national strategy to combat violence and misbehavior at sporting events which are, for the next few years, established the basic principles and policies in the field of security the fight against violence and misbehavior at sporting events. These national strategies in these countries were the basis for the development and improvement of the legislative framework to combat violence and misbehavior at sporting events, which is actually the real formal social mechanism to prevent this, very negative and undesirable social phenomenon. Defining the strategic areas and objectives, roles and responsibilities of social subjects as well as determining the framework for implementing and developing an action plan, the state creates conditions for effective opposition to

violence in sport and in the process also includes the Republic of Serbia by passing their national strategies and defining the legal framework for the fight against violence at sporting events, the adoption of certain laws and bylaws.

Development of the National Strategy for Combating Violence and Misbehaviour at Sports Events for the period from 2013 to 2018, is the first step towards a systematic prevention of violence and misbehavior at sports events in Serbia from the adoption of the Law on Sport and the Law on Prevention of Violence and inappropriate behavior at sporting events define the framework and foundation of the Republic of Serbia fights for sport without violence and negative consequences. By adopting this strategy, the Republic of Serbia's international and domestic public transparency, the key strategic goals in the prevention of violence and misbehavior at sporting events, which, along with the adoption of the above transitional law has expressed its commitment to regulate the violence and thus actively contribute to the development and improvement of national, regional and global security at sporting events.

The National Strategy is based on the Constitution of the Republic of Serbia, applicable laws, conventions, bilateral and multilateral agreements, and other legal acts. Also, it includes all the socio-economic sphere, in order to achieve the vision this what we want to achieve - a secure environment at sporting events, the full implementation of the regulations, high awareness and social responsibility, ultimately aimed at improving the security of society as a whole.

³²Djurdjevic, N., criminal responsibility for violence and misbehavior at sports events in Serbia, Proceedings of the Faculty of Law in Split, Vol. 47, 2/2010, p. 285.-308 thereof.

The national strategy is a dynamic document and its constant improvement and adaptation is a permanent task of the Government and regulatory authorities. Support public and social institutions and organizations is an essential prerequisite for achieving a high degree of mobility and coordination between the relevant institutions and bodies for the prevention of violence and misbehavior at sporting events, and thus the assumption acceptability and effectiveness of all documents derived from it.³³

By adopting the above strategy, the Republic of Serbia embarked on a path that should enable fast and efficient prosecution of perpetrators of crimes and offenses committed on sports priredma. Also, the adoption of the Action Plan for the implementation of the strategy, the adoption and amendment of legal regulations, a mechanism that prevents the risk group and known offenders attend sporting events, which is security at sporting events raised at a much higher level. Developing legal and institutional mechanisms for the prevention of violence established an integrated security system at national and local level that will allow not only repressive but also more efficient preventive work to prevent violence.³⁴

³³National Strategy for Combating Violence and Misbehaviour at Sports Events for the period from 2013 to 2018, ("Off. Gazette of RS", no.63/2013), available..at:http://www.srbija.gov.rs/extfile/sr/193884/national_strategy_to_prevent_violence_and_misbehavior_sport083_cyr.zip, Date: 23/10/2014. Year

³⁴More on this at: <http://www.sportal.rs/news.php?id=105265>, Available: 24/10/2014. Year

Legal Framework Confronting Violence and Misbehaviour at Sports Events in Serbia

The legal framework for preventing and combating Violence and Misbehaviour at Sports Events was established, defined and implemented in the Republic of Serbia is the result of a shift in relation to the holders of state power to this social problem, especially in the last few years, when many unfortunate events and scenes from sporting events Serbia constantly sending out an ugly and undesirable image in the world which are Serbia among the countries with the unresolved problem of violence in sport. Therefore, guided by a number of international documents that govern the fight against violence and misbehavior at sports events (primarily the European Convention on Spectator Violence and Misbehaviour at Sports Events and in particular at football matches, which was adopted on 19 August 1985th in Strasbourg)³⁵ The Republic of Serbia has defined its national legal framework to oppose violence in sport. The Council of Europe has been imposed by Serbia and all EU Member States to prescribe appropriate crimes and misdemeanors of the area and thus create the mechanism of legal protection of sport and sporting events. The Republic of Serbia has ratified the European Convention on Spectator Violence and Misbehaviour at Sports Events and in particular at football matches adoption of the Law on Ratification of the European Convention

³⁵European Convention on Spectator Violence and Misbehavior at Sports Events and in particular at Football Matches, available at: <http://conventions.coe.int/Treaty/en/Treaties/html/120.htm>, Date: 23/10/2014. year

on Spectator Violence and Misbehaviour at Sports Events and in particular at football matches.

As a result of unfortunate events at sporting events in Serbia, especially in the late nineties and the early years of Democrat political changes in Serbia after 2000, the area of prevention of violence and misbehavior at sporting events is governed by the laws of a large number of by-laws which are in the Republic of Serbia established the legal framework of the system of prevention of violence in sport. The Republic of Serbia in 2003, passed the Law on prevention of violence and misbehavior at sporting events (with subsequent amendments), which is aligned with the existing international legal standards and that the opportunity for adequate treatment of public authorities responsible for combating bullying in sporting events.³⁶

The Law on the Prevention of Violence and Misbehaviour at Sports Events of 2003 as a "burning" the law in this area at the moment in which was adopted in Serbia, primarily involves a number of measures to organizers of sporting events, to be taken in order to prevent violence and misbehavior at sporting events. In addition to this, there are two laws relevant for this area: Law on Sport (from 2011) and the Penal Code (from 2005) (with some amendments or amended in 2009). Speaking about the legal framework for the prevention of violence in sport in Serbia, we must point

out that the same is connected with a number of other laws and regulations governing the legal, organizational and functional framework which is indirectly related to the prevention of violence and misbehavior at sporting events. Firstly, there are the Law on the National Assembly, the Law on Government, the Law on Ministries; The Minor Offences Act, the Act on the Protection of Personal Data, the Law on Associations, the Law on Youth (2011) certain regulations and decisions of the Government, certain regulations governing the internal organization and job³⁷ end etc. Connect and facilitate coordination between different government bodies³⁸ with the aim of preventing violence and misbehavior at sporting events, in all of this has become the primary task and certainly the first step because the experience of many countries indicated that the participation of a large number of subjects (both the National Assembly, the Government, individual ministries (especially the Ministry of the Interior labour,³⁹ and prosecution, magistrates and other courts, sports associations, sports clubs, and the fans themselves) is essential for achieving the desired results and functioning of sport without violence. For these reasons examination of the legal framework to prevent violence at sporting events is a very complex issue. So, in all this, of course crucial step, at least as far as the legal framework, any adoption of the Law on prevention of violence and misbehavior at sporting events in 2003 which was later

³⁶National Strategy for Combating Violence and Misbehaviour at Sports Events for the period from 2013 to 2018, ("Off. Gazette of RS", no. 63/2013), available at: http://www.srbija.gov.rs/extfile/sr/193884/nacional_strategy_prevent_violence_misconduct_sport083_cyr.zip, Date: 10/23/2014. year

³⁷Perisic, S. V., ("2009). Ministry and law officers, Faculty of Economics and Justice, Novi Sad, p.91-92.

³⁸Ibid, p.58.

³⁹ Ibid., p.60.

amended on several occasions (2005, 2007 and 2009) and some changes to the legal framework for the fight took place, inter alia, the provisions of other laws (eg the Criminal Code).⁴⁰

The Act consists of three parts: basic provisions; measures to prevent violence and misbehavior at sporting events and penal provisions. Zakon se sastoji iz tri dela:

Main provisions of the Act defines the measures for preventing violence and misbehavior at sporting events and in connection with sports events, as well as the responsibilities and powers of the organizers and authorized the competent authorities in implementing these measures. The law in the basic provisions of the first term defines sporting events, which, in terms of this Act, includes sports competitions and sporting events. The concept of the organizers of sporting events as one of the most important actors in the prevention of violence and misbehavior at sporting events, according to the provisions of this Act,⁴¹ includes sports association, sports club, sports organizations - club,⁴² other legal or natural person who regularly or occasionally involved in organizing sports events, ie which took

over the organization of certain sporting events or exercise certain tasks in organizing sports events. The Act defines a time of reflection sporting event as a very important factor and includes a time interval of two hours before and two hours after a sporting event, or in the case of high-risk sports, interval of four hours before or four hours after sporting events, such intervals when apply special security measures at sporting events or in connection with them. The participants of sporting events are all persons who are present at a sports event.

The organizer of sports events shall, in cooperation with the Ministry responsible for internal affairs, ensuring that the event takes place in a safe manner, and to take all measures to prevent and prevent outbreaks of violence and misbehavior viewer. The organizer also oversees the implementation of measures under this law. Regulations regarding the bringing together citizens shall accordingly apply to the organization of sports events.

The law provides a list of all the things that are considered violence and misbehavior at sporting events. These are: physical attacks on participants in sports events or physical confrontation between the participants in the sports event; throwing objects on the ground or in the auditorium; introduction to sports facility characteristics that insults national, racial, religious or other feelings or otherwise incite hate or intolerance that can lead to physical conflict; damaging the sports facility, equipment, devices and installation on the sports facility where it maintains a sporting event; causing disorder or destruction of property upon

⁴⁰The Law on the Prevention of Violence and Misbehaviour at Sports Events, ("Off. Gazette of RS", no. 67/2003, 101/2005 - Law 90/2007, 72/2009 - Dr. Law 111/2009 and 104 / 2013 - dr. law)

⁴¹Art. 2 of the Law on prevention of violence and misbehavior at sports events ("Off. Gazette of RS", no. 67/2003, 101/2005 - Law 90/2007, 72/2009 - Dr. Law 111/2009 and 104/2013 - dr. law)

⁴²Ahmic, D., et al. (2010). "The ownership structure of sports clubs in Tuzla Canton," Scientific journal in the field of Management in Sport "Sports Management", Belgrade, p.8.

arrival or departure from the sports events or sports facility, disruption to sports events, endangering the safety of participants in sports events or other third parties; unauthorized entry to the sports field or in the official premises and official pass a sports facility or part of the auditorium sports facility that is designed to opposing fans; attempted introduction of, or entering into a sports facility, possession or use of alcohol or other intoxicants; attempted introduction of, or entering into a sports facility or the use of pyrotechnic articles and other objects and substances which may endanger the safety of the participants in sports events or interfere with its flow; Fans ignition equipment or other items; Carrying fan scarves, caps or other objects in order to hide the identity of persons.⁴³

Measures to prevent violence and misbehavior were divided into four groups: preventive measures; Measures taken at sports events; measures to be taken in high-risk sports events and the extent of the competent authorities.

Preventive measures to reduce the risk of violence and misbehavior brings viewers obligation sports associations, sports clubs, sports organizations - clubs that: encourage the organization and the good behavior of their fans and their clubs; to provide appropriate information to their supporters (through meetings with fans, newsletters, etc.), coordinating activities with supporters' clubs in the event organized trips to sporting events on the side; the

sporting regulations within its authority determines that sporting events are considered high-risk sports events and the extent organizers of sporting events and other participants are required to undertake in accordance with the law and other regulations in high-risk sports events; to take other measures and actions in accordance with the law, regulations based on laws and rules of sport; to encourage good behavior and actions of players and officials before, during and after sports events.

Measures taken at sports events are measures that can reduce the obligation of the organizers of monitors to form the corresponding service or to hire a legal entity or entrepreneur for carrying out tasks of physical security and the maintenance of order at sporting priredbi. Tu occurs and a problem in Serbia, because it is well known the fact that the Republic of Serbia did not adequately legally regulated private security sector, although it operates a large number of private companies in accordance with the law of the organizers of sports events provide stewarding at a sports event. Imprecisely defined powers stewarding in the Law on Prevention of Violence and Misbehaviour at Sports Events, cause the stewards can not effectively perform the statutory duties. Also, private security companies in securing sports events employ persons who have not been trained Interior Ministry (not licensed) and are not employed full-time and it also is often a problem in implementing the response of the organizers and the society to the problem of violence at sporting events.

⁴³Art. 4 of the Law on Prevention of Violence and Misbehaviour at Sports Events ("Off. Gazette of RS", no. 67/2003, 101/2005 - Law 90/2007, 72/2009 - Dr. Law 111/2009 and 104 / 2013 - dr. law)

In addition, in order to achieve efficient organization sports event, the organizer is obliged to cooperate with the Ministry of Interior in order to implement measures and orders relating to the maintenance of public order and peace. The organizer shall during sporting events and ensure the presence of adequate medical care services, as well as the co-operation and, where appropriate, take measures to ensure the presence of other relevant bodies and organizations, public services and public companies (fire brigades, inspection and utilities et al.).⁴⁴

When it comes to sports events increased risk that the competent Sports Federation of the Republic of Serbia, or a sports event organizer proclaims the basis of an act of the competent sports association or on the recommendation of the Ministry in situations where special circumstances indicate that it can lead to violence or misconduct of spectators, arranged a special legal framework which is based on a variety of measures, both preventive as well as repressive character. In a number of these measures, in Art. 11 of the Act prescribes the duty of the organizers of sporting events to the increased risk establish cooperation with representatives of the supporters clubs in order to mutual exchange of information, then that of all information in its possession in connection with sporting events, inform immediately, but not later than 48 hours before the start of sporting events and Ministry other competent authorities, competent sports

Federation and other interested sports organizations and, if necessary, and athletes who participate in sports events. In addition, the organizer is required to determine the responsible person in charge of the implementation of measures prescribed by this law and cooperate with the Ministry and of course to act upon the orders of the Ministry.

The last group of measures includes measures taken by the competent public authority. Specifically, when organizing sports events of high risk unutrašnjih Affairs Ministry may order the taking of all necessary measures to prevent violence and misbehavior viewers, especially: to make groups of fans to move in a certain direction, arriving or departing from the facility; order the organizer of the event object removal of identified deficiencies or omissions in the organization of events, especially if these deficiencies identified during sporting events and can greatly endanger the safety of participants in sporting events; sprreči to arrival at the venue of the event or prohibit the entry of the venue or remove the person from the sports facility whose behavior indicates that they are prone to violent and improper conduct.

Ministry before the sports event increased risk for at least 24 hours prior to its commencement shall review the sports facility which will be held sporting event and achieves insight into the organizational preparations. If you are the organizer of the sports event does not act upon the orders of the Ministry, and because of the perceived shortcomings significantly may be compromised safety of participants in

⁴⁴Art. 9 of the Law on Prevention of Violence and Misbehaviour at Sports Events ("Off. Gazette of RS", no. 67/2003, 101/2005 - Law 90/2007, 72/2009 - Dr. Law 111/2009 and 104 / 2013 - dr. law)

sports events, the Department may prohibit the maintenance of sports events.

At the very least, a series of specific measures or prescribed by the law, we can state that prohibited the sale or consumption of alcoholic beverages in the sports facility and at a distance of one kilometer from him in Belgrade, Kragujevac, Nis and Novi Sad, and in other places up to 300 meters while maintaining sports events. Measures taken at sports events are measures that can reduce the obligation of the organizers of monitors to form the corresponding service or to hire a legal entity or entrepreneur for carrying out tasks of physical security and the maintenance of order at sporting priredbi. Tu occurs and a problem in Serbia, because it is well known the fact that the Republic of Serbia did not adequately legally regulated private security sector, although it operates a large number of private companies in accordance with the law of the organizers of sports events provide stewarding at a sports event.⁴⁵

What was once the specificity of the Serbian Act in relation to other laws in the region in September 2009 and it was a criminal offense - violent behavior at sports events provided for amendments to the Criminal Code in 2009.⁴⁶ From 2003 until the end of 2008, fighting between supporters killed seven people. However, the Serbian public, and partly by the

competent national authorities, had an ambivalent attitude towards such acts of violence, until in September 2009, there has been no case,, Taton ". It seems that the death of a foreign national to more than datadašnje death of citizens of Serbia prompted the police and prosecution to take resolute application of the legislation on combating violence and misbehavior at sporting events and at the same time attempting to strictly penalize offenders. Measures taken at sports events are measures that can reduce the obligation of the organizers of monitors to form the corresponding service or to hire a legal entity or entrepreneur for carrying out tasks of physical security and the maintenance of order at sporting priredbi. Tu occurs and a problem in Serbia, because it is well known the fact that the Republic of Serbia did not adequately legally regulated private security sector, although it operates a large number of private companies in accordance with the law of the organizers of sports events provide stewarding at a sports event. In parallel with this, the Ministry of Justice of the Republic of Serbia has announced that it will launch an initiative to amend the regulations governing the fight against violence and misbehavior at sporting events. Already on December 30, 2009 were passed: the Law on Amendments to the Law on Prevention of Violence and Misbehaviour at Sports Events, Law on Amendments to the Criminal Code and the Law on Amendments to the Law on Misdemeanors. Executed Amending the three laws are stricter prison sentences and increased fines that may be imposed on offenders and offenses that are violent and indecent behavior at sports events. Immediately after the adoption of the above laws and stricter

⁴⁵Legal Framework for the Prevention of Violence and Misbehavior at Sports Events, NPC- New Policy Center, Belgrade, 2011, available at: http://www.cnp.rs/resources/files/study_final_eng.pdf, Date: 29.10. 2014. Year

⁴⁶See Stojanovic, Z., Kriivichnog Comment Code of the Republic of Serbia, the fourth edition of the Official Gazette, Belgrade, 2012.

sanctions, the question was whether it was necessary to make changes in all three statutory text, or instead should take measures to ensure that these laws are systematically and effectively applied in the future, in order to significantly affect the reduction of violence at sporting events in Serbia. Giving valid answers to this question should contribute to the comparative analysis of regulations in European countries regulate the fight against violence and misbehavior at sporting events that will be briefly presented in the section that follows.⁴⁷First, we shall review the legal framework regulating violence in sport in some countries in the region and then deal with the legal framework preventing violence and misbehavior at sports events in the EU.

Conclusions

At the very least, at this point, we shall review the results of the analysis of the legal framework and national policy responses to the problem of violence and misbehavior at sports events in Serbia, which we have tried to present briefly the work that is behind us. In addition, try to point out potential directions for reform of legal and social responses to violence in sport in the Republic of Serbia. In fact, despite a number of shortcomings, we must be honest and admit that the very existence of legal provisions or independent, a special law that deals with violence at sporting events made a big step forward in regulating this field. On the other hand, much of it that only legislate in any area, including this one, enough to solve a problem. Adoption of the law and the

legislative measure is certainly necessary but can not be considered the only step on the road of a legal decision or any other situation or problem. To be effective legal norms and justify the purpose of their making or prescribing, it is necessary to its more efficient use. In the context of the Law on prevention of violence and misbehavior at sports events, in addition to making the law and prescribing a multitude of preventive and repressive measures, for a more efficient fight the legal framework necessary simultaneous construction of formalized partnerships in response to the problem of violence and misbehavior at sports events and to both at local and at national and international level. Violence and Misbehaviour at Sports Events with all its consequences requires serious involvement of all relevant stakeholders and participation of both formal control subjects in the application of legal rules, and participation of the whole society, which must show the will for a solution to this problem. In all this, the problem may be, in the Republic of Serbia, it certainly is - a lack of political will to solve this problem and it certainly should be. The lack of a comprehensive policy initiatives in the field of detection and prosecution of cases of violence and misbehavior at sporting events is certainly a big problem and regulation of this issue and of course effective legal prosecution of all those who behave violently at sports events and make them to be held still with a great deal risk, even in some harmless and seemingly "ordinary" sporting events. With the construction of more efficient legal response to violence at sporting events, the establishment and improvement of a single database, as well as prevention and education programs (especially programs

⁴⁷Disturbed, D., legal framework governing the fight against violence at sporting events in European countries, *Foreign Legal Life*, 2010, p. 233-263

aimed at children and juveniles) can certainly be a lot of positive things to do and that would have to be equally represented by all state and social entities.

From the above it may be concluded that the construction of the legal framework must be supported and assisted the construction and improvement of social, infrastructure, logistics, economic and, in extreme extent, political framework, which will be legislation on the prevention of

violence and misbehavior at sports events in Serbia get its meaning and value. Therefore, undoubtedly must bring the desired results. All of this should contribute to the political tendencies and forcing the EU accession process which, through their processes undoubtedly initiate policies, regulations and practices in the area of prevention of violence and misbehavior at sporting events.

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PRAVNO REGULISANJE NASILJA I NEDOLIČNOG PONAŠANJA NA SPORTSKIM PRIREDBAMA U REPUBLICI SRBIJI

Sažetak

Značaj sporta i sportskih manifestacija mnogo je veći od prostog shvatanja sporta kao korisne društvene delatnosti i načina za pozitivnu afirmaciju fizičkih sposobnosti i promovisanje zdravog života i zdravih aktivnosti čoveka. Od najstarijih vremena sport, nažalost, prate i brojne negativne posledice sa kojima se društvo, tek u skorije doba, suočava i bori na jedan sistemski, organizovan i uređen način. Sa procesima globalizacije čovečanstva i tranzicije društva i društvenih odnosa u mnogim zemljama, nasilje sa ulica se prenosi i sve češće manifestuje nasiljem i nedoličnim ponašanjem i na sportskim priredbama preteći da ugrozi sve „dobrobiti“ koje sport i sportske manifestacije donose savremenom čoveku. Republika Srbija je rukovodeći se međunarodnim preporukama, tendencijama i propisima, a pod uticajem brojnih, nemilih događaja na sportskim priredbama, u pokušaju da spreči i suzbije ovakve oblike nedoličnog ponašanja, 2003. godine donela poseban Zakon o sprečavanju nasilja i nedoličnog ponašanja na sportskim priredbama koji predstavlja osnovu pravnog regulisanja pitanja nasilja u sportu. Ovaj zakon je osnovni legislativni akt i temelj pravnog regulisanja nasilja i nedoličnog ponašanja na sportskim priredbama u Republici Srbiji. U radu su predstavljene osnovne pozitivne odredbe i nedostaci ovog zakona a dat je i predlog mera i budućeg oblika reakcije društva na ovu negativnu pojavu u sportu.

Ključne reči: sport; sportska priredba; sportsko pravo; nasilje; nedolično ponašanje

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DIFFERENCES AMONG FIRST-GRADE STUDENTS OF URBAN AND RURAL AREAS IN MOTOR AND FUNCTIONAL CHARACTERISTICS

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Original scientific paper

Summary

Starting school for a child and the parents is one of the most important moments in life. It's a new challenge and a significant event in the life of every child. The child's main activity, play, is replaced by schoolwork and by starting school, the child becomes part of an organized and structured environment. The child is faced with responsibilities for the first time, with a sense of responsibility and a new organization of life. This transversal research was aimed at determining differences in motor and functional abilities of children aged 6-7 years in urban and rural areas. The population from which the sample of 201 respondents was drawn is defined as the population of first-grade students from urban and rural schools in the Lukavac district, male, aged 6-7 years. Two subsamples were formed from a thus defined population: A subsample of 111 respondents from the urban area of Lukavac (Lukavac City Primary School) and a subsample of 99 respondents from the rural area of Lukavac (Puračić Primary School, Poljice Primary School). A measuring instrument sample for this research consisted of a set of 7 (seven) tests for the assessment of anthropological dimensions, appropriate for the age of the studied population, as follows: motor abilities (6 variables) and functional abilities (1 variable). Based on a t-test for independent samples, we can conclude that there are statistically significant differences in five motor and one functional variable. The obtained differences are in favor of the boys from rural areas.

Keywords: 6/7 age boys, differences, urban and rural areas, t – test.

Introduction

By starting school, children significantly change their way of life and their movement is significantly reduced. Regular physical activity of children is extremely important for their growth and development, health, development of traits and abilities, as well as prevention of risk factors which will affect their health later

in life. That's the period when the change of traits, abilities, motor skills and health status can be the most influenced, which is why a regular, everyday stimulus of sufficient intensity is necessary in order to achieve optimal development (Mraković, 1992).

In the modern way of life, there is a contrast between city- and small-town

living. This contrast is reflected in the way of life of residential population as well as in climate and atmospheric conditions (Sijerković, 2006). Children, or students living in rural settlements, spend much more time outdoors and use outdoor sports facilities compared to students living in urban areas (Petrić and Novak, 2007). This fact could nowadays be a huge advantage for a generally better development of anthropological characteristics, and thus the health of children (students) living in rural settlements.

The consequences of modernization and urbanization have been increasingly spreading over rural areas, so nowadays it's not surprising that the students from these areas spend more time at home, watching TV and playing games on the computer. All this leads to reduced levels of physical exercise, and thus to a drop in results of their anthropological characteristics (Neljak et al., 2011). Worse anthropological status, according to some research, can be explained by the introduction of mechanization and a reduced need for physical labor on farms, while retaining the nutritional habits which include traditional, high-calorie meals (Sheehan, 2005).

This transversal research was aimed at determining differences in motor and functional abilities of boys aged 6-7 years in urban and rural areas.

Material and Research Method

Sample

The population from which the sample of 201 respondents was drawn is defined as the population of first-grade students from urban and rural schools in the Lukavac district, male, aged 6-7 years. Two subsamples were formed from a thus defined population: A subsample of 111

respondents from the urban area of Lukavac (Lukavac City Primary School) and a subsample of 99 respondents from the rural area of Lukavac (Puračić Primary School, Poljice Primary School).

The study was conducted in healthy students with a written consent from their parents.

Sample of variables

A variable sample consisted of a set of 7 (seven) tests for the assessment of certain anthropological dimensions, appropriate for the age of the studied population (Findak et al., 1996). For the assessment of motor skills, we used 6 (six) variables, as follows: MREPOL - polygon backwards, MFESDM - horizontal jump, MSAVIS - bent-arm hang, MBFTAP - hand tapping speed motion, MFLPRR - forward bend with leg extension and MRETRB - lifting of the torso.

For the assessment of functional abilities, we used 1 (one) variable, as follows: MFUSF3 - running for 3 minutes.

Data analysis

In order to determine the quantitative differences between the groups of respondents at a univariate level in the area of motor and functional abilities, we used a t-test for independent samples.

Results and Discussion

Table 1 contains the information on basic descriptive parameters for the analyzed variables and the studied groups of boys. The number of respondents in each sample (N), the arithmetic mean of both samples (Mean), standard deviation of both samples

(Std. Deviation) and the standard error mean (Std. Error Mean) .

Table 1. Groups descriptive statistic parameters of variables of motor and functional abilities

	Group	N	Mean	Std. Deviation	Std. Error Mean
MREPOL	1	111	18.345	2.7035	0.2566
	2	90	16.758	2.6311	0.2773
MFESDM	1	111	115.69	12.18	1.156
	2	90	117.2	7.883	0.831
MSAVIS	1	111	14.593	8.1993	0.7782
	2	90	21.464	5.6665	0.5973
MBFTAP	1	111	19.172	1.7032	0.1617
	2	90	22.124	1.4733	0.1553
MFLPRR	1	111	37.8	7.889	0.749
	2	90	42.64	7.301	0.77
MRETRB	1	111	23.32	5.167	0.49
	2	90	26.13	5.035	0.531
MFUSF3	1	111	495.50	34.87	3.31
	2	90	517.33	29.625	3.123

Legend: *N* - number of inhebitens; *Mean* - the arithmetic mean of both samples; *Std. Deviation* - standard deviation of both samples; *Std. Error Mean* - assessment of standard errors mean

Table 2 contains all the information related to the t-test procedure for independent samples. For each variable, we showed the equality results of the group variances in the first row (equal variances assumed), and the inequality of variances in the second row (equal variances not assumed).

The first two columns show the results of the Levene's test for equality of variances, its value (F) and significance (Sig.).

The following columns show the test results of the equality of arithmetic means of the two groups: t-test value (t), degrees

of freedom (df), significance of the two-way testing of the mean differences (Sig. 2-tailed), arithmetic mean difference, standard error difference, 95% confidence interval of the difference (Lower, Upper).

After examining the results in Table 2, we can see that there is a statistically significant difference between the studied boys in urban and rural areas in five out of six applied motor variables. Variables that statistically differ between these two groups are: MREPOL - polygon backwards, MSAVIS - bent-arm hang, MBFTAP - hand tapping speed motion, MFLPRR - forward bend with leg extension and MRETRB - lifting the torso.

Also, there is a significant statistical difference between the treated groups in the functional variable MFUSF3 - running for 3 minutes.

Table 1 shows that the boys from rural areas had higher numerical values in four out of five applied motor variables. Also, regarding the MREPOL – polygon backwards variable, which is a time determined test, i.e. less time is a better result, the boys from rural areas had better scores. The reason for this probably lies in the fact that children from rural areas have better opportunities to play outside, and thus are more physically active. The results in the motor area are compatible with those in the research conducted by Cetinić et al. (2011).

Boys from rural areas showed significantly better results with the functional variable

MFUSF3 - running for 3 minutes. Petrić et al. (2007) in their research point to the significantly higher aerobic capacity of students from rural areas and conclude that this is certainly in part due to favorable weather conditions, a longer stay outdoors, and much more use of outdoor sports facilities compared to the students from urban areas. In the research by Ozdirenca et al. (2005), it is concluded that rural children prefer to play team sports such as soccer, basketball and handball, where the aerobic capacity develops considerably, while urban children tend to prefer indoor sports, or sports where the anaerobic component is much more accentuated (wrestling, judo, gymnastics). Plotnikoff et al. (2004) in their research conclude that this is probably the result of insufficient amount of movement and exercise of students from urban areas partly because of the lack of sports facilities, and partly because of bad weather conditions and a lack of understanding of the importance of physical exercise.

The absence of statistically significant differences between groups of respondents with regards to variable MFESDM - horizontal jump is understandable. The innateness of this dimension of power is great as it provides us with little possibility (Sergienko, 1999) for its further improvement. The explosive power primarily depends on the number of activated motor units, with a genetic causality of 80%.

Table 2. T-test for Equality of means in variables of motor and functional abilities urban and rural 6/7 age boys

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	T	df	Sig. (2- tailed)	Mean Differ- ence	Std. Error Differ- ence	95% Confidence Interval of the Difference	
									Lower	Upper
MREPOL	Equal variances assumed	1.824	0.178	4.189	199	0.000	1.5873	0.3789	0.8401	2.3345
	Equal variances not assumed			4.201	192.473	0.000	1.5873	0.3778	0.842	2.3325
MFESDM	Equal variances assumed	16.572	0	-1.016	199	0.311	-1.511	1.486	-4.442	1.42
	Equal variances not assumed			-1.061	190.257	0.290	-1.511	1.424	-4.319	1.297
MSAVIS	Equal variances assumed	6.397	0.012	-6.749	199	0.000	-6.8717	1.0182	-8.8794	-4.8639
	Equal variances not assumed			-7.004	194.393	0.000	-6.8717	0.981	-8.8065	-4.9368
MBFTAP	Equal variances assumed	3.471	0.064	-12.97	199	0.000	-2.9524	0.2276	-3.4012	-2.5036
	Equal variances not assumed			-13.17	198.142	0.000	-2.9524	0.2242	-3.3944	-2.5103
MFLPRR	Equal variances assumed	0.811	0.369	-4.473	199	0.000	-4.843	1.083	-6.977	-2.708

	Equal variances not assumed			-4.51	195.503	0.000	-4.843	1.074	-6.96	-2.725
MRETR B	Equal variances not assumed	0.095	0.758	3.877	199	0.000	-2.809	0.725	-4.238	-1.38
	Equal variances not assumed			-3.887	192.381	0.000	-2.809	0.723	-4.234	-1.384
MFUSEF3	Equal variances not assumed	1.161	0.283	4.718	199	0.000	-21.838	4.628	-30.964	-12.711
	Equal variances not assumed			-4.799	198.548	0.000	-21.838	4.55	-30.811	-12.865

Legend: *F* - value Levene's test of equality of variances; **Sig.** - the significance of Levene's test of equality of variances; *T* - *T* test value; *df* - degrees of freedom; **Sig. 2-tailed** - significance testing of mean difference

Conclusion

The main goal of this research was to determine the differences in motor and functional abilities of boys aged 6-7 years in urban and rural areas.

Results obtained on the basis of tests of the difference in arithmetic means of the two treated groups of respondents from the Lukavac district, aged 6-7 years, indicate that boys in rural areas have better results in both motor and functional abilities. The exception is the MFESDM - horizontal jump variable, which revealed no statistical significance between the treated groups of

respondents, which is understandable as the explosive power primarily depends on the number of activated motor units, with a genetic causality of 80%. At this time, this power can hardly be influenced. Increased physical activity and better opportunities to play outside are likely to have given better results for children in rural areas compared to children in urban areas with regard to motor and functional abilities, which don't engage in enough kinesiological activities due to the lack of sports facilities, as well as adverse weather conditions in this area, which is among the most polluted in Bosnia and Herzegovina.

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RAZLIKE IZMEĐU UČENIKA PRVOG RAZREDA OSNOVNIH ŠKOLA GRADSKIH I SEOSKIH SREDINA U POKAZATELJIMA MOTORIČKIH I FUNKCIONALNIH SPOSOBNOSTI

Sažetak

Polazak u školu za dijete, a i njegove roditelje, jedan je od važnijih trenutaka u životu. Novi je izazov i značajan događaj u životu svakog djeteta. Ono tada svoju glavnu aktivnost igru, zamjenjuje sa školskim obavezama i ulaskom u školu postaje dio organizovane i strukturirane sredine. Po prvi puta se susreće sa obavezama, sa osjećajem odgovornosti i novom organizacijom života. Ovo istraživanje koje je transferzalnog karaktera imalo je za cilj da utvrdi razlike u motoričkim i funkcionalnim sposobnostima djece uzrasta 6-7 godina urbanih i ruralnih sredina. Populacija iz koje je uzorak od 201 ispitanika izvučen, definiše se kao populacija učenika prvih razreda urbanih i ruralnih škola sa područja općine Lukavac, muškog spola, starosne dobi 6-7 godina. Iz tako definisane populacije formirana su dva subuzorka: Subuzorak od 111 ispitanika urbanog područja općine Lukavac (OŠ "Lukavac Grad") i subuzorak od 90 ispitanika ruralnog područja općine Lukavac (OŠ "Puračić", OŠ "Poljice"). Uzorak mjernih instrumenta za ovo istraživanje sačinjavao je skup od 7 (sedam) testova za procjenu antropoloških dimenzija, primjeren uzrastu istraživane populacije i to: motoričke sposobnosti (6 varijabli) i funkcionalne sposobnosti (1 varijabla). Na osnovu t – testa za

nezavisne uzorke može se konstatovati da postoje statistički značajne razlike u pet motoričkih i u jednoj funkcionalnoj varijabli. Dobivene razlike idu u korist dječaka ruralnih sredina.

Ključne riječi: *dječaci 6/7 godina, gradska i seoska sredina, razlike, t – test.*

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THE IMPORTANCE OF DIRECTED PHYSICAL ACTIVITY PROGRAMS FOR PRESCHOOL POPULATION

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Original scientific paper

Summary

Lack of motor activity at preschool age adversely affects the development of skills and knowledge, but also the health status of the child. Precisely in preschool institutions, children acquire new hygiene habits, new knowledge, they socialize, they become independent, but also they engage in physical activity and thus improving and maintaining their health. By introducing various forms of physical activity and elements of sports games, amongst children, an affinity is created towards engaging in some sport in the future. General basics of preschool program allow programs (curricula) to adapt to various teaching styles (A or B model), age, individual needs of children as well as their abilities and interests. Preschool program conceived in this way shows no tendency in the sense of improving motor status of preschool children. On the other hand, researches that indicate that preschool children are less physically active and are spending less time playing outside, suggest that the only possibility for some form of physical activity is reduced to their staying in preschool institutions. Therefore, this paper treats the issue of curriculum innovation or specific creation of program of physical activity and the realization of the same and engaging professors of sport and physical education for the needs of preschool institutions. Quantitative indicators that point to the involvement of children in physical activity represent the basic research unit that is observed in this paper. At the same time, the subject of observation are also indicators that can be causally brought into connection with the application and evaluation of different programs of physical activity for children of preschool population, primarily those are valuable evidences of contribution to physical activity in order to improve motor status, that is to create benefits for the health of children. The data that is associated with theoretical considerations and results of various statistics are based on the propositions of ex-post-facto analysis.

Keywords: *preschool age, directed physical activity program, evaluation.*

Introduction

Regular implementation of physical activity from the earliest age contributes to the prevention of mass non-communicable diseases, which are the leading cause of death and morbidity in developed countries and countries in transition (Jovanovic et al, 2010). Disturbing statistical data indicate that children in Serbia are becoming less physically active and that most children have problems with the spine curving, flat feet and being overweight, which is mainly a consequence of a passive lifestyle. On the other hand, physical activity not only provides a better condition and coordination, but also affects the improvement of memory and the proper development of children's brains. Therefore, physical activity of preschool children is important in terms of integral, bio-medical and educational development (Đorđić, 2002). In a child during growth and development comes to major and minor changes at the level of the whole organism. Those changes are not linear, but they are more of discontinuous character and are not the same for all children, in the sense of age and sexual characteristics. This refers to the biological growth and development, or to the development of organs, primarily to the development of the central nervous system, which significantly affects the overall development of the child's motor skills (Bala, 2007).

Promotion of physical activity in early childhood age can be an important initial step in the development of lifelong habits that can prevent the occurrence of chronic diseases (American Academy of Pediatrics, 1992). Since 1990, the trend of participation in regular level of physical

activity is declining in all age categories. Increasing number of studies, which treat the problem of the level of daily physical activity for preschool age population, indicate a correlation between the decrease in physical activity and increase in obesity (Reilly, 2008; Jovanovic et al, 2010; Bleich, Ku & Wang, 2011), a group of experts proposes that physical activity should last for 120 minutes, 60 minutes of planned and programmed activities (sports and recreation) of moderate to high intensity and 60 minutes of free activities (play) (National Association for Sport and Physical Education, 2004). Studies show that young children spend most of the day sedentary and that they participate with less than 5% in physical activity of moderate to high intensity (Finn, Johannsen & Specker, 2002; Reilly et al., 2004; Pate et al. 2004; Reilly, 2008; Montgomery et al, 2014). Pate and associates (2004) indicate that preschool children aged 3 to 5 years spend 43 minutes of every hour in sedentary activities, and Reilly (2004) and associates for the same population characterize sedentary activity by a very high percentage at the level of daily activity, even up to 79%. These disappointing results should be taken with caution because the low level of activity can be explained by understanding the child's motor status and skills of expression of movement activities that are a consequence of growth and development (Raudsepp & Pall, 2006). Older children with higher levels of motor abilities and skills tend to be more physically active than children with less developed motor skills (Wrotniak et al, 2006). The level of motor skills and therefore the total participation of the child in the activity does not always have to be associated with

the biological process of growth and development, sometimes a reduced participation in activities leads to poor motor status resulting in non-participation of the child in a variety of movement activity, which leads to an increase in its sedentary behaviour (Williams et al, 2008). From all of the above, we can say that the promotion of physical activity in addition to preventing the development of obesity also affects the improvement of motor skills, general psycho-physical condition as well as many other benefits that are achieved by applying physical activity (Hallal et al, 2006; Timmons, Naylor, & Pfeiffer, 2007; Haskell, Blair, & Hill, 2009; Gutin, 2010).

Plan and program of preschool institutions on the territory Serbia, physical education is a compulsory part of the work program through so-called directed activity. However, the researches that included preschool population and that have treated the problem of directed physical activity of examined population, indicate that a significant difference in motor status identified in favour of those children who attended some programs of planned and organized physical activities guided by kinesiologists implemented through sporting in kindergarten school of sport (Stupar, 2011). Hence the issue of curriculum innovation or specific creation of program of physical activity and the realization of the same and engaging professors of sport and physical education for the needs of preschool institutions. Quantitative indicators that point to the involvement of children in physical activity represent the basic research unit that is observed in this paper. At the same time, the subject of observation are also indicators that can be

causally brought into connection with the application and evaluation of different programs of physical activity for children of preschool population, primarily those are valuable evidences of contribution to physical activity in order to improve motor status, that is to create benefits for the health of children. The data that is associated with theoretical considerations and results of various statistics are based on the propositions of ex-post-facto analysis.

THE CURRICULUM AND PROGRAM OF DIRECTED PHYSICAL ACTIVITY

Curriculum in preschool education (Republic of Serbia) usually has two modalities, basic types - constructivist and instructional model, model A and model B. The differences are most evident in the pattern or centeredness of the program; their flexibility in implementation; consistency in instruction, as well as the predictability of the outcome of children's learning. In applying the constructivist model (Model A), an educator who is the creator of program uses the offering process and selection of content, directing and channelling attention, stimulates and encourages the child in order to continuously progress. The instructional model (Model B) also recognize teachers as the creators of the program but with the attention, to a greater extent, devoted to teaching methods, in order to prepare the child for life, according to its theoretical basis (Lazic, 2013). Curriculum conceived in this way provides an opportunity for creative design and content enrichment programs in preschool institutions, with the possibility of using the good side of both modalities. Based on studies indicating that

children are less physically active (Biddle, Gorelyn and Stens, 2004; Boreham and Riddoch, 2001; Finn, Johannsen & Specker, 2002; Reilly et al., 2004; Pate et al., 2004; Reilly, 2008; Montgomery et al, 2004), that they are spending less time playing outside which is shown by the study from 2012, which was conducted on a sample of 9,000 American children, where more than half of the children do not go out at least once a day to play outside with parents (Tandon, Zhou, Christakis, 2012). On the other hand, children in preschool institutions records one third of the time of day or half of awake time of the day, which indicates how important all professionals who work with this population are. Also, this fact leads to the conclusion that the only option for some form of physical activity is reduced to their stay in the preschool institutions. Physical activity is foreseen by the plan and program of preschool institutions through directed activity - physical education as a compulsory part of the work program. However, research shows that better motor status have children who attended different programs of physical activity implemented through sporting in kindergartens school of sport then the children who participated only in the programs of directed activity (physical education) which were provided by preschools (Stupar, 2011). Results of research conducted by Janković (2013), in 5 kindergartens in Novi Sad show that activities take on average 1794.8 seconds (29.55 minutes), and that the children during activities are physically engaged on average 1024.1 seconds (17.07 minutes). Motor involvement in relation to the duration of the directed physical activity is highest in the preparatory part (22.9%), while the lowest was in the main part of the activities (5.7%). The results that

confirm the involvement of children in physical activity, are leading to the questions that may be linked to the possibility of perceiving the real needs and interests of preschool children by teachers, lack of creativity and poverty of applied content, program deficiencies, poor implementation of the same, insufficient training for teachers work in the field of kinesiology and other activities.

PROPOSAL FOR CURRICULUM INNOVATION - DIRECTED PHYSICAL ACTIVITY (PLANNED AND PROGRAMMED)

On the basis of the curriculum preschool institutions and modalities of work, taking into account the recommendations for physical activity of preschool child and which are based on content and structure of physical activity and the results pertaining to the intensity and duration or the participation of the child in activity, a suggestion of programs from the perspective of kinesiology science was given. Research on the recommended level of daily physical activity of preschool children varies depending on the author. Thus, the recommendations of the American National Association for Sport and Physical Education (NASPE) for preschool children are for at least 60 min (Đorđić, 2006) which coincides with the opinion of Canadian experts (Gabel, 2011), while for example the American College of Sports Medicine and the Centres for Disease Prevention and disease Control suggest 30 minutes of physical activity daily (Đorđić, 2006). Starting from these facts and knowing that the attention of children in this age group is small, program would correspond with a 30 minute class. (Kamenov, 1995). What

would be a novelty compared to the existing program is that the directed physical activity would take place every day (5 times a week), which is significantly different from the current curriculum that provides directed physical activity twice a week. How the expertise is important in work, especially for the development of motor skills in this sensitive population, it is important to include professors of physical education and sports experts in the program of directed physical activity. On the other side, the educator as a dominant figure in the educational process of the child should be actively involved in planning and programming as well as implementation of directed physical activity together with experts and professors of sports and physical education (Stupar, Popovic, 2013). In order for the quality of work to be raised to an even higher level, the involvement of existing collaborators for physical education in preschool institutions would have the task, through experience and advices, to control the entire process of promotion of directed physical activity, not only in terms of implementation, but also in terms of the entire evaluation process.

Program activities would be aimed at improving motor skills of children through training and development of the basic elements of basic sports (athletics, gymnastics and swimming), the basic elements of team sports (basketball, handball, volleyball and football) and martial arts (karate, wrestling, judo). Swimming activity, which would be realized once a week in the form of organized classes for non-swimmers training and improvement techniques is absolutely possible in all places where the organizational terms can be realized.

Similar to the previous activity, as a seasonal activity, ice skating should be implemented and other activities that intend for child to be in the open: sledding, skiing and the like.

The methods to be used for the realization of the program are: a method of showing (demonstration) and observation, the living word method, the method of imitation (mimicking) and dramatization, a method of practical training (primarily synthetic). Some of programmed activity should be realized by the method of training in the sense of labour per stations. Place of realization is a hall for physical education, and institutions that do not have a hall, the implementation will take place in work chambers. During the realization of programs, all the activities that can be matched with the open space that is within the institutions but also with the weather conditions should be implemented in that open space.

The program of directed physical activity for preschool child which is based on the concept of kinesiology includes the following activities: shaping exercises (without props) individually, in pairs, in threes), with props (with the use of sticks, balls, jump rope, hoops, parachutes, chairs, benches); floor exercises (shoulder stands, bridge pose, somersaults, backward somersaults, head stands against the wall, handstand against gym ladders, handstands, front scale, side scale, sideways cartwheel, overshoot (the technique of running, bounce off a springboard, landing, squatting vault jump, hecht vault jump) balance beam (walking uphill, forwards, backwards, sideways - jump to change feet, balance on the beam, the beam lands); obstacle course (obstacles

in the form of various gymnastic device (benches, ladders, mats, gym ladders, crates, hoops), natural obstacles and performing a variety of common and uncommon motor activities that children need to learn quickly and effectively); basic games (tag, tag in pairs, freeze tag, hop-stop, storm, flood, dodge ball, sleeping lions, funny statues) etc.); sports games (the basics of handball - passing and catching the ball in place and on the go, from the air, dribbling the ball (in a straight or curved line, using one and then the other hand, alternating hands), shooting for the goal from the ground, shooting while jumping, play with one or two goals, getting to know the rules of handball; learning the basics of football - straight dribble with the left and right foot, receiving ball with the inside of the foot and the sole, kicking the ball using the inside and outside of the foot, shooting at a target with the front of the foot both in place and while moving, zigzag dribble, figure eights around the stands, free juggling, playing with small and handball goals; learning the basics of basketball - rolling and raising the ball, dribbling the ball in place and while moving, passing and catching the ball from the front, side, catching low, middle and rolling passes, in place and while moving, shooting for the hoop with one and both hands, from different positions, playing with one or two (low) hoops; learning the basics of volleyball - the bouncing balloons and light balls with the fingers of both hands from different stands and positions, passing the ball with using fingers and forearms, learning the serve from below and front; all the sports games are taught with basic (simplified) rules in order to be playable by preschool child; track and field activities (running - low and high locus

skip, tossing of the lower leg, arm work, low and high start, various relay games, running on longer distances, up to 600m; jumps – long jump with and without a run up, scissor kick high jump over an elastic band ; toss – ball and vortex toss (200g), holding balls and vortex, diagonal position, the role of the free hand, various tosses using one or both hands, forward or over the head, tossing with or without a run up; martial arts activities (elements of wrestling, pushing, pulling , suppression, the basics of floor work, (no grips and throws), basic stands, kicks and blocks with an imaginary opponent in karate and boxing, other exercises are implemented as well: fighting for the ball, snatching short sticks, rope pulling, etc., dance activities (practicing tempo, rhythm, steps); open air activities (sleighing, skiing, skating) (can also be done inside) etc. To keep the program interesting, stimulating and make sure it develops the biological, psychological and social aspects of a child's life, but also use it to evaluate different segments of directed physical activity, the program should include competitive activities as well (within the group, at an institutional level, taking part in gala sporting events appropriate for their age, etc.), measuring and testing (anthropometric status/ twice a year) and recitals (4 times a year, serving to strengthen the bind between parents and the institution in the sense of promoting physical activity)

OUTCOMES AND EVALUATION OF DIRECTED PHYSICAL ACTIVITY

How the preschool curricula in many societies, is a starting point for planning and programming work of teachers in preschool institutions (Apostolović, 2013)

and that the goals of education are realized in the curriculum, then the overall outcomes of education are the result of the entire educational process, which ensures that children acquire the knowledge, skills and attitudes on values that will contribute to their development and success (Velišek-Brask and Beljanski, 2013). In this context clearly, transparently and accurately defined learning outcomes, are crucial. When it comes to motor learning or physical development of the child, outcomes are generally associated with various forms of movement, perceptual-motor activity and health and hygiene activities (Dukic, 2012). By setting the criteria listed above and the objectives of the work program with preschool population, there is the importance of defining the outcomes of directed physical activity. The outcomes of the proposed program of directed physical activity are primarily related to the use of motion task in the daily life of the child and then in creating a good basis for the inclusion of the child in sports activities in the future (section, clubs, etc.). Therefore outcomes include the following: proper walking and running (application in everyday life), independent performance of high jump (scissors) and long jump (locus jump and start-up) to properly perform shaping exercises with and without equipment, the ability of catching, passing, managing and throwing (shooting) the ball into the goal, performing somersault (forward, backward), headstand, handstand, shoulder stand, bridge, split, performs balance exercises, properly and independently, controls the skill based on the elements martial activities (falls, pushing, pulling, basic attitudes), knows how to swim independently, knows how to ice skate independently, knows how to sled, knows

at least two folk dances and two dances, knows basic sports games (elements and rules). In addition to the values pertaining to any concrete tasks, outcomes are associated with the broader context where the child during exercise and play in a friendly way communicates and collaborates with their peers, understands the concept of fair play and sportsmanship cheering, he/she can positively evaluate successful moves and effort in the context of physical activities, has the basic information about the importance of physical activity and being in open space for proper growth and development and immunity, therefore can dress themselves independently and keep personal belongings in order before and after the class of directed physical activity and understands the importance of and the need for personal hygiene.

The evaluation of the entire process of directed physical activity includes evaluation of outcomes and impact evaluation. To make the evaluation process of directed physical activity effective, it is essential that professional associates (educators, teachers of physical education and sport) keep a log of directed activity in which the name of the institution as a place of realization of activities (swimming pool, ice skating rink, etc.), numerical state of children, contacts of parents (guardians), the results of measurements and tests shall be stated. Diary of work of directed physical activity must be filled in terms of plans and programs of physical activities on an annual, quarterly or monthly basis and preparation of each class must be executed (theme of teaching units, necessary devices and props, class duration and time of each individual part, notes).

The path from writing the plan and program to successful implementation of the same is very long and difficult. Even the best programs experience a crash because they are not implemented properly and thoroughly. Therefore, it is necessary to do the evaluation of outcomes. However, even though the issue is legally regulated, one comes to certain issues in the evaluation of the entire preschool program (Cikos, 2008). In order to

efficiently identify the learning outcomes, to assess the mastered level/degree, it is essential that after the realization of activities and evaluation of it is conducted, and quantitative and/or qualitative assessment is given. Table 1 presents the assessment of mastering the elements of exercises on the ground, which is foreseen by the plan and program and Table 2 gives an example of the assessment of mastering sports games (elements with the ball).

Table 1. Assessment of mastering exercises on the ground –somersaultforward

ASSESSMENT	METHOD OF EXECUTION
Excellent	Harmonious performance of the whole movement, over the neck, with bent head, quickly turning over the back, ending from a squatting to a standing position with hands in front of the body.
Good	Legs spread too much, coming from a squatting to a standing position by pushing off with hands.
Bad	Fear present, legs outstretched, trying over verticles, feet too far from the support (hands).

Table 2. Evaluation of mastering the basic elements with the ball in sport games

BASIC ELEMENTS WITH BALL			
	FOOTBALL	BASKETBALL	HANDBALL
Excellent	Confident dribble with both left and right foot, passing and kicking a ball with no problem.	Proper passing and catching of the ball, safe movement with the ball, throwing the ball correctly to the basket.	Proper passing and catching of the ball with one hand, safe movement with the ball, throwing the ball correctly at the goal area.
Good	Does not succeed each time to pass the ball correctly, passing and kicking with the inner or outer side of the foot can cause problems	Does not succeed each time to pass and catch the ball, and throwing the ball at the basket is not always correct.	Does not succeeding each time to add and catch the ball, throwing the ball is not always correct.

Bad	The ball runs away, no control, usually uses shoe tip for kicking.	Difficulty in catching and passing, improper throwing of the ball, inability to run in coordination with the ball.	Difficulty in catching and passing, improper throwing of the ball, inability to run in coordination with the ball.
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One of the main difficulties that arises in the implementation of the evaluation motor status of children is the lack of accurate and reliable test procedures, and reference values on which to comment on the test results. This is an important segment, especially in terms of correlation between physical activity and health, and providing trustworthy guideline of development of precisely those movement activities that have benefits in order to prevent diseases. It may be noted that the most commonly used is a field battery of tests to evaluate physical activity (Chrysler Physical Fitness Test, ITNESSGRAM, President's Challenge Physical Fitness Test, YMCA Youth Fitness Test, National Youth Physical Fitness Test, EUROFIT) protocols measure the same components: cardiorespiratory endurance, muscular strength and endurance, flexibility and body composition (Međedović et al, 2014). Therefore, when evaluating motor characteristics of preschool child we can use any of the listed protocols. In order to evaluate that the motor status of the child was properly implemented, it is necessary to conduct the initial measurement before the start of realization of directed physical activity program and its implementation, and afterward accessing to the final measurement. The results of measurement and analysis based on statistical procedures allow monitoring of the development process of the child and his motor status both in relation to himself/herself

(different age period) and in relation to the group. Also we can compare the results at the population level (athletes, non-athletes, nations and others.). Evaluation of the impact of the program, not only applies to the target of directed physical activity program in terms of improving motor skills in children and mastering motor skills, but in the wider context of directed activity in terms of adopting habits that are associated with active lifestyles. Assessment of the impact of the program in terms of the wider educational context, about the importance of physical activity to health, and forming attitudes about sports games and other can be carried out in two segments. Namely assessment of the impact of the program can be carried out at the level of general education process in terms of assessment of tasks, for example: what contributes to the health? hygiene is when ..?; what can we do with friends? and similar. The second segment relates to the assessment of the impact of the program in which is involved parents as the main link in the child's educational process. The most acceptable instrument for measuring the impact of program of directed physical activity is specially designed questionnaire, through which parents express views in relation to claims, questions and offered options which are all associated with their child's participation in this program (e.g. questionnaire attached).

The ultimate purpose of each evaluation process is the innovation and/or improvement of certain parts of the program of directed physical activity and physical education or program in its entirety. In addition to the evaluation, activities assess the needs of children in preschool institutions which also represent a significant part in improving the program of directed physical activity. Assessment of the needs of children is associated with the initial measurements of motor status (monitoring of growth and development based on anthropometric measures, physical condition of the child) as well as evaluation of the entire anthropological status (health status, postural status, economic and financial status of the implementation of specific program activities / outside preschools et al.). To assess the needs of the child the standard instruments are used (battery of tests for the assessment of motor and functional abilities, anthropometric apparatus for monitoring body height and weight, obesity, instrument to monitor postural status), survey and interview for the parents on the basis of which interest and economic/material conditions are estimated for the realization of specific program activities outside the preschool institutions (sports clubs, the outdoor and indoor sports, resources out of town, etc.). Organizing workshops with parents and the outcomes thereof, may also contribute significantly to assess the needs of children and the creation of the program of directed physical activity.

CONCLUSION

According to the results of the studies analysed in the paper, one can conclude

that the preschool population is insufficiently physically active. A sedentary lifestyle is found in all ages, and what is most worrisome is that this type of behaviour is found among preschool children. An insufficient scope and intensity of physical activity, coupled with an inadequate structure are confirmed by quantitative results in studies that dealt with the motor status of preschool children. That is why this study offers a suggestion for revising and innovating of the curriculum of directed physical activity with includes bringing in experts, physical education and sport teachers. Working together with the teachers, they would enable the creation and/or the innovation of the program of directed physical activity. This would be done by assessing the needs of the children and the interest, by planning and programming activities in accordance with the work calendar of the institution and their implementation, on the principle of intensifying and increasing the volume of physical activity. In addition to the natural forms of movement, structure activity is created based on various elements of sports games, and the evaluation process is conducted on an annual and quarterly level with the objectives of assessment of outcomes and impacts of the realized program. The proposal of the program of directed physical activity in this study primarily has for its aim a physically active child which is an imperative for his/hers normal growth and development. No less important objective of this study refers to the adoption and development of proper health and hygiene habits that are based on physical activity and nutrition, but also the creation of the preconditions by including a child in a sports activity in the future.

Appendix

Did your child participate in any of the offered physical activities in their leisure time in past 7 days?			How many times?	hours/minutes
Bycickle riding	Yes	No		
Roller skating	Yes	No		
Bowling	Yes	No		
Playing at the arcades	Yes	No		
Walking of pets	Yes	No		
Skiing	Yes	No		
Rope jumping	Yes	No		
Hiking	Yes	No		
Dance	Yes	No		
Football	Yes	No		
Gymnastics	Yes	No		
Hockey	Yes	No		
Martial arts	Yes	No		
Athletics	Yes	No		
Swimming	Yes	No		
Tennis	Yes	No		
Ice skating	Yes	No		
School of sport	Yes	No		
Other (inscribe)	Yes	No		
Activities at school	Yes	No	How many times?	hours/minutes
Classes of physical education	Yes	No		
Commuting from home to school and back	Yes	No		
School sport sections	Yes	No		
Other	Yes	No		

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ZNAČAJ PROGRAMA USMERENE FIZIČKE AKTIVNOSTI ZA PREDŠKOLSKU POPULACIJU

Sažetak

Nedovoljna motorička aktivnost u predškolskom uzrastu štetno utiče na razvoj sposobnosti i znanja, ali i na zdravstveni status deteta. Upravo u predškolskim ustanovama deca stiču nove higijenske navike, nova znanja, socijalizuju se, osamostaljuju, ali se bave i fizičkom aktivnošću te tako poboljšavaju i održavaju svoje zdravlje. Uvodeći različite oblike fizičke aktivnosti i elemente sportskih igara, kod dece se stvara afinitet za bavljenje nekim sportom u

budućnosti. Dosadašnja istraživanja ukazuju da aktivnost najmlađih nije na zadovoljavajućem nivou, po obimu a još manje po intenzitetu. Situacija je posebno alarmantna u urbanim sredinama. Opšte osnove predškolskog programa omogućavaju da se programi (kurikulumi) prilagode raznim stilovima rada vaspitača (model A ili B), uzrastu, individualnim potrebama deteta kao i njegovim mogućnostima i interesovanjima. Međutim, ovako koncipiran predškolski program ne pokazuje tendenciju u smislu poboljšanja antropomotoričkog statusa dece predškolskog uzrasta. Sa druge strane, istraživanja koja ukazuju da su deca predškolskog uzrasta sve manje fizički aktivna te da sve manje vremena provode igrajući se napolju, upućuju da se jedina mogućnost za neki vid fizičke aktivnosti svela na njihov boravak u predškolskim ustanovama. Planom i programom predškolskih ustanova na teritoriji Srbije, fizičko vaspitanje je deo obaveznog programa rada kroz takozvanu usmerenu aktivnost. Ipak, istraživanja koja su obuhvatila predškolsku populaciju a za problem su tretirala usmerenu fizičku aktivnost ispitivane populacije, ukazuju da je značajna razlika u antropomotoričkom statusu identifikovana u korist one dece koja su pohađala neke programe planske i organizovane telesne aktivnosti vođene od strane kineziologa kroz implementirane sportske škole u vrtiću.

Dakle, nameće se pitanje inoviranja kurikuluma, odnosno specifično kreiranje programa fizičke aktivnosti i realizacije istog, te angažovanje profesora sporta i fizičkog vaspitanja za potreba rada u predškolskim ustanovama. Kvantitativni pokazatelji koji ukazuju na učešće dece u fizičkoj aktivnosti predstavljaju osnovnu istraživačku celinu koja je posmatra u ovom radu. Istovremeno, predmet posmatranja su i neki drugi pokazatelji koji se kauzalno mogu dovesti u vezu sa primenom i evaluacijom različitih programa fizičke aktivnosti za decu predškolske populacije, pre svega to su vrednosni dokazi doprinosa fizičkih aktivnosti u cilju poboljšanje antropomotoričkog statusa odnosno stvaranja benefita po zdravlje dece. Podaci koji se dovode u vezu sa teorijskim razmatranjima i rezultatima različitih statistika dati su na osnovu pozicija ex-post-facto analize.

Ključne reči: predškolski uzrast, program usmerene fizičke aktivnosti, evaluacija

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THE STRATEGY OF SPORT PROMOTION OF BADMINTON IN SERBIA

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Original scientific paper

Summary

Sports promotion, as a part of the marketing strategy of sport organizations, is becoming a necessary factor and the best way to develop the strategy of sports which are less represented in the media. One of these sports in Serbia is badminton. Examination and comparison of the badminton development level in the neighboring countries show that this sport has many positive effects that are not recognized by the relevant institutions in Serbia. Systematic planning of development of this sport, which involves appropriate strategy of promotion, may affect its popularization and massification, and thereby on creation of a positive public image. The strategic alliance of schools and sports clubs creates many opportunities for directing the development of young people and expanding base of successful sportsmen. The results of analysis of positive examples of promotion by the individual badminton teams, as well as their experiences through the implementation of these activities, provide us with information about possible ways of creating a successful strategy for the development of this sport in Serbia. Thus, this paper suggests ways of making development strategy of badminton in Serbia, with a focus on promotion, in order to improve its image and attract a wider target audience. It also aims to show the potential of cooperation between schools and sports organizations in the context of creating the basis for popularization of this sport.

Key words: *Sports, badminton, promotional strategies, image, marketing.*

Opening thoughts

Changes made in the marketing environment are urging all the participants in the market to continuously keep up with them and to adjust their strategies to current trends. Without market researching and realizing the treats and possibilities of the modern environment, along with not having a proper marketing and promotion strategies, the chances of sustaining

potentially successful position among the competitors are reduced. "Survival, growth and development of a certain company depends on its ability to convert treats into opportunities. (Stanković, Lj., 2009, page 728)."

Marketing of sport companies cannot be planned and realized without implementing appropriate promotion because of its direct influence on a successful business functioning of sporting organizations.

Promotional strategy involves a selection of appropriate means and elements of a communicational mix which, if well combined, may produce the desired effect."Every communication element should be judged in the context of its own contribution and its own productivity with a goal of defining its position (Bradley, 2003, page 178)."The choice of communication elements, when defining a sporting promotional strategy, depends on characteristics of target audience, desired effects, messages they are meant to send out and the possibilities of the chosen media."Basic purpose and task of promotion is an effective interaction with the target audience. (Milenović and Ratković, 2012, page 219)."Sporting community, or the target audience is comprised of athletes, viewers, amateurs, etc. "It's the users of the goods and services within a sports industry that are the main channel through which the sports organization is getting the signals and impulses from its surroundings (Kastratović, 2008)."A successful promotional strategy, as well as the whole marketing strategy, should provide the continuous functioning of the sporting organization, as well as its development through creating a positive public impression. Positive public impression means opening itself for wider market of sponsorship in sport, which should provide the material goods which will enable the best possible sporting conditions and the achievement of top results.

"Today, sport is omnipresent in life of a modern man, and is interpreted as a global phenomenon, which in its development, popularization and commercialization owes a great deal to the media (Barović, V. 2010, page 1204)."Nothing is more open to the public than sports, whether it is some

of the athletes or a sporting organization. However, in the grand family of sports there are some that, despite their long standing tradition, their great popularity all over the world, their dynamism and attractiveness, even the Olympic status they enjoy, are suffering inadequate media coverage in this part of the world. They fall into the group of less popular sports which rarely get an opportunity to address its target audience through the media. Badminton in Serbia is one of the few examples of sports that never had sufficient promotion and hence have never been sufficiently popular. Nevertheless, this sport may benefit from taking all the advantages of creating and carrying out a promotional strategy towards improving the image and generating more interest with the media and the public. Pointing out to the potential ways of having an effect on image improvement and massification of this sport is the main objective of the following text.

The idea for this subject came from the notion that only few authors from the field of sport management are addressing an issue of development strategies for the less popular sports in Serbia. The means of resolving this issue present a challenge for the authors, especially those who are practicing these sports. This text describes the status and the level of badminton development in Serbia as a neglected sport, for which the media don't have much interest. "The roots of badminton date back to the ancient China, 2000 BC, and in its modern form, it's been played in England since 1873. (<http://www.badminton.org.rs/Is torijat.20.0.html>, 2013)."First official competition called 'All England' was held in 1899, and it's being held to this day. It's been an Olympic sport since the '92 Olympics in Barcelona. First clubs in

Serbia were established in 1993, and the same year Badminton Federation of Yugoslavia was established. Since 1995, the Badminton Federation of Yugoslavia has been a full member of the Badminton World Federation (now of the "Badminton Europe – BE") and European Badminton Union. The name of its successor is Badminton Association of Serbia.

Positive feedback received in the cities of Serbia in which badminton from the beginning has been linked with schools and other institutions of education created a good base for its development and strategic planning of its promotion. This claim presents main hypothesis in this text. In other words, the main assumption is that, by linking institutions of sport with those of education, a good base for badminton development in Serbia is created, which is a part of general development strategy and massification of the sport. The essence of this claim lies in capacity to develop positive image of badminton in schools, at the same time focusing on using this image to attract wider public, as well as sponsors. Starting point in this analysis are facts derived from comparison with different levels of this sports development in countries in the region, the facts which show its low popularity in Serbia. Text is structured in a way that highlights the importance of implementing marketing and promotion in sports, so they could enhance the development in Serbia. In accordance with the basic hypothesis of the text, further analysis has focused on emphasizing the strategic linkup between the institutions of sport and education on the highest possible level. Also, marketing activities will be analyzed in the context of promotion, even though promotion is but a segment of them, because most of the

positive examples of the strategies executed by badminton clubs shown in this text contain elements and means of this particular domain.

IMPORTANCE OF UPBUILDING A SPORTING IMAGE

Each sport organization or individual strive, on the field as well as off the field, when it comes representing themselves the best way they can with their results and their conduct. It determines their popularity with the crowd, their influence, but also their ability to attract sponsor deals with the companies that want to be related to those that are successful. The impression someone makes on the public is known by the widely accepted term –image. "Image is the belief, the impression and the presentation of a sport organization, athletes and their sport results, abilities and potential for defining their own position in the environment (Tomić, 2001, page 90)." Image presents the desired impression of a certain sport segment in the public, i. e. the way we want the public to see and think of us. It also can be said that image can vary and adjust itself to the conditions of the environment, that it could be coordinated, built and repaired by certain activities. In purpose of creating and maintaining a certain image, no matter what form of a sport organization is in focus, the means and elements of marketing communication are being used. Good image is a powerful tool which opens up a wide specter of sponsorship possibilities. Companies love being connected to sports because of these positive values that sport stands for – strength, persistence, honesty, boldness, decisiveness. Success is even more

achievable if there is a realistic and logical connection between the sponsor and the supported sport event, athlete or sport in general. There are well known examples of sport equipment manufactures sponsoring the main events in a certain sport. In badminton, the biggest manufacturer of the equipment, "Yonex", is the sponsor of the world's greatest tournament "All England Open". There are many examples of connecting the world famous brand with a great global sport event, such as the "Coca-Cola Company" sponsoring the Olympic committee, and therefore, the Olympic Games. Well known companies are sponsoring sports clubs. One of the biggest football clubs in the world, "Barcelona FC", is being sponsored by the "Qatar Foundation". They are also many examples of brands associating with athletes, like Novak Djoković and the Japanese brand "Uniqlo".

Building and maintaining of a positive sports image are main tasks for the professional sports organizations and athletes, because they present a prerequisite for attracting potential sponsors and sponsorship deals. Sport is an attractive domain for potential sponsors, but the most interesting subject for sponsoring are sports objects that achieve the best results, or have huge popularity, which gets them major media coverage. That reduces the possibility of less popular sports, such as badminton in Serbia, of creating an environment needed for achievement of top sporting results which would attract potential sponsors, and further its development potential.

"Development process of sporting sponsorship strategy begins with analyzing of the market situation, and ends up with the evaluation of the cooperation that has been made. (Medić, 2009)." Purpose of the

evaluation is to determine the return of the invested funds, as well as potential evolution of the joint activities of the sponsor and the sponsored in the future." In the sponsorship relation, the sponsor is buying a possibility for displaying his potential to the attendants at certain events, and also the image that is related to the activity shared with the event attendants (Ljubojević, 2001, page 99)." Therefore, for sports that are featuring less in the media, tournament organization must not be just about creating environment for competing on national or international level. In cases such as this, the competition becomes an opportunity to appear in the media (through which is announced the event, and the results afterwards) with a task of not only proclaiming the results, but promoting the sport itself.

SPORT MARKETING AND PROMOTION

Since the first time term "sport marketing" has been used, the idea was to describe various activities related to sport promotion. "Two distinct streams exist within broad concept of sport marketing: marketing of sports and marketing through sports (Shilbury, Westerbeek, Quick & Funk, 2009, page 14)." Marketing of sports refers to the usage of variables in the marketing mix in order to communicate the benefits of sport participation and spectatorship to potential consumers. The aim is to secure survival of the sport in a fluctuating environment through finding and animating future direct sport participants, as they are to become the next generation of athletes and sport audience. "One of more intense changes in the frame of sports marketing is the rise of sports media – from plain reports from sport

battleground, to the complete and comprehensive entertainment for the masses. (Kastratović, E. 2004, page 97).”Example of marketing through sports is sponsorship by companies that use sports as an instrument for their own promotion and advertising of their own products.”Connection of promotional activities with sports is being used more and more by companies as a part of their communication process, and it may include sponsoring of certain sport events or a certain team that competes in those events. (Hare, 1999).”

So, the promotion is main instrument which is being used by organizations, clubs and athletes to draw attention and communicate with the entire sport public.”Process of communication in sports promotion exist with a sole purpose to present certain commodity or service to the consumers, with aim to impel them to buy or consume that commodity or service (Tomić, 2007, page 79).” Since in essence of every promotion lays an information, the sponsors and advertisers use it, so they can transfer selected information to a wider audience through propaganda in the sport fields, on athletes apparel, as well as in commercials during the TV broadcasts of sport events.

”The goals of promotion are multifaceted and include generating awareness of an event, building, strengthening, positioning, or repositioning an image, creating brand

loyalty, and increasing product credibility (Parent & Smith-Swan, 2013, page 106).” In accordance with general goals of promotion, specific targets of sport promotion can be creating a positive image of a certain sport, carefully creating identity and image of a certain sport organization, current team and main players, as well as of individual style of playing, affirming conduct of players, coaches and managements, promoting new players, new coach, or a new team for the coming season.

EXPANSION LEVEL OF BADMINTON IN SERBIA AND OTHER COUNTRIES IN THE REGION

Badminton is a national sport in Indonesia, Malaysia and China, from where the best players originate too. In Europe, it is played chiefly in Denmark, Sweden, England, Germany, but it is expanding quickly in other countries as well. Among the countries of the Balkan region (which are very important for Serbia in terms of comparison in the environment, and which are yet to be reached in organization and achievements) Bulgaria has the longest tradition, but Croatia, Slovenia, and Greece are catching up. Huge progress was made by Turkey, with Turkish players’ great achievements in the international tournaments and their frequent participation at the Olympic Games.

Table 1. Prevalence of badminton in Europe and in the environment in 2013

Country	Total number of players	% of the population	Total number of clubs	Number of residents per club
England	51791	0.09	2532	20537
Germany	230000	0.28	2832	28954
Denmark	90967	1.65	545	10091
Sweden	27500	0.31	243	37037

Turkey	40000	0.054	400	185000
Greece	8380	0.08	90	120000
Slovenia	1696	0.08	29	68965
Croatia	650	0.015	21	204761
Bulgaria	2995	0.04	32	231250
Macedonia	200	0.01	11	181818
Bosnia and Herzegovina	140	0.003	6	766666
Serbia	900	0.012	14	535714

Source: xmnpr://бaдминтoнeуpонe.цoм/ЦMC/?цмcид=239&нагeид=4651, 2013.

From Table 1 it is obvious that across Europe, badminton is in different stages of development. Greatest number of players and clubs is in Germany, but country that is leading in development is Denmark. In Denmark, 1.65 percent of population plays badminton in 545 registered clubs, which means there is one badminton club per 10,091 residents. Most noteworthy growth is in Turkey, where 40,000 players have been registered since the beginning of their BE membership in 1992. These numbers are down to the fact that soon after badminton came to Turkey it has been integrated in mandatory program in schools, which lead to its massification, and therefore, to getting the results.

Compared to other countries in the region, Serbia is in the lower part of the table when it comes to number of players and clubs. With only 0.012% of population playing the game, Serbia has yet to catch up with Bulgaria (0.04%), Slovenia, and Greece (0.08%). With a lack of infrastructure of developed countries (Germany, England, Denmark, Sweden) and long standing tradition in other countries (Bulgaria, Slovenia), Serbia should follow the positive experience in connecting sports with educational institutions, which showed great results in

Turkey, and of late is being used in Croatia.

PROMOTIONAL ACTIVITIES IN THE ORGANIZATION OF BADMINTON ASSOCIATION OF SERBIA

In its short existence, Badminton Federation of Serbia (BASS) has tried promoting competitive badminton and placing it next to other well known and popular sports. Main obstacles in fulfilling aforementioned goal, that should define strategy development, are these:

- 1.) No media coverage of badminton
- 2.) Insufficient usage of internet technologies and social networks
- 3.) Not having badminton in school physical education programs
- 4.) No distinction between competitive badminton and badminton as recreation.

It is a well known fact that media covers sport events that are of interest for the wider public, and that most of the air time is consumed by the most widespread and popular sports or sport events. Badminton cannot be compared to football, basketball or tennis, nor it can expect similar media

treatment. On the other hand, because of the demographic it is aimed at, being mostly school children who are expected to take part in it and become future competitors or play it recreationally, badminton can feature in non-sport radio or television programs in which a place can be found for presentation of new sport disciplines and events. Beside this possibility, one of the main activities BASS undertook has been organizing promo matches with a plan to appear in local media and get as many people as possible to learn about this Olympic sport. While conducting these activities, it has been noted that more media time can be gained in local media across the country, then in media centralized in Belgrade.

In the current moment of society and time we live in, it is impossible to ignore existence and importance of the social networks that are connecting millions of people and make the information available to everyone. One of the key features of these networks is that anyone can put up the information that are of interest to their target audience and maintain permanent communication. For too long has BASS ignored the advantages that this means of communication with public can provide. But in 2011, BASS started using internet technology and social networking, and created a webpage that spreads the information and communicates with the members on "Facebook", the most popular internet social network at the present. In a short period of time, more than thousand users of this social network have started following this page, and that number is getting bigger by day. BASS has noticed that this means of communication is mostly used by younger people, and they

are the main target audience at which information about this sport is aimed at.

Also, "by analyzing the development in towns that accepted badminton, it is noted that the fastest expanding and growth in numbers is made in places where the sport was tied to local schools (Marković, 2011)." With that in mind, one of the key goals of badminton development strategy in Serbia should be the inclusion of this sport in the official program of the physical education classes in elementary and secondary schools. In this way, a wider base would be created for making selections and ushering more talented children to the clubs and training centers for further training. A provisional solution is to make personal contacts with physical education teachers and to prepare them for the basic training of players, which can be done each year in badminton camps organized by the Association. Through these camps the teachers not only acquire fresh knowledge of an Olympic sport, but are also motivated to work with children and take part in traditional annual inter-school tournaments, where they can win accolades not only for themselves, but also for their school and their town.

The example of good collaboration with the educational institutions and successful promotion of badminton as a sport is the badminton club in Šabac. The club's success in organization and in competing contributed to the importance of badminton with the local community. This sport was, even though on a local level, promoted in the best way possible, by training great number of individuals, and by creating image of an Olympic and highly dynamic sport that everyone can enjoy, competing or just playing for recreational purposes. Health benefits, as well as socialization that follows

participation in sports were the logical outcome of the intense student involvement in these activities. The school became well known in the local community for its sporting achievements and the success of its students, which surely had an impact on their positive image too. However, as these relations between the institutions of sport and of education were not dealt with systematically on a higher instance which would include everyone, from the Ministry of Sports and Ministry of Education, to individual schools and sport clubs, this way of collaboration was not sustainable in a long run.

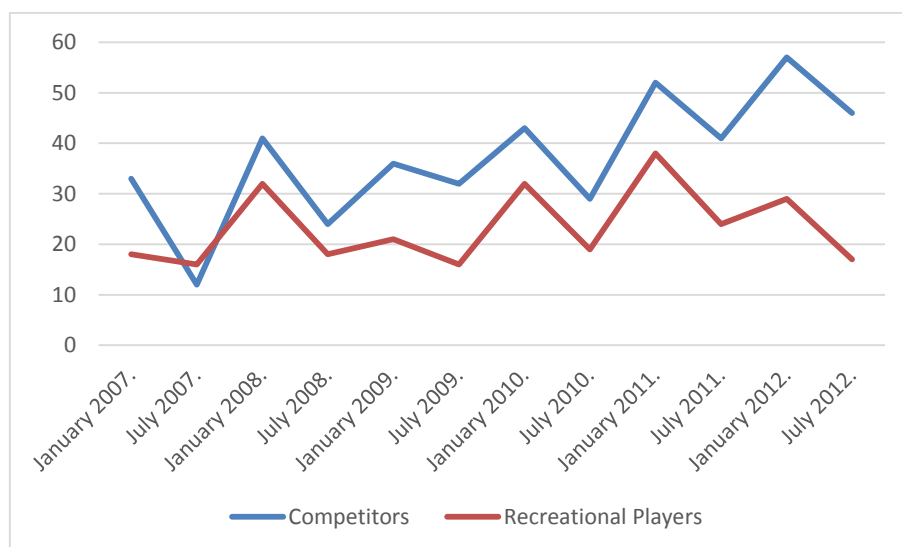
One of the main issues, and maybe the biggest one, that badminton is facing is the lack of distinction between badminton as a competitive sport, and badminton as a way of recreation and occasional activity. It is safe to say that, due to its association with the picnic version of this sport, badminton has unduly gained a negative image of a sport that can be played by anyone, regardless of physical, technical, tactical, mental, or any other preparation.

All the aforementioned actions by the BASS are being taken with a basic goal of getting the wider public to know the true characteristics of this sport, and to recognize badminton as it is meant to be recognized. Big steps towards creating the right image of this sport are media coverage, demo matches and founding of

school activity, as well as mastering the modern means of mass communication and their proper usage. In this way, it is possible to achieve top results in the great international tournaments, which would lead to further media promotion.

PROMOTION ACTIVITIES ORGANISED BY BADMINTON CLUBS – GOOD PRACTICE EXAMPLES

With the BASS support during the preparations, and realization of promotional activities, the clubs can do a lot in relation to massification and popularization of this sport in their local communities. Since 2006, badminton club „Clear“, Belgrade, starts the promotion related activities in September. The beginning of the school year, the end of the busiest vacation season, colder, rainy weather, they are all good incentives for people of different age groups to start playing indoor sport. The club management has decided to promote badminton through elementary and secondary school presentations, which the Association's earlier experience had proved to be a very good solution. At the same time, a webpage was created with the club presentation. Also, there were several appearances in various TV shows. Aforementioned activities influenced a rise in members' number, as seen in graph 1.

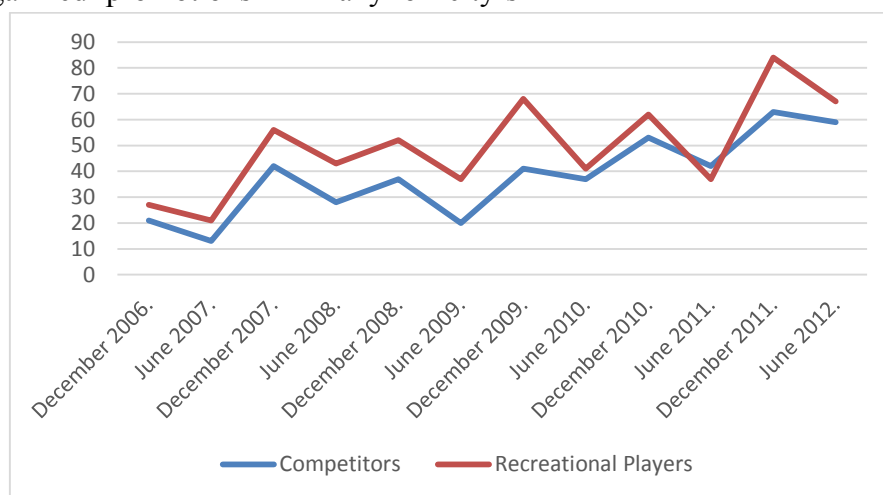


Graph 1. Change in the number of members between January 2007 and July 2012

As can be seen from the graph 1, the club's promotional activities gave good results. It can be noticed that key periods for positive change in the number of club members are related to the start of the school year, autumn and winter periods, but the number of club members has declined over the summer. These actions gave a good example to other clubs within the Badminton Association of Serbia.

Another good example for the massification of badminton in Serbia was presented by the club „Novi Sad“. Learning from previous experience, and advised by the Association, the club organized promotions in many of city's

elementary and secondary schools, as well as in the students' gym, where physical education classes are held for students of Novi Sad University. The promotion through electronic media, appearances in local TV and radio shows, columns in local printed media, as well as high-quality internet presentation also helped spread the positive image which this club has been building. The competitive success this club enjoyed also added to its importance and reputation within the city community, and beyond. The club's promotional activities induced a rise in membership, as shown in Graph 2:



Graph 2. Change in the number of members between December 2006 and June 2012

Based on this graph, there is a positive influence of this campaign on the number of the participants in shown categories. It is clear that once again the biggest rise was in autumn and winter months, because this sporting activity can be exercised when the weather conditions are poor, and it is a good alternative for indoor sports that require organizing a larger group of people (indoor football, basketball, volleyball...), or sports that lack competitive spirit or score related suspense (aerobic, physical exercise, Pilates...). The importance of badminton can be seen also in the fact that it attracts schoolchildren, who soon enough can participate in junior competitions by virtue of the sport's specific characteristics, and become bound to sport, and kept away from bad habits and potential isolation that modern society and environment may produce. It has to be noted that even greater number of people took part in the club's activities, but the graph is only showing those who participated constantly and organized.

DEVELOPMENT STRATEGY OF BASS

Bearing in mind all above examples, which show that the best results in the field of sport promotion and widening of the participant base are achieved in cooperation with the educational institutions, we come to a conclusion that right approach and well targeted marketing activities can neutralize the deficiencies that come with every less popular sport with inadequate media support and no real potential of gaining the great base that the leading sports on global level have.

Key requirement for badminton as a sport is securing realistic availability of a constant contact with institutions that work with the target audience needed for the

Association's development (elementary and secondary schools). This need can be fulfilled only with a systematic setup of cooperation between the institutions of sport and education. With a well-built systematic link up with educational institutions there is a real opportunity for realization of the promotional goals of the Association, with a simultaneous support from educational institutions to all students who choose to participate actively in this sport. However, this is a strategy that can not be carried out by the Badminton Association on individual level. The association can initiate activities on the level of all sport associations and organizations which may result in the building of a systematic link up with educational institutions. These links should guarantee reaching of the common goal, which is creating of an environment that will optimally help young people who are participating in sports to be successful in school, as well as in sport of their choice.

With relations set in that order, which should be backed by the Ministry of Youth and Sports and the Ministry of Education, the requirements are met there for any sport branch, any sport club, or their association to have a stable platform that provides them with realistic opportunity to implement their strategy with a proper plan and organization. This collaboration should be expanded with a constant dialogue between the Association and clubs with all the individuals and sport organisations that show interest in playing badminton and forming sections and clubs within their community. The skills that have been mastered so far by the Association's leaders, and are related to organizing and carrying out promotional matches and demonstrations, also include decisive efforts made in the field of creating the

permanent communication with the target audience mainly through the social networks and the webpage of the Association. Right now, there is no better, more approachable, more widespread, more opened, and more accessible channel of communication, able to reach large number of people, especially because the widest audience is this way able to give suggestions and post comments, which is a great way of finding out the needs of present and future fans of the game. This way the essence of all the marketing efforts is being reached, and that essence is in fulfilling needs and desires of the target audience. With that in mind, it is necessary to create and maintain constant communication with internet portals that engage in sport news and contents, such as www.sportal.rs, www.savremenisport.com, www.besplatansport.com, www.mondo.rs, and www.mozzartsport.com.

However, despite of all the advantages that webpages and social networks have, traditionally most viewed means of media should not be ignored. Television and radio, as well as the printed media, still play leading role in informing public and broadcasting events. Because of the lack of the big results in the world wide competitions, badminton is not able to compete for air time in most of the sport related shows, so it must use the media contents that can connect sport with its target audience. The most effective way of doing this is by appearing in entertainment and educational programs for children, where the benefits of participating in sports are easily presented. Of course, local media should not be neglected, since they are always craving for some quality program concerning the region. They are the primary communication channel when it comes to

geographically segmented target audience, especially in those environments where badminton already exists and is successful on a national level. Working with those media can ensure the status of the sport in that region, public can be kept informed about the achievements, and that can altogether result in a better coordination between local sport institutions, and further popularization of sport, and the growth of participant number, which will widen the base to recruit future players and trainers from.

CONCLUSION

Ways and methods of broadcasting the information must be part of a thoroughly thought out promotional strategy of every sports organization. Sporting accolades, on their own, are no longer sufficient if we are about to present a certain sport and benefits from participating in it to the sport public. Quality communication through the sport promotion with a purpose of building a positive image is a necessity in modern sport, because it presents the platform for connecting with the potential sponsors.

Proper presentation of sport, which should be on each sport organization agenda, is gaining importance if performed in front of the target audience which can potentially produce individuals that may upgrade the work of sporting organization, or enable the achievement of planned sport results. With an approach that includes the institutions of education in the process of promoting and presenting positive effects of participating in sports, it's possible to communicate with a wide and specific target audience which has the energy that can be channeled and used properly. Nevertheless, individual efforts and examples of good cooperation between sport organizations and institutions of

education are still just isolated incidents, so at present there is no point of talking about a systematic way of exploiting the benefits that may rise from the sport–education alliance. Therefore this work only hints at possible ways in which institutions of sport and institutions of education can be brought together. In accordance with that, some positive outcomes of the school–club collaboration are presented, which underlines the main assumption defined at the beginning of the text. The essence of the potential success of this linkup is in systematic planning and carrying out the strategies which must be figured out down to the smallest detail and supported by the highest instances, which are the Ministry of Education and the Ministry of Youth and Sports. The ways of promoting sport, as described earlier in the text, brought great progress and prosperity to badminton within BASS. Since those years of work with no particular plan, without measured or productive actions, brought none of the expected results, the sport-promoting actions in towns and schools throughout Serbia is deemed successful. Number of visits on the webpage, and a presentation in social networks, the number of comments and the coverage of the latest news justify the effort and the energy that is being invested in this form of communication, especially

considering the minimal costs of creating and maintaining these contents that have a maximal effect on the chosen target audience. This conclusion is even more credible if we consider the lack of funding and media coverage of this Olympic sport, which, all combined, has affected the slow dynamic of its development in Serbia. Because of this kind of experience, BASS has recommended to all managers of newly founded clubs and school sections to maintain a two-way and utterly frank communication with the members of the press and other representatives of local media. Future development of badminton in Serbia is only possible with total devotion of all the BASS members in working on the increase in the number of participants and sponsors, as well as on improving the communication of the Association members and the clubs with the media in the sole purpose of expanding the media space for the sport. Mutual actions of these two bodies will be the main factor in the realization of the long term goals that BASS has set for its members and for the Association itself as a key institution for the development of this sport in Serbia, and those goals are primarily the massification and achieving top competitive results on some of many international tournaments.

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STRATEGIJA SPORTSKE PROMOCIJE BADMINTONA U SRBIJI

Sažetak

Sportski promocija kao dio marketinške strategije sportskih organizacija, postaje neophodan faktor i najbolji način da se razvije strategiju sportskih medija koji su rjeđi. Jedan takav sport je badminton u Srbiji. Nakon ispitivanja i poređenje stepena razvoja badminton u susjednim zemljama, stiče se utisak da ovaj sport ima mnoge pozitivne efekte koji nisu priznati od strane nadležnih institucija u Srbiji. Sistematsko planiranje razvoja sporta, koji uključuje odgovarajuće strategije promocije, to može utjecati na njegovu i popularizacije, i na taj način stvoriti pozitivan imidž u javnosti. Strateško povezivanje škola i sportskih klubova stvara mnoge mogućnosti za usmjeravanje razvoja mladih ljudi i šire baze uspješnih sportaša. Rezultati analize pozitivnih primjera promocije koje su napravljene po pojedinim badminton klubova, kao i njihova iskustva u realizaciji ovih aktivnosti, pružamo uvid o mogućim načinima stvaranja uspješne strategije za razvoj ovog sporta u Srbiji. Dakle, u ovom radu predlaže načine stvaranja razvojnih strategija badminton u Srbiji s naglaskom na promociju, kako bi se poboljšala svoj imidž i privući širu ciljne javnosti. Također, rad treba da ukaže na potencijal suradnje između škola i sportskih organizacija u kontekstu stvaranja osnove za popularizaciju ovog sporta.

Ključne riječi: Sport, badminton, promociju strategije, brand image, marketing.

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COMPARATIVE ANALYSIS OF SITUATIONAL EFFICIENCY OF WOMEN VOLLEYBALL TEAMS PARTICIPATING IN THE GRAND PRIX 2013 AND PREMIER LEAGUE OF BOSNIA AND HERZEGOVINA

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Original scientific paper

Abstract :

In this paper about volleyball as a dynamic and demanding game which shows abilities of a player and his technical, tactical and conditional preparedness. The statistical data shows individual results of setters in both, winner and loser team. Taking into account that the Bosnian Premier League for Women in Volleyball hasn't results on the European scene, the work processes data of the players in Bosnia and Herzegovina aiming results that will have importance in modelling and constituting training process for setters.

Keyword: comparative, volleyball, teams.

Introduction

Modeling in sports reduces to constructions of most appropriate models of physical activity which allows creation of complex training process. The complexity of modelling lays in the fact that there are no connections between sports, each sport has its own motoric structure. The structure of some sports considers a series of anthropological basic, specific and situational skills, and motion structure which causes success. In volleyball success depends on team cooperation because volleyball is considered as a part of cyclic and acyclic group. The main goal in sport games is score points. Volleyball is a complex sport activity which is played in teams. Unlike other sports who differentiate the phase of

attack and defense, in volleyball there is a difference between attack and counter-attack. The setter is the brain of the team just like the playmaker in basketball. The setter decides who will attack with the ball. The main task of the setter is high level of organisation of the team work and tactic. Also every setter has individual responsibilities as "the ball cooking". To reach the individual and team goals every setter has to know the basic tactic formations of the opposing team which considers the knowledge of the schedule of the team (Marelić, 1995). The following diagrams analyze individual actions and zones in "ball cooking". Ten teams of the B&H Premier League were analyzed (season 2013/2014). The teams are classified in winning and losing.

Methods

The research includes 10 teams (ten setter) competing in the Premier League of Bosnia and Herzegovina. The main criterion for selecting a weight that members of the Premier League clubs who compete in the premier league of Bosnia and Herzegovina. Given that, based on a given criteria for a premier league players each team at the start of the season had a standard systematic review, in which it was found that players do not have a distinct health abnormalities that may impair health status.

The sample of variables relating to the zone from which lifts the defeated and the winning team cooked, and the zone in which lifts the defeated and the winning team during play matches cooked.

ZOIKDKU1-zone from which the setter cooks 1ZOIKDKU, 2-zone from which the setter cooks 2, ZOIKDKU, 3-zone from which the setter cooks 3, ZOIKDKU4-

zone from which the setter cooks 4, ZOIKDKU5-zone from which the setter cooks 5ZOIKDKU6-zone from which the setter cooks 6, ZOIKDKU1-zone in which the setter is cooking 1, ZOIKDKU2-zone in which the setter is cooking 2ZOIKDKU3- zone in which the setter is cooking 3ZOIKDKU4- zone in which the setter is cooking 4, ZOIKDKU5- zone in which the setter is cooking 5, ZOIKDKU6- zone in which the setter is cooking 6.

Data analysis:

For the purpose of this research frequency analysis and graphical representation of results were used.

Results:

Analysis of the zone from which lifts the winning team cook

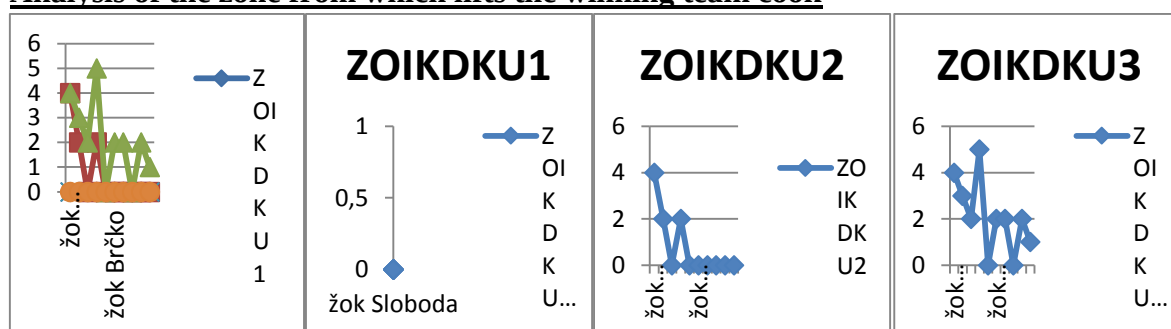


Diagram 1.

Diagram 2.

Diagram 3.

Diagram 4.

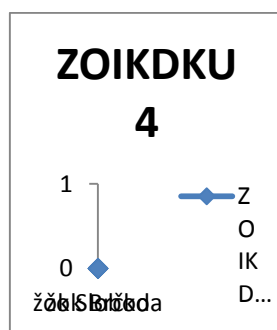


Diagram 5.

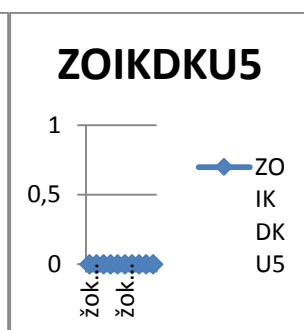


Diagram 6.

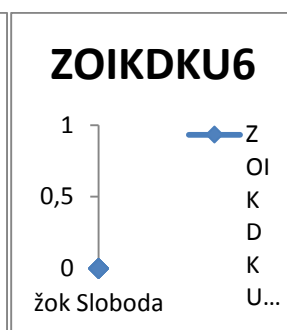


Diagram 7.

Diagram No.1 on the diagram is evident that lifts the winning team most balls cooked from zone 3 of 5 balls. Here, in the following proportion: setter of "Sloboda" team three balls cooked, setter Bijeljina 2 cooked balls.

Diagram No. 2 on the diagram is evident that there is no cooked balls by winning the premier league setter from zones 1.

Diagram No. 3 on the diagram is evident that the setter winning team Zok "Sloboda" cooked four balls out of the zone 2

Diagram No. 4 on the diagram is evident that lifts the winning team most balls cooked from zone 3 of 5 balls. Here, in the

following proportion: setter choke "Sloboda" 3 cooked balls out of the zone 3, the weight choke Bijeljina 2 cooked balls.

Diagram No. 5 on the diagram is evident that there is no cooked balls by winning the premier league setter from zones 4th

Diagram No. 6 on the diagram is evident that there is no cooked balls by winning the premier league setter from zones 5th

Diagram No. 7 on the diagram is evident that there is no cooked balls by winning the premier league setter from zone 6th

Analysis of the zone in which the winning team lifts cook

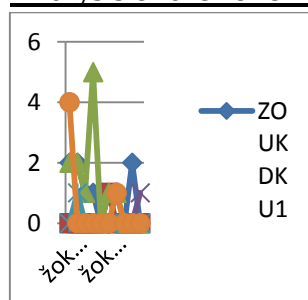


Diagram 8.

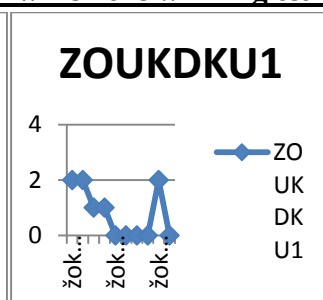


Diagram 9.

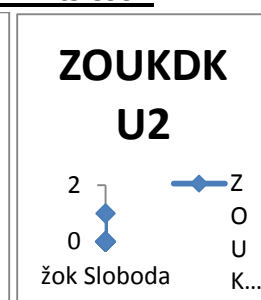


Diagram 10.

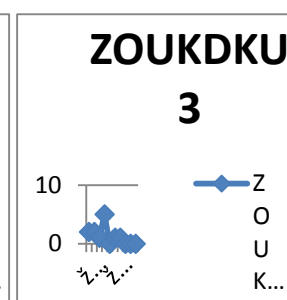


Diagram 11.

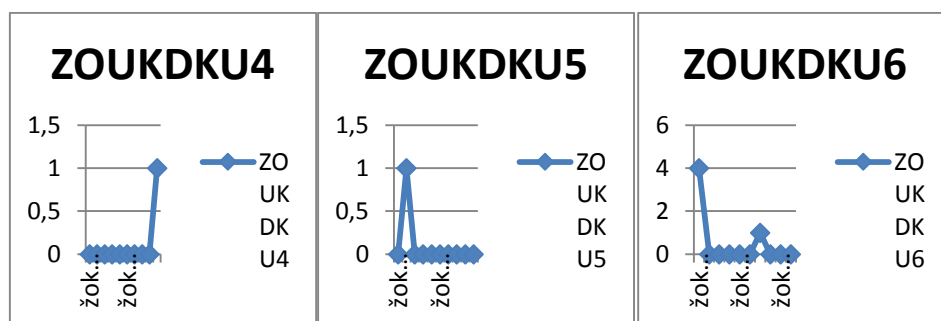


Diagram 12.

Diagram 13.

Diagram 14.

Diagram No. 8 on the diagram is evident that lifts the winning team most balls cooked in zone three (5 balls) in zone six (four balls) in zone one (two balls) in zone five and zone two (one ball).

Diagram No. 9 on the diagram is evident that lifts the winning team cooked up two balls in zone 1, and setter teams Zok "Bijeljina" one ball and setter Zok Kula Gradacac "the ball.

Diagram No. 10 on the diagram is evident that the setter winning team Zok "Sloboda" cooked up the ball in zone 2

Diagram No. 11- on the diagram is evident that lifts the winning team cooked up 5 balls in zone 3, with the following ratio: setter Zok "Freedom" two balls and a ball

lifts Zok "Bijeljina," Zok "Visegrad" Zok "Kula Gradacac "

Diagram No. 12 on the diagram is evident that the setter winning team Zok "Visegrad" cooked up the ball in zone 4

Diagram No. 13- on the diagram is evident that the setter winning team Zok "Sloboda" cooked up the ball in the zone 5th

Diagram No. 14- on the diagram is evident that lifts the winning team cooked up four balls in zone 6, in the following proportion, setter Zok "Sloboda" two balls, and lifts Zok "Brcko" and Zok "Bijeljina" one ball

Zone from which losers setter are cooking

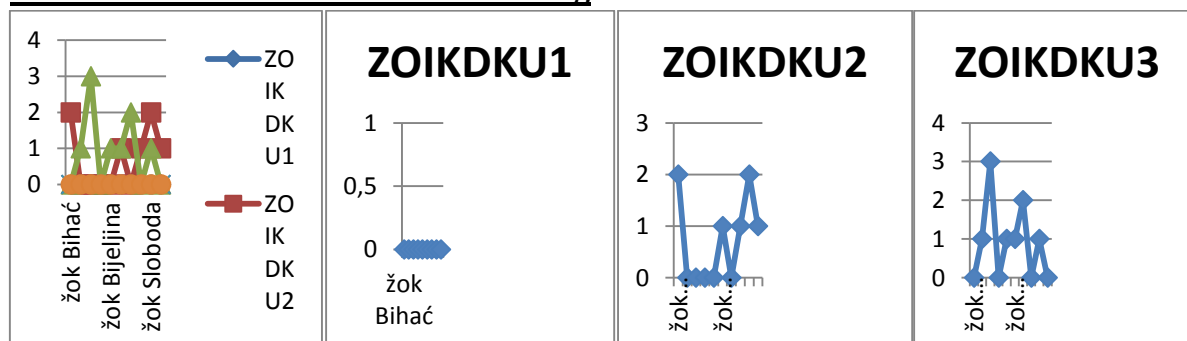


Diagram 15.

Diagram 16.

Diagram 17.

Diagram 18.

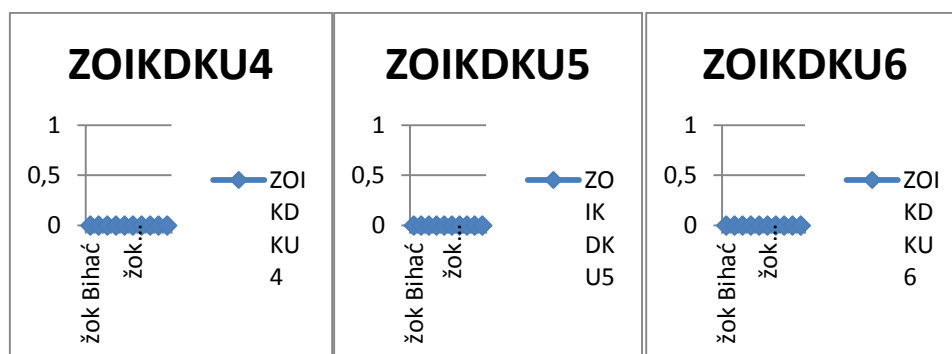


Diagram 19.

Diagram 20.

Diagram 21.

Diagram No. 15 on the diagram is evident that lifts losers of cooked from zone 3 (three balls) from zone 2 (two balls), with the following ratio: setter defeated team who cooked from zone three Zok "Bihać" the ball, setter Zok "Modrica" one ball and setter Zok "Freedom" the ball, and the two zones setter teams Zok "Bijeljina" one ball, and setter teams Zok "Jahorina" one ball.

Diagram No. 16 on the diagram is evident that there is no cooked balls by the defeated premier league setter from zone 1.

Diagram No. 17 on the diagram is evident that lifts losers of cooked from zone 2 and two balls in the following ratio, Zok "Jedinstvo" the ball, and setter teams Zok "Jahorina" one ball

Diagram No. 18 on the diagram is evident that lifts losers of the zone 3 cooked three balls, in the following proportions in : setter Zok "Bihać" one ball, the weight Zok "Modrica" one ball and setter Zok "Sloboda" one ball

Diagram No. 19- on the diagram is evident that there is no cooked balls by the defeated premier league setter from zones 4th

Diagram No. 20 on the diagram is evident that there is no cooked balls by the defeated premier league setter from zones 5th

Diagram No. 21- to diagram evident that there is no cooked balls by the defeated premier league setter from zone 6th

Zone in which losers setter are cooking

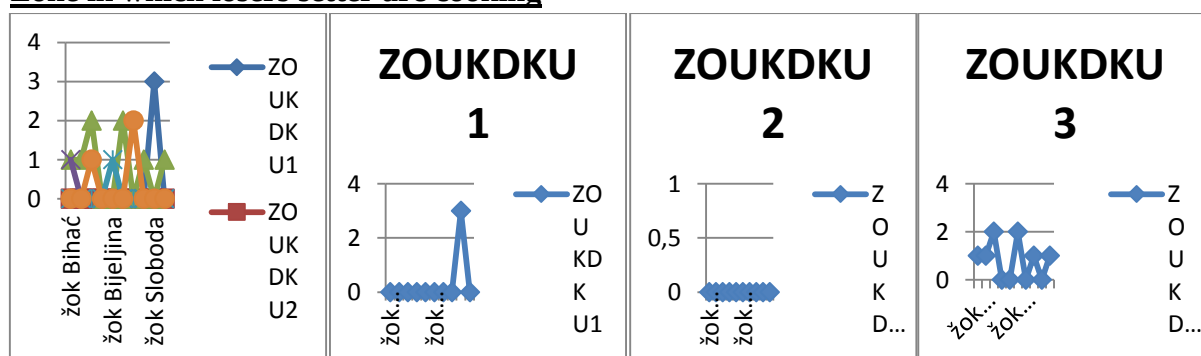


Diagram 22.

Diagram 23.

Diagram 24.

Diagram 25.

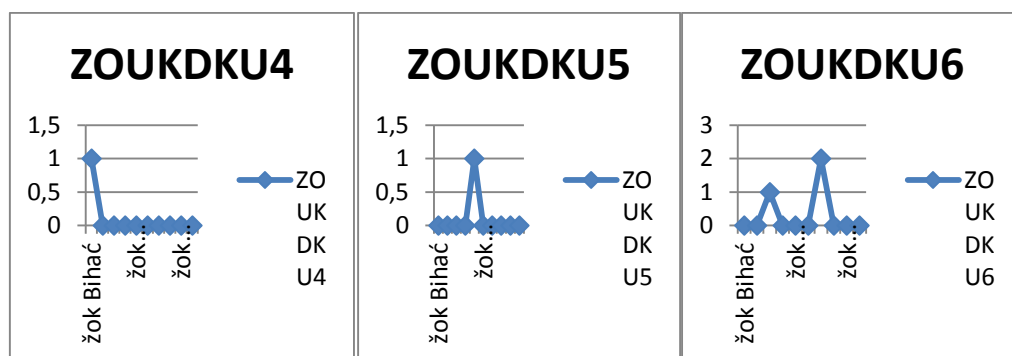


Diagram 26.

Diagram 27.

Diagram 28.

Diagram No. 22- on the diagram is evident that setter of losers team cooked in the following zones, zone 1 (three balls) Zone 3 (two balls), zone 6 (two balls)..

Diagram No. 23- on the diagram is evident that setter of losers team cooked in zone 1 (three balls), with the following ratio setter losing team Zok "Sloboda" was cooked by three balls in the zone first

Diagram No. 24 on the diagram is evident that there is no cooked balls by the defeated setter in zone second

Diagram No. 25 on the diagram is evident that defeated setter cooked in zone 3 (two balls), setter losing team Zok "Jedinstvo" one ball, and setter Zok "Modrica" one ball cooked.

Diagram No. 26- on the diagram is evident that defeated lifts cooked in zone 4 (the ball), with the following ratio: setter Zok "Jahorina" cooked the ball in zone 4

Diagram No. 27- to present diagram manifest that defeated setter cooked in zone 5 (the ball) setter Zok "Bijeljina" cooked one ball in zone 5

Diagram number 28- on the diagram is evident that lifts losers cooked in zone 6 (two balls): setter Zok "Sloboda" one ball and setter Zok "Jahorina" one ball.

Discussion

According to results form Diagram 1 the setters of the winning teams „cooked“ most of the balls to zone 3, one of the reasons is the transparency of the field. During the lifting of the ball the setter has to make a tactic of his action and take into account the lower and better blockers of the team if he/she wants the action to succeed (Janković,1995). The setter of the losing teams, according to diagram 15 also mostly cooked from zone 3 and zone 2. According to results of diagram 2 the setters of winning teams didn't „cooked“ from zone 1 because the opposing would have enough time to provoke a combine attack. On diagram 16 which is about losing teams it is visible that setters of the losing teams didn't „cooked“ from this zone.

The results of diagram 3 show that the setter of VC „Sloboda“ „cooked“ most of the balls from zone 3. This individual action proved as successful because the middle player has enough time to pretend moves and confuse the opposing team and the setter has time to overview the opposing teams schedule and to „cook“ into blank space, a big benefit is that the setter is left-handed (Đurković,2007). On

diagram 17 which is about losing teams it is visible that setter “cook” into zone 2 when they have a weaker middle blocker and seek attention of the opposing blocker and give space to the middle blocker to attack.

According to results of diagram 4 the setter of the winning team “cooked” most balls from zone 3. The space of zone 3 is called ideal for setting the ball, because of good developed peripheral view of the setter, a big role is also the role of the middle player who fakes moves. On diagram 18 which considers losing teams, it is visible that most balls and points (3 of them) were “cooked” from zone 3.

The results of diagram 5 show that setter didn’t “cook” from zone 4 because of differences in height and distance of the ball and net (Janković,1995). Diagram 19 shows that none balls were “cooked” from zone 4 by losing teams.

According to results of diagram 6 setters from zone 5 didn’t “cook”. The reason is because the zone 5 is located in the second row and if he receives a reception from the digger he/she has to make an adjusted lifting to the corrector in zone 1 or 6. Diagram 20 shows that setters of losing teams didn’t “cook” from zone 5.

The results of diagram 7 show that the setters of the winning teams didn’t “cook” from zone 6. The reason reflects in the fact that zone 6 is located in the second row and if the setters gets the ball from the digger in zone 6 he/she makes a corrected lifting above the head to the corrector in zone 1, but in most cases the ball ends as an attack in zone 4. This makes an opportunity to the opposite block to block the ball. On diagram 21 it’s visible that the setters of the losing teams didn’t “cook” from zone 6.

According to diagram 8 the setters of the winning teams “cooked” most of the balls to zone 3,6 and 1 also into zone 5 and 2 . The setter before the main action has to coordinate the way of the ball after receiving and serving the ball, that depends of the position of the setter(Đurković,2007). Analysis of the parameters to the efficiency of the game in rotation. Diagram 22 shows the setters of the losing teams who cooked mostly to zone 1,3,6,4,5.

The results of diagram 9 show that the setters of winning teams “cooked “ two balls to zone 1. The primary reason was the bad schedule of opposing players who left zone 1 unprotected. On diagram 23 shows that the losing setters “cooked” three balls.According to results of diagram 10 the setter of VC “Sloboda” has “cooked” one ball to zone 2. The primary reason is the good feint of the middle player who faked the opposite team and the block wasn’t connected. On diagram 24 it is visible that none ball was “cooked” to zone 2 from losing teams.

According to results of diagram 11 the setters of the winning teams “cooked” most balls into zone 3 . The zone 3 is also called well, the zone protects itself according to the system of protection, it’s the most divided zone for “cooking” (Janković,1995). It is the zone where the middle blocker who during the game follows the middle player of the opposing team and connects the block from zone 4 or 2, other players are focused on attack and don’t pay attention to the setter. Diagram 25 shows that the setters of the losing teams “cooked” two balls into zone 3, reason is that the middle blocker didn’t pay attention (Janković,1995) The result of diagram 12 show that only one bal was „cooked“ to zone 4.

„Cooking“ of the second ball to zone 4 will make the attack harder, because the shooter will receive the ball and the preparation will be harder. Diagram 26 shows that one zone was „cooked“ to zone 4. According to results of diagram 13 only one ball was „cooked“ to zone 5. „Cooking“ to zone 5 is usual because the libero and best defense play of the Premier League is organised in zone 5. Diagram 27 shows that the setters of the losing teams „cooked“ one ball to zone 5. Diagram 14 shows that the winning teams „cooked“ four balls into zone 6. „Cooking“ to zone 6 on the fourth meter of the field is the easiest way, this area is called well and is often used by teams that don't have a defense system. Diagram 28 shows that the setters of the losing teams „cooked“ two balls to zone 6.

Conclusion

Statistical analysis shows that the setters of both, winning and losing teams achieved

most direct points through „cooking“ of the second ball from zone 3, the most frequent zone was for the winning teams zone 3 and for the losing teams zone 1. Every setter should have its own tactic of „cooking“ based on basic tactical skills, advice is cooking from zone 4 and 6 if players are smaller, zone 3 is suggested if the opposing blocker is effective and fast. The key of a direct point is the surprising factor of the blocker. The biggest mistake is bad anticipation of the blocker and slow reactions. Individual actions of the blocker shouldn't be used that often because its main purpose is to surprise. The ball should be fast and strictly sent to one specific zone. For the setter to make direct points in individual actions the training on situational moves of the opposing blocker is mandatory also the practise of explosive reactions of the legs.

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KOMPARATIVNA ANALIZA SITUACIJSKE EFIKASNOSTI ŽENA U ODBOJCI EKIPA UČESNICA U GRAND PRIX 2013 I PREMIER LIGE BOSNE I HERCEGOVINE

Sažetak

U ovom radu o odbojci kao dinamična i zahtjevna igra koja pokazuje sposobnosti igrača i svoje tehničke, taktičke i uslovne pripremljenosti. Statistički podaci pokazuju pojedinačne rezultate Setters u oba, pobjednik i gubitnik tima. Uzimajući u obzir da su bosanski Premier lige za žene u odbojci nema rezultate na evropskoj sceni, rad obrađuje podatke o igračima u Bosni i Hercegovini s ciljem rezultate koji će imati značaj u modeliranju i predstavlja proces obuke za Setters je.

Ključne riječi: komparacija, odbojka, timovi.

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MOTIVATION OF EMPLOYEES AT THE FACULTY OF SPORT UNIVERSITY "UNION"

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Original scientific paper

Summary

Employee motivation represents today significant segment of business, on the individual level as well as on the corporate level. Business environment is changing constantly so corporations have to implement business development innovations. Every change carries a risk since employees have to change their working habits, adapt to a new environment and prequalify or educate themselves further more. Research was conducted based on Faculty of Sport, Union University, where the goal of the research was to determine if employees have a role in better customer service and also if the lack of motivation affects employees performance. In addition, it was important to determine if faculty invests in further employees' education and training as a form of motivation. Results of the research showed important differences in responses regarding the training of employees on the management level and also from the faculty employees.

Key words: *motivation, environment, research, education, results*

Introduction

The modern world is characterized by rapid change, which must correspond to the organization, as well as individuals who are their integral part. Management following management environment, creates and modifies the internal characteristics, both in terms of resources and objectives of the work and in terms of demands to employees. People with their specific characteristics, are not predictable and cannot be viewed objectively as I can perceive material resources for work. For

this reason, much more effort is invested in planning and forecasting of the human factor, given that the human factor is the driving force of any business organization.

In modern countries, most businesses believe human resource management investment that enables the integration of business plans and skills of employees in order to achieve these objectives in the category of economic growth, products and services. Today, there is almost no organization oriented towards success, and that does not take into account the

motivation of employees. The key is not only to "know how" but also for modern careers employees is to "know why" and "know who" as well. Employees that are planning career can no longer rely only on the organization, but on themselves to manage their development and their career. The concept of career increasingly replaces the concept of a job. Job is a short time perspective that determines the organization in order to meet organizational needs, while long-term careers (life) is a time perspective that determines an individual, and unites individual and organizational interests and needs.

Careers and its development are important, not only for employees but also for the organization. The progress is one of the basic ways of motivation of employees. The concept of career demands of the organization is more concerned with individual interests and goals of employees to achieve organizational success and development. Individual career goals must be related to the strategic development goals of the organization. The organization needs to align its infrastructure so that its vision, mission and goals of development are visible and clear for each of its individual. It needs to realize that these are the factors that most greatly motivate employees towards achieving both individual and organizational goals.

Career definition as a motivational employees mobilizers

The word career is now used in various forms in everyday speech. Many careers are understood in the traditional way, considering that only applies career advancement at work, that is worth something in a particular area of business,

that leads to a better standard of living or status in a society. According to modern concepts, all people have a career, it does not refer only to the elite society. Career is a dynamic aspect (sometimes progressing, sometimes it stays in the same job, change your job, etc.) and it does not just mean progression. Career applies to everything a person does, not only at the job. It includes education, family, leisure time and takes almost whole life as long as a person is active.

Careers can be defined as a result of the individual's family and social life, working down the role of the individual, the development of individual learning and work throughout life. Torrington, Hall and Taylor [1] define a career as a determinant of individual professional development, or individual professional ups and downs during their working life. At the same time, it is understood as a series of related or unrelated activities, behaviors, attitudes and aspirations of value and the like.

Probably the most popular definition of Hal [2] is to which career -Individual observed sequence of attitudes and behaviors associated with the experience and activities related to the work during a person's life, career or make changes in values, attitudes, motivations that occur as a person becomes older. The goal of advancement is common when it comes to the individual and organization innovation and socialization. The individual seeks to develop their careers through innovation, and business innovation system sees his professional advancement. Through socialization of the individual is successfully involved in social groups and hopes to eventual participation in the management, organization and thus

achieves the ability to complete the achievement of strategic objectives, better organization, a stronger internal cohesion and successful business results [3].

Planning of human resources and motivation

The development model of planning, management and development of human resources makes it possible to achieve the consolidation of organizational development as well as personal development. Organizational and individual needs of development and planning consists of two sides of the same problem. Organization through the practice of human resource management is developing a series of activities aimed at their connectivity and synchronization - from job analysis, recruitment and selection, to counseling in career development and its planning in cooperation with individuals. Through the functions of human resources managers, organizations should directly engage and promote development of individual careers because this way there is an optimal connection to its needs with individual needs. Career development is a process which takes place during the implementation of action plans related to a career. Inputs from both the individual and filling out the plans are converted into different development programs [3].

According to Sajni [4] there are nine career goals that explain the way in which each individual decides about his career and through which one can see the whole view of personality such as: technical competence, managerial competence, security and stability, creativity, autonomy and independence, the basic identity, providing service to others - the need to

help others, influence and control, and variety. If you review directions in which it can move individual's career, it is possible to determine how to motivate him in the desired direction of development.

Role of organizations in the process of motivation

Unlike personal perception of motivation, which is based on their own understanding of personal potential, motivation and attitudes, organization approaches to employees primarily in terms of their needs and strives to connect individual potentials with their needs. The organization seeks to know what are the motivational factors that mostly influence the motivation of employees.

For an organization is very important that employees possess information concerning the organization, because only if they know why they are doing and who are the ultimate outcomes of their work, employees will be motivated adequately. Also the alignment of organizational and individual goals and interests, it is essential that an organization or personnel department, have all relevant information about employees, their potential and development goals.

An important role in motivating employees have immediate superiors. They are a key factor in identifying and linking individual needs, interests and ambitions in relation to employee development and organizational needs and opportunities that the organization provides employees [5]. Managers often find that for planning and career development human resources sector is responsible. They are poorly supported career development and are often driven by their own interests to retain

good workers, rather than to encourage their development elsewhere. In the process of planning and staff development managers can occur in the roles of coach and advisor [6].

Managers must motivate employees to develop individual careers. This motivation is implemented through a series of activities which should have a positive effect on the employees in the selection and career development [7], among others: to lessen the shock of reality, assign challenging work, to present a realistic picture of the job, allow periodic rotation of their jobs, assessment of success with career development, encourage career planning, setting high demands and expectations. Successful leaders are those employees that put high demands, high expectations, have confidence in subordinates and provide them with the necessary support. These are the key prerequisites for the success and development of subordinates. There is one statement that applies to employees, for whom this is their first job, and that is that their first managers must be the best in the organization [8].

Career has several phases [9]:

1. Preparation and finding a job – up to age of 25. This is the phase of getting a formal education, basic professional orientation, basic goals, choice of the first job.
2. Early career- up to age of 40. This is the phase of job learning, choice of job position, knowledge and skills improvement and further development necessary for that job.
3. Mature career-up to age of 55. This is the phase of career assessment, goal adjustment and accomplishment.

4. Late career-up to age of retirement. This is the phase of settling down, maintaining and preparation for retirement.

Every phase in a career has specific methods that can be used to motivate employees. Every career investment through education and further training represents one of the main motives of the employees up to the age of 40.

Case study at the Faculty of Sport, Union-Nikola Tesla university

Faculty of Sport, Union - Nikola Tesla university, was founded in 2012 as the first higher education institution in Serbia whose main area is sport. The mission of the Faculty is to sports organizations and clubs, educational, cultural and media institutions, as well as the growing sports market in Serbia and beyond, offering academically educated and highly-specialized professional sports staff, with all the competencies for future activity, quality and capability to contribute to the development of sports, satisfying the highest standards. To this end they formed the study programs of undergraduate studies (<http://www.fzs.edu.rs/fakultet-za-sport/o-fakultetu>).

The aim of this research is to show the structure of employees from different sectors, position, experience, gender and age, as well as their level of motivation. The study included 50 people employed in this educational institution. In consideration were taken motivational factors used by the organization as well as the statements of several employees from different sectors and positions. Public opinion has shown that employees have a good business climate in the organization. Faculty of Sports is the leader in the field

of academic education. In order to increase employee satisfaction and raise their motivation for the work, this study is done that includes employees of different sectors and positions, years of service and experience. Questions given to them were related to their perceptions of the current situation in the company and motivational factors that the company applies. Based on these interviews conducted with several employees of different sectors and

positions in companies (partners, leaders) we can see their results that are summarized at the end of this chapter.

It is interesting that, although the introduction of names was not mandatory, 23 of 42 subjects entered their name, which shows the confidence that employees in their organization as well as a stable attitude of the employees to stand behind their opinions.

Table 1 and Graph 1. Gender division of employees

Gender	Frequenc	Percentage
Male	32	64
Female	18	36
Total	50	100

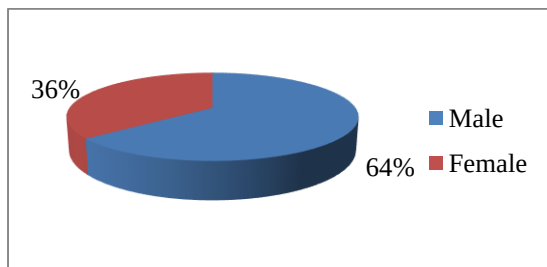
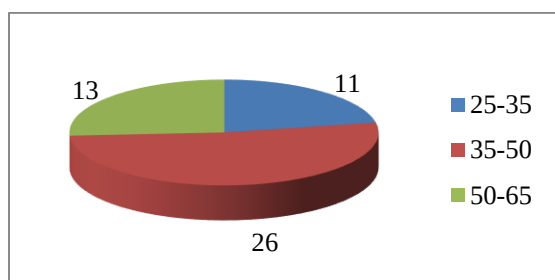


Table 2 and Graph 2. Age of participants

Age	Frequency
25-35	11
35-50	26
50-65	13
Total	50



Faculty employs 32 males and 18 female employees, in the percentage of 64% i

36%. The largest group of employees belongs to the age bracket of 35 – 50 (26).

Table 3 and Graph 3.Employees level of education

Level	of Frequency	Percentag
High school	5	10
College	5	10
University degree	40	80
Total	50	100

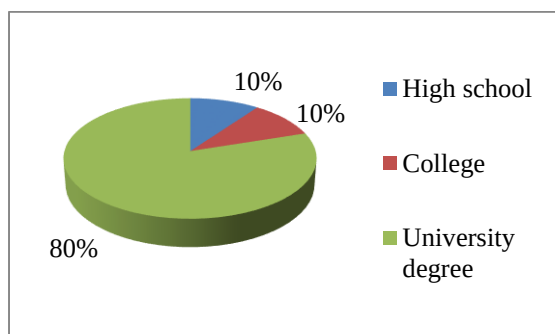
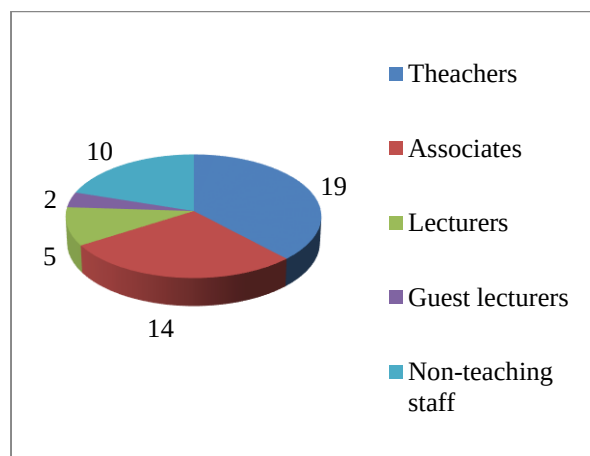


Table 4 and Graph 4.Employees job placement

Position	Frequency
Theachers	19
Associates	14
Lecturers	5
Guest lecturers	2
Non-teaching staff	10

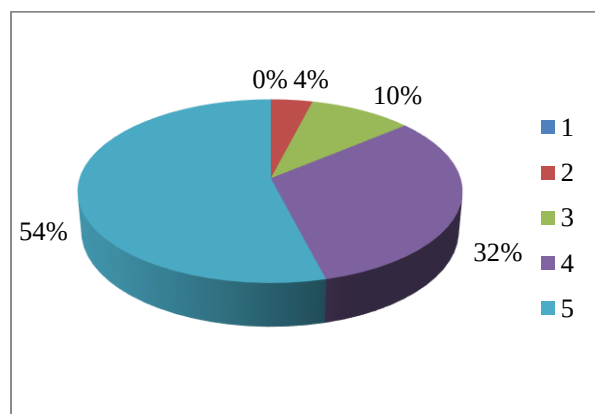
Total	50
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The largest percentage of employees, 80% or 40 of them have a university degree. Non-teaching staff represents 20% of the group.

Table 5 and Graph 5. Evaluation of working space

	Frequency	Percentage
1	0	0%
2	2	4%
3	5	10%
4	16	32%
5	27	54%

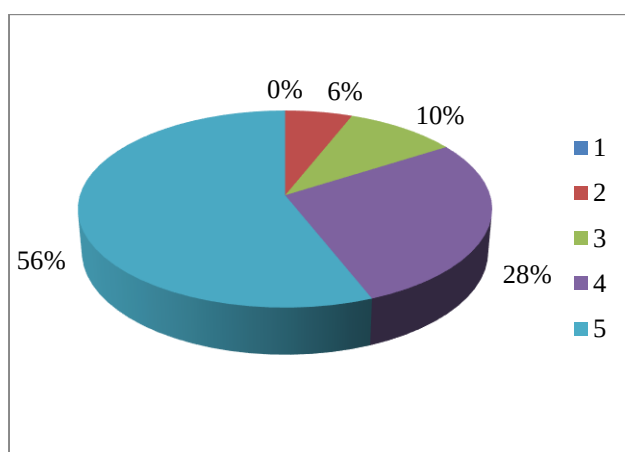


Evaluation of working space as a motivational factor shows a high level of satisfaction, considering that Faculty of sport is located in a prime location in New

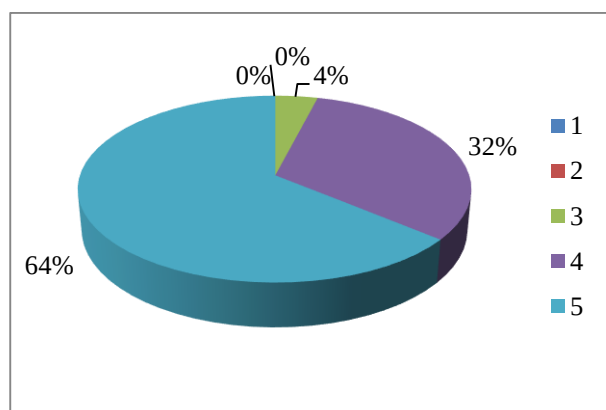
Belgrade, close to all main streets and business centers.

Table 6 and Graph 6.Interpersonal relations between superiors and workers

	Frequency	Percentage
1	0	0%
2	3	6%
3	5	10%
4	14	28%
5	28	56%

**Table 7 and Graph 7.**Interpersonal relations (on the same level)

	Frequency	Percentage
1	0	0%
2	0	0%
3	2	4%
4	16	32%
5	32	64%

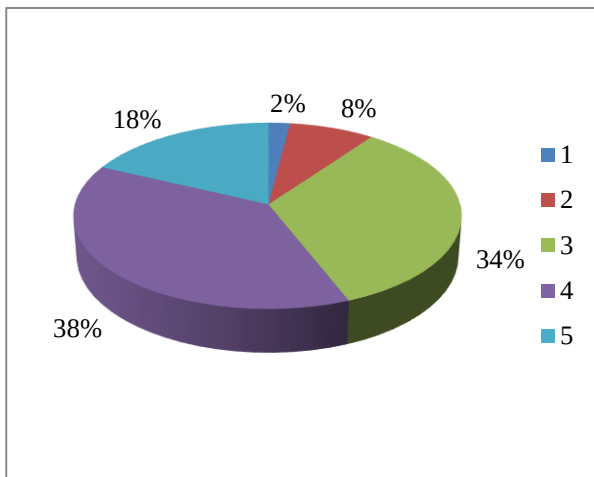


Interpersonal relations are evaluated as excellent on the same employee level, but much weaker on the vertical level between

employees and their superiors. Relations within the team are also on the high level.

Table 8 and Graph 8.Level of employee motivation

	Frequency	Percentage
1	1	2%
2	4	8%
3	17	34%
4	19	38%
5	9	18%



Satisfaction of the working space and interpersonal relations was very high, while motivation was graded on a medium level, but with the tendency to improve. Even though Satisfaction of the working

space and interpersonal relations was very high according to research, employees evaluate their motivation with an average grades, while of them or 18% evaluated on the top level.

Table 9 and Graph 9. Employee involvement in decision making

	Frequency	Percentage
Yes	13	26%
No	9	18%
Occasionally	22	44%
Doesn't know	6	12%

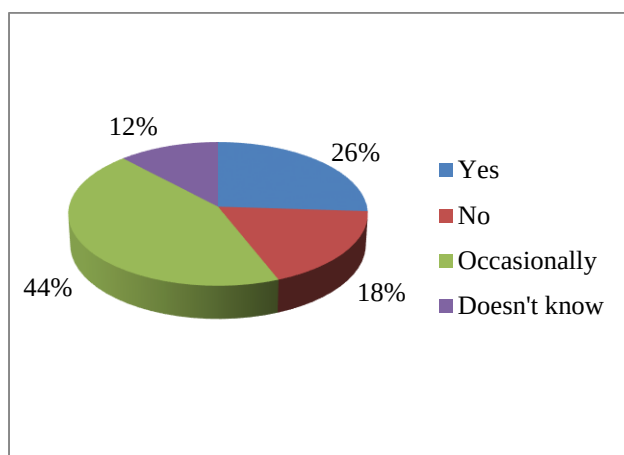
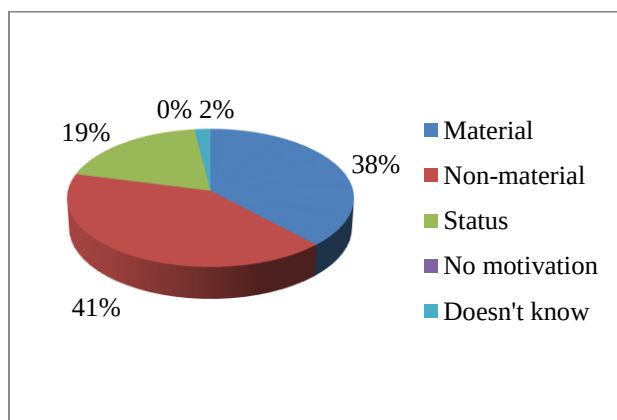


Table 10 and Graph 10.Forms of employees' motivation

	Frequency	Percentage
Material	32	38%
Non-material	35	41%
Status	16	19%
No motivation	0	0%
Doesn't know	2	2%

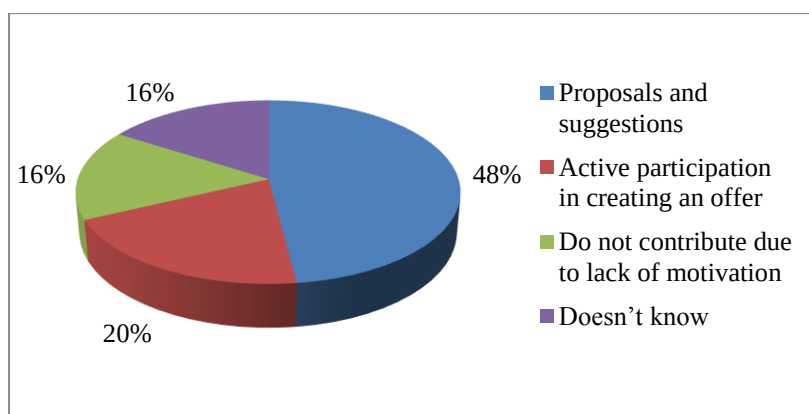


Research showed that material aspect is not a deciding factor of high productivity and that employees see motivation as a concept. They rated their involvement in

the decision making on a high level, therefore showed their belief that Faculty of Sport values its employees.

Table 11 and Graph 11.Contributing to employees' service improvement

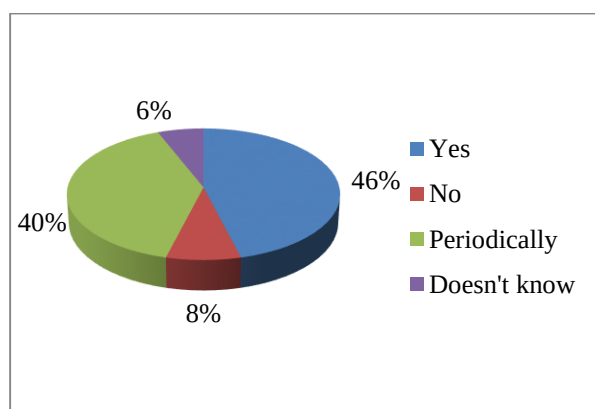
	Frequency	Percentage
Proposals and suggestions	24	48%
Active participation in creating an offer	10	20%
Do not contribute due to lack of motivation	8	16%
Doesn't know	8	16%



Similar to the previous case, employees rated their role in service improvement on a high level.

Table 12 and Graph 12.Evaluation of investment in education

	Frequency	Percentage
Yes	23	46%
No	4	8%
Periodically	20	40%
Doesn't know	3	6%



Trainings that the Faculty provides to its employees are directly related to productivity improvements and they are

Conclusion

Motivation of employees is one of the main driving factors of employees towards achieving their own business success, which is then transferred to the company's success. Forms of motivations are different, and one of today's current success is the leading career management, which is a prerequisite for education.

The research conducted at the Faculty of Sport, Union university, included subjects of both sexes, of which the highest percentage is in the early stage of career, meaning that individuals can contribute to the long term success of the company, if adequately motivated. The largest number of employees that were interviewed have a university degree. Results showed that the majority of respondents as a form of motivation prompting a material factor, while differences in responses between the two groups of respondents (management, employees) is not statistically significant, meaning that the predominant form of motivation is material. It also shows that the majority of respondents believe that the organization is investing enough in the promotion and education of employees. However, comparative statistics is there to determine whether there is a significant difference in responses. Management in higher percentage believes that the company is investing in improvement and education, while this is not the case with employees. Intangible motivation in the form of investment in employee education can contribute to a long-term individual and organizational progress of the Faculty.

specific trainings. Majority of employees sees these trainings as a very strong motivational factor.

Motivation in today's business conditions in organization should not be left aside. Tangible motivation is effective in the short term, but long-term intangible factors (especially increasing competence) are much more significant and lead to long-term positive effects for the individual as well as the organization.

Management revolution is on the surface of the business world with managers who need to have the power of the supported knowledge, skills and personal characteristics. The process of multiplication of new multidisciplinary management knowledge and skills is a dynamic process that provides an autonomous development of each company. Managers as representatives of management and the company must be able to showcase sovereign authority of the person managing changes and processes. Changes have become so complex and dynamic that from their knowledge, skills and their effects on the economy and society depends largely on the fate of the world order. Human resources is an entity that is always at the beginning and the end of each story, because it certainly has the most long-term consequences for an organization. It is therefore very important, almost essential, choosing the right associates to devote enough time and quality. It is very important to the selection process devote enough attention though, as dr. IsakAdizes says: "The choice depends on the people by the people, it will never be perfect."

When it comes to people we know that there is a core of common human traits,

which a more liberal interpretation of that can be called "human nature". If you violate the essence of human nature by making models and systems that rely on artificial and not natural to human needs, we will not be able to successfully manage in the long run, because sooner or later comes to conscious or unconscious "rebellion" from the inside - from the very essence of our nature. Human values and meaning of human life are associated with this core. Also, the latest findings in the field of human values, the development of consciousness and the functioning of the human brain are providing us with valuable insights and tools with which we

can get through to the most important drivers of human activities and to use them in a positive way. Thanks to that we can with great certainty analyze specific demands of jobs and the characteristics of the individuals who work in the industry. We all develop and grow with the willpower and desire for success. Some employees at the Faculty of sport represent the bloodstream, that gives the stability, security and strength to the Faculty providing good results and satisfied customers, and every new drop of creativity creates dynamics of continual growth.

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MOTIVACIJA ZAPOSLENIH NA FAKULTETU ZA SPORT UNIVERZITETA „UNION“

Sažetak

Motivacija zaposlenih danas predstavlja zanačajan segment rada i poslovanja kako pojedinca, tako i organizacije. Okruženje se menja, pa organizacije moraju da uvode novine u poslovanje. Svaka promena sa sobom nosi određeni rizik, samim tim što zaposleni moraju da se menjaju i adaptiraju, menjaju svoje navike i dodatno se edukuju. Istraživanje je sprovedeno na primeru hotela jedne srpske firme, gde se nastojalo doći do odgovora da li zaposleni imaju

učesća u poboljšanju ponude i da li motivacija predstavlja jedan od razloga za nedovoljno angažovanje zaposlenih. Takođe se nastojalo utvrditi da li organizacija ulaže u edukaciju i usavršavanje zaposlenih, kao oblik motivacije. Rezultati su pokazali značajnu razliku u pogledu odgovora o usavršavanju zaposlenih od strane uprave i samih zaposlenih u preduzeću.

Ključne reči: motivacija, okruženje, istraživanje, edukacija, rezultati.

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EFFECTS OF MYOGENIC PARAMETRES IN WATER POLO REALISED IN DIFFERENT REGIMES OF ACTUAL MUSCULATURE

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Original scientific paper

Summary

A sample of 25 water polo players of different qualitative level was used to estimate the impact of myogenic abilities and the quality of „scissor“ kicks on the power and precision of throwing a water polo ball in the conditions of optimal state of actual musculature, and after the appearance of local fatigue. The assessment of myogenic potentials of selected water polo players was performed by the electronic dynamometer, which, in a specific pool test, registered the force exerted during simulated water polo shooting. The quality of „scissor“ kick was indirectly estimated with the help of time spent in the position of jumping out of the water, and the power of elevation was equated with the length reached. Acquired results showed that the maximum force of actual musculature was defined as a significant predictor of the precision of throwing (passing and shooting). Regression analysis proved a significant positive effect of myogenic abilities on the successful performance of water polo elements. In addition, a great impact of „scissor“ kicks on the quality of water polo was proved, justifying the importance ascribed to these elements in modern training.

Key words: max. force, precision, throwing, scissor

Introduction

This research is the result of empirical study of transversal character. A sample applied in this study is characterised as a group sample, since all the participants come from the same club. All 25 participants are active senior members of Water polo club “FORTUNA BORAC” from Banja Luka. The participants are all male, between 22-26 years of age, of normal state of health.

SAMPLE OF VARIABLES AND METHOD OF THEIR MEASUREMENT

Predictory variables:

1. Endurance of participants in „scissor“ position
2. Assessment of maximum force in water polo shooting

Criterion variables

1. Length of water polo ball throwing
2. Ball throwing in the state of local fatigue

3. Estimation of precision
4. Estimation of precision in the state of local fatigue

In terms of the second predictor “endurance of the participant in „the scissor“ position“ as a highly important segment of a modern water polo player, the participants were asked, at the sound of whistle, to raise their arms/elbows/ above the water and to remain in the position as long as they could without moving the whole body but lower extremities. The variable was measured with a classic Rucanor stopwatch. The moment the participant lowered his elbow into the water the test was terminated, and the result recorded in minutes i.e. seconds. Estimation of maximum force in water polo shooting was realised with the help of a modern electronic dynamometer Globus ergo system Tesyst 1000 supported by a computer/Lap top/ HP. The participants completed a moving task in natural situation conditions – the pool, being allowed three/3 trials or repetitions. The computer recorded every trial, but the best result achieved in individual contractions was counted. Criterium variables were tested and estimated as follows: the participant had three/3 trials or repetitions to, in water polo position, throw the ball in length the best they could in situation conditions/pool. Three balls were thrown, corresponding to the numbers of trials, and the best result or throw length was counted. Then, the participants were asked to simulate a water polo shot, in the pool/natural conditions, by being given „a rubber ball“, which is normally used in the

warm-up training phase, which placed them into the state of local fatigue due to multiple contractions of shot simulations. The procedure was continued until the participant was „called off“ meaning he was not able to perform contraction or moving task of shot simulation, i.e. when he was in the state of local fatigue, he was given the ball and requested to repeat the procedure of throwing the ball in length. The best result/the longest shot was counted.

APPLIED METHODOLOGY

Applicative statistics programme SPSS was used for mathematical processing and graphical illustration.

In terms of comparative statistics, discriminant and causal procedures were applied. Discriminant procedures were used for testing the significance of differences between average values, whether those were three subsamples or statistical series resulting from repeated measurements. Repeated measurement represented measuring the same motoric task repeated in different conditions – first without, and then under the influence of fatigue.

The impact power of certain hypothetical predictors on dependent variables was tested by regression analysis, when, in order to get a more complex image of the nature of tested relations, three variants of regression analysis were used – linear, logarithmic and exponential.

RESULT INTERPRETATION

Effect of maximum force on the precision of ball throwing before and after fatigue

The same conclusions presented in terms of the effect of myogenic abilities on the intensity (length) of throwing, can be drawn for the effect of force and power on the precision of throwing, as much under conditions prior to fatigue, as in the course of throwing under conditions when actual musculature is significantly fatigued. Henceforth, maximum force of actual musculature is identified as a significant predictor even for the precision of throwing (passing and shooting). Regression analysis proved a

significant positive effect of myogenic abilities on successful performance of certain water polo elements. In all three regression models (linear, logarithmic and exponential) extremely low values of realised level of significance were achieved (Tables 1 and 2), while graphical models of regression lines and their positions in relation to the arrangement of regression points had again small asymptotic deviations at their ends (Images 4 and 5).

Table 1 Results of three regression analysis models (linear, logarithmic and exponential) that tested the effect of maximum force on the precision of ball throwing prior to fatigue

Model	Constant	b1	R ²	F	Sig.
Linear	-1,802	0,036	,598	34,154*	,000
Logarithmic	-65,970	13,171	,593	33,522*	,000
Exponential	2,469	0,004	,353	12,535*	,002

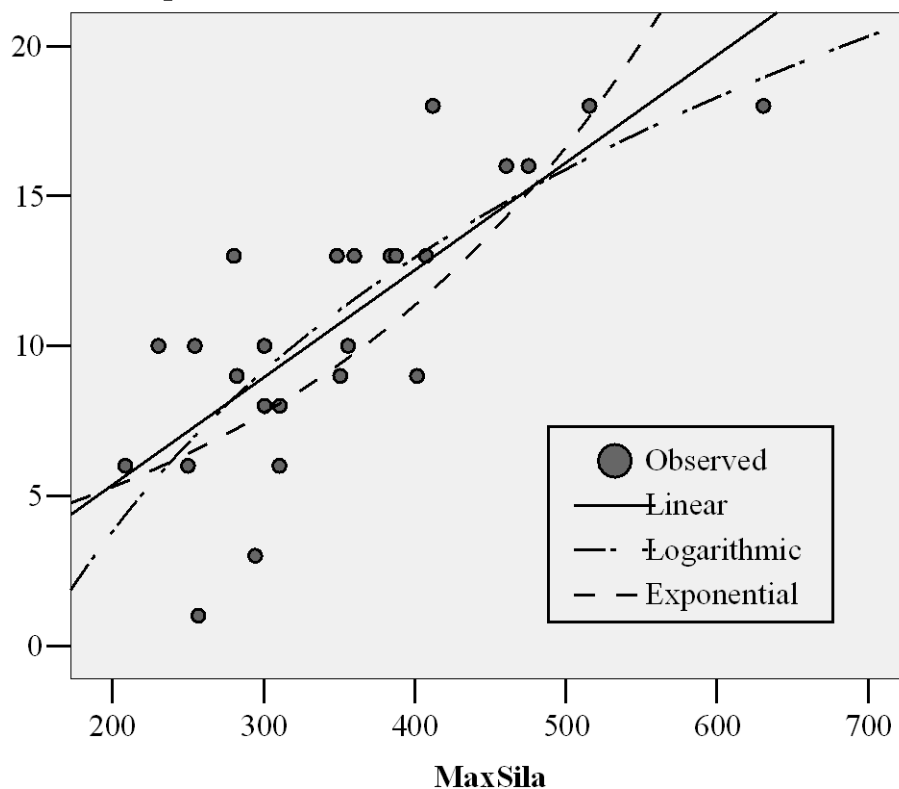
Preciznost pre zamora

Image4 Results of three regression analysis models (linear, logarithmic i exponential) that tested the effect of maximum force on the precision of ball throwing prior to fatigue

Table2 Results of three regression analysis models (linear, logarithmic i exponential) that tested the effect of maximum force on the precision of ball throwing after fatigue

Model	Constant	b1	R ²	F	Sig.
Linear	0,896	0,023	,369	13,434*	,001
Logarithmic	-39,900	8,360	,372	13,648*	,001
Exponential	2,905	0,003	,349	12,312*	,002

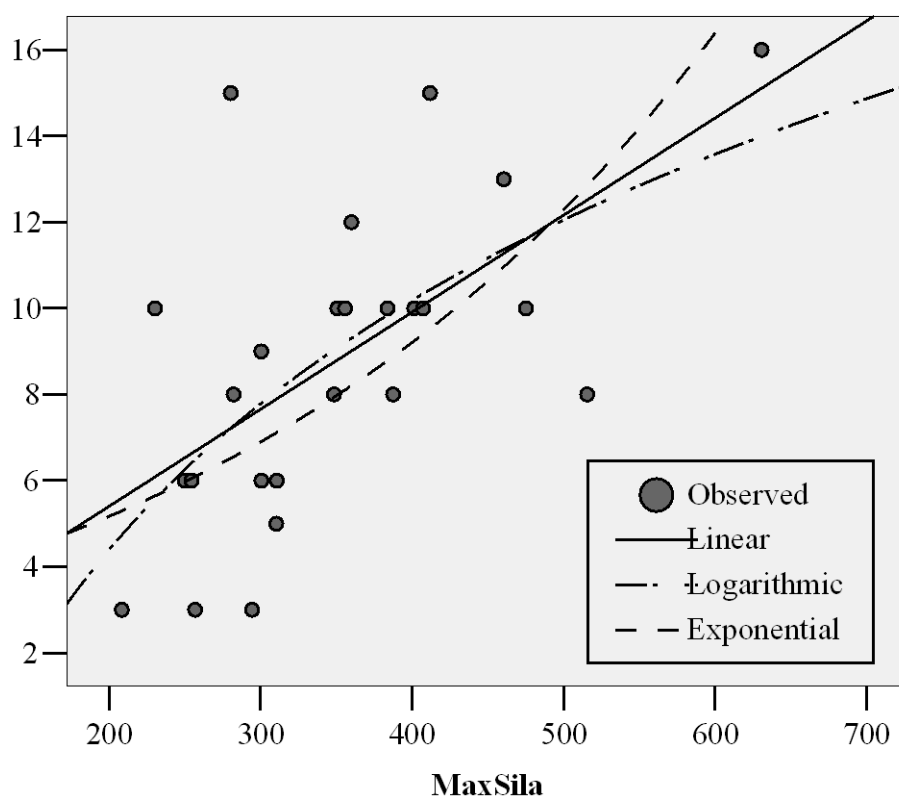
Preciznost nakon zamora

Image5 Results of three regression analysis models (linear, logarithmic i exponential) that tested the effect of maximum force on the precision of ball throwing after fatigue

The effect of „scissor“ kicks on the intensity (length) of throwing prior to and after fatigue

Water polo element, popularly known as „scissor“ kick, has been valued by a number of leading trainers as one of the most significant indicators of the technique quality. Special attention is paid to this element from the first water polo steps, and is further improved throughout the water polo career. Thus, the scissor kick has been given special attention in this study. The quality of its performance was indirectly estimated with the help of the time needed for the participants to withhold their jump out of the water.

Gained results were treated as dependent variable in regression analysis, and their effect on dependent variables (intensity of throwing prior to and after fatigue) tested with the help of linear, logarithmic and exponential model. Gained data are presented in

Table3 and Images6 and 7.

High effect of „scissor“ kicks on the results of ball throwing in length, prior to and after actual musculature fatigue, were confirmed by ultimately low levels of significance (Sig.) which almost equalled zero (last columns in

Tables 3 and 4). Thus, undoubtedly high effect of popular „scissor“ kicks on the quality of water polo was confirmed and the attention paid in modern training justified. However, this study could not answer the question of whether the scissor kick performance quality could be understood as the

result of good leg technique or the result of the power of actual musculature, making it the subject of some future study.

Table 3 Results of three regression analysis models (linear, logarithmic and exponential) that tested the effect of performance of scissor kick on the intensity (length) of ball throwing prior to fatigue

Model	Constant	b1	R ²	F	Sig.
Linear	15,144	3,394	,783	83,134*	,000
Logarithmic	10,790	13,515	,745	67,288*	,000
Exponential	17,966	0,113	,775	79,371*	,000

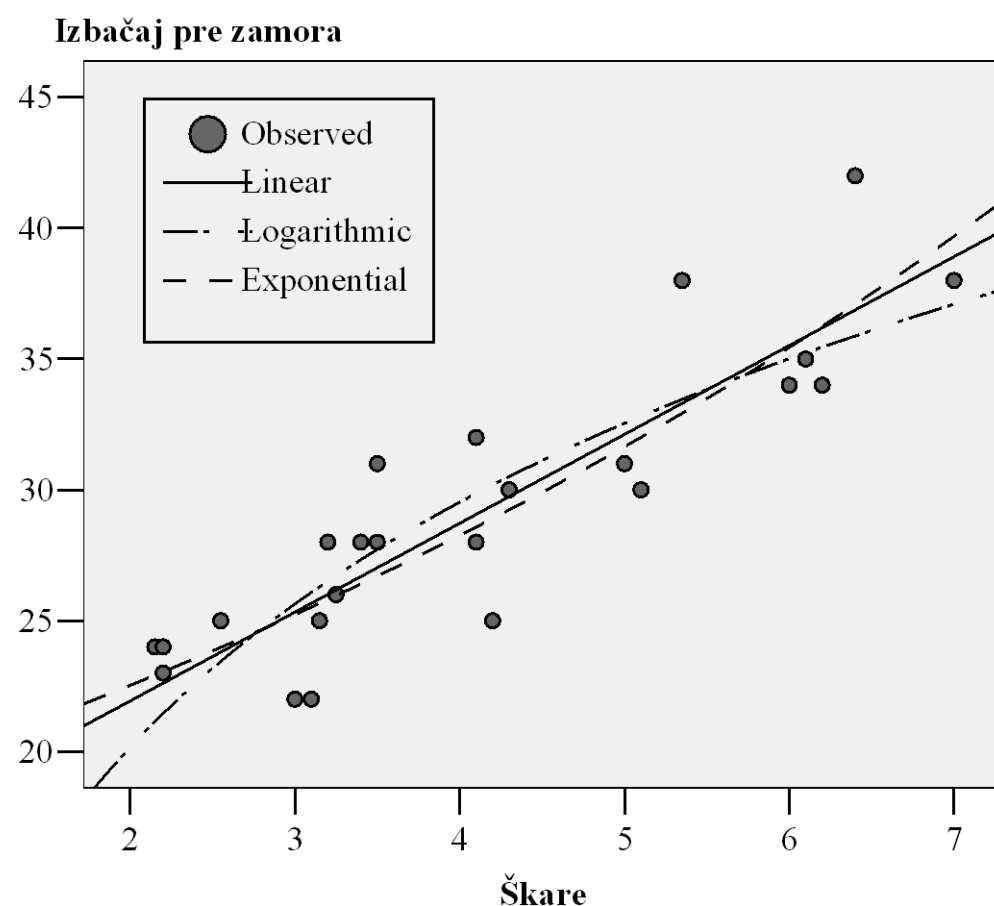
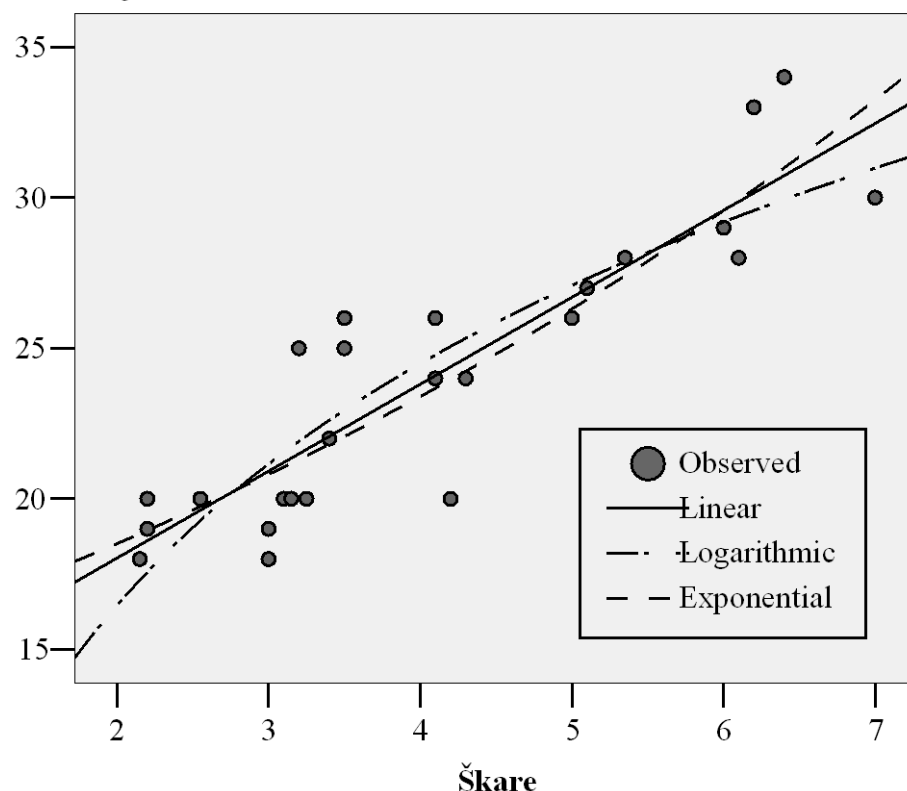


Image6 Results of three regression analysis models (linear, logarithmic and exponential) that tested the effect of performance of scissor kick on the intensity (length) of ball throwing prior to fatigue

Tabela 4 Results of three regression analysis models (linear, logarithmic and exponential) that tested the effect of performance of scissor kick on the intensity (length) of ball throwing after fatigue

Model	Constant	b1	R ²	F	Sig.
Linear	12,259	2,886	,796	90,002*	,000
Logarithmic	8,421	11,592	,771	77,544*	,000
Exponential	14,646	,117	,784	83,649*	,000

Izbačaj nakon zamora

Slika 7 Results of three regression analysis models (linear, logarithmic and exponential) that tested the effect of performance of scissor kick on the intensity (length) of ball throwing after fatigue

The effect of „scissor“ kick performance on the ball throwing prior to and after fatigue

The same conclusions presented in terms of the effect of „scissor“ kicks on the intensity (length) of throwing, can be drawn for their effect on the precision of throwing, as much under conditions prior to fatigue, as in the course of throwing under conditions when actual musculature is significantly fatigued. Henceforth, „scissor“ kicks are identified in this chapter as a significant predictor for

the precision of throwing (passing and shooting). Regression analysis proved their significant positive effect on successful performance of certain water polo elements. In all three regression models (linear, logarithmic and exponential) extremely low values of realised level of significance were achieved (Tables 5 and 6), while graphical models of regression lines and their positions in relation to the arrangement of regression points, as in previous cases, had small asymptotic deviations at the very ends (Images 8 and 9). All this clearly proves a high predictive value of „scissor“

kicks in the course of evaluating water polo players.

Table 5 Results of three regression analysis models (linear, logarithmic and exponential) that tested the effect of performance of scissor kick on the precision of ball throwing prior to fatigue

Model	Constant	b1	R ²	F	Sig.
Linear	2,082	2,126	,455	19,224*	,000
Logarithmic	-0,316	8,220	,409	15,891*	,001
Exponential	3,496	0,242	,308	10,251*	,004

Preciznost pre zamora

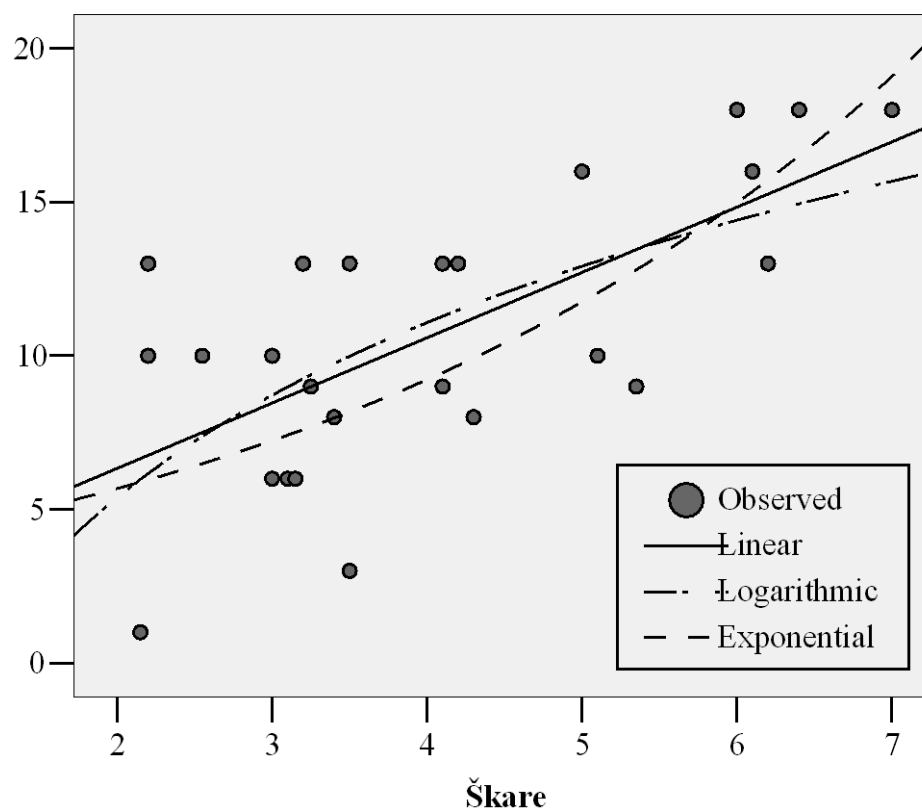


Image8 Results of three regression analysis models (linear, logarithmic and exponential) that tested the effect of performance of scissor kick on the precision of ball throwing prior to fatigue

Table6 Results of three regression analysis models (linear, logarithmic and exponential) that tested the effect of performance of scissor kick on the precision of ball throwing after fatigue

Model	Constant	b1	R ²	F	Sig.
Linear	3,827	1,218	,233	6,991*	,015
Logarithmic	2,543	4,644	,203	5,868*	,024
Exponential	4,144	0,161	,234	7,036*	,014

Preciznost nakon zamora

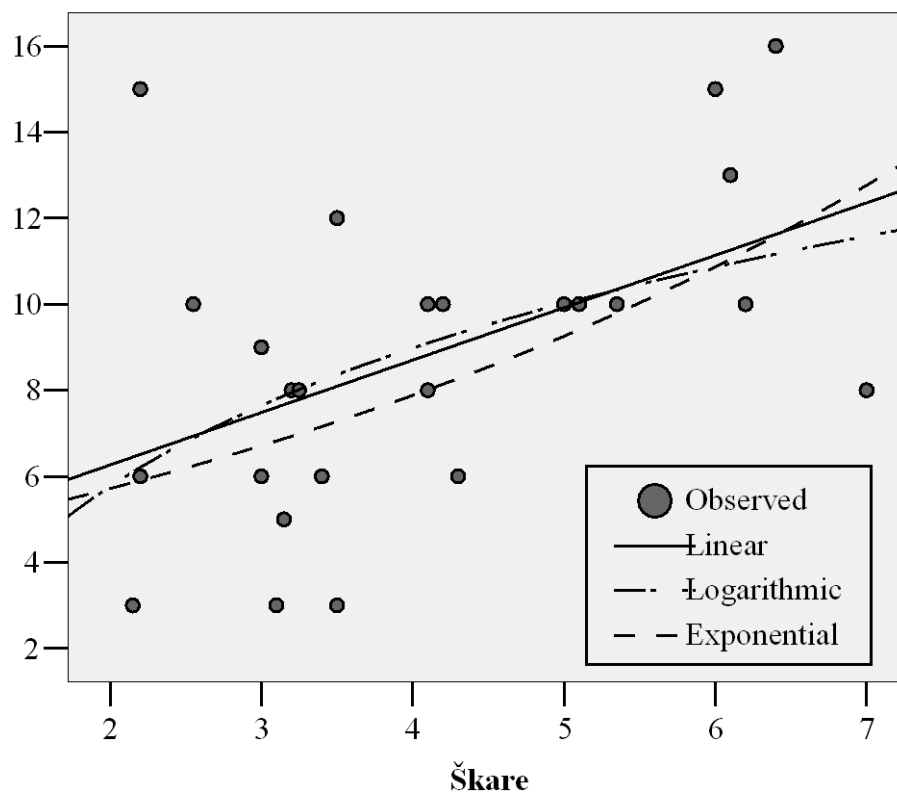


Image9 Results of three regression analysis models (linear, logarithmic and exponential) that tested the effect of performance of scissor kick on the precision of ball throwing after fatigue

CONCLUSION

Maximum force of actual musculature is identified as a significant predictor for both, the intensity (length) of throwing and the precision, in the condition of optimal state of actual musculature and in the state of local fatigue. Regression analysis proved a significant positive effect of myogenic abilities on the intensity of ball throwing. Gained results show that myogenic abilities must be accepted as a significant predictor of the intensity of ball throwing, prior to and after local fatigue of actual musculature. This finding is of great importance for water polo practicing since it helps the trainers to enhance the quality of their player, besides

improving the technique, by introducing specific power exercises. This study proved a great effect of „scissor“ kicks on the quality of water polo players justifying the attention paid to them in modern training. „Scissor“ kicks are identified as a significant predictor for the intensity and the precision of throwing (passing and shooting). Regression analysis proved their undoubted positive effect on the successful performance of water polo technique elements.

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EFEKTI MIOGENIH PARAMETARA U VATERPOLU REALIZOVANI U RAZLICITIM REZIMIMA AKTUELNE MUSKULATURE

Sažetak

Na uzorku od 25 vaterpolista različitog kvalitativnog nivoa izvršena je procjena značaja miogenih sposobnosti i kvaliteta „škara“ na jačinu i preciznost bacanja vaterpolo lopte u uslovima optimalnog stanja aktuelne muskulature, kao i nakon pojave lokalnog zamora. Miogeni potencijali izabranih vaterpolista procijenjeni su pomoću elektronskog dinamometra kojim je u specifičnom testu u bazenu registrovana sila tokom pokreta simulacije vaterpolo šuta. Kvalitet „škara“ posredno je procijenjen pomoću vremena provedenog u položaju iskoka iz vode a jačina izbačaja vrednovana je dostignutom dužinom, Na osnovu dobijenih rezultata bilo je moguće zaključiti da je maksimalna sila aktuelne muskulature identifikovana kao značajan prediktor za preciznost bacanja (dodavanja i šutiranja). Regresionom analizom je dokazan značajan pozitivan uticaj miogenih sposobnosti na uspešnost izvođenja vaterpolo elemenata. Dokazan je veliki značaj „škara“ za kvalitet vaterpolista i opravdan veliki značaj koji im se poklanja u savremenom treningu.

Ključne riječi: max.sila, preciznost, izbačaj, skare

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SPORTS AS ECONOMIC VALUE

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Original scientific paper

Summary

Modern sports, as we experience them today, have a huge impact on the worldwide economy. So, it is no surprise that major international sporting events like the Olympics or World Championships have a major impact on the economy of the host country. These economic effects can be positive or negative and can refer not only to the national or regional level, but the global level as well. International sporting events connect athletes and teams from around the world, but what is more important, these events provide jobs and bring tourists, which are the potential for economic growth and global visibility. In the business world, sports can be the best type of recognition through the many benefits offered by individual companies, such as sponsorships, branding, advertising sites and other marketing opportunities. Analyzing sports as an economic value, this article should demonstrate that sports have a significant impact on the economic development of the country. Based on the conclusions in this paper, future studies should focus more on quantitative research that can measure the exact extent of the economic impact.

Keywords: *sports, economy, sports industry, sports business, sporting events*

Introduction

Sports, as an important form of social life and social behavior, have a much wider and more complex role than they did in the past. Even in ancient Greece, in addition to perfecting sports, the objective was to establish a harmony between the "spiritual" and the "physical" in the human being.

However, under the influence of ideological and religious factors that bring about changes in basic social relations, and in particular with the advent of capitalism, sports experienced their complete transformation.

Mainly, the stronger progress of civil society, development of civilization which implies great discoveries and

innovations in the 19th century to a great extent contributed to the development and organization of a new way of life. In particular, this applies to the division of time: business hours or relaxation time or free time that is no longer a space where a man finds himself; it's the time that must be spent in any way, and sporting events and spectacles usually serve that purpose. (Koković, 2004; pg. 114). Today, we can say that sports are the most popular activity on the planet. By following and cheering, almost half of humanity of different gender, age, cultural level, different political and religious beliefs gets interested.

The turning point in the emergence of modern sports is definitely money. It led to linking of economics and sports, followed by the development of the sports market. The last decade of the 20th century definitely marked the association of sports and money where many business areas had a desire to connect with sports. Sports are seen as "organized work" which requires financial investment, and which is expected to generate profit under general economic conditions. In parallel, new processes commence in the most popular sports, such as satellite broadcasting of competitions and the ability for sports and athletes to earn, until recently, unimaginable amounts of money.

Without a doubt, sports can no longer solely be regarded as a simple pleasure through various forms of physical activity and competition, as sports have become activities of public interest that has an important place in every modern state. It is this reflection of the changing taste and lifestyle that

led to the fact that we are seeing an open commercialization of almost all sports today, especially through the emergence of new exciting extreme sports.

Sporting products (sporting event, sport's image, sporting brand, sporting service) because of their characteristics and peculiarities are incomparable to the products of any other industry viewed through its history, nature, structure and results they achieved. In a society of private property, commodity production and markets, sports become related to capital, professionalized and take on commercial characteristics (Koković, 2004; pg. 11). They fit into the society of competition and tournaments, carrying all those contradictions of the modern consumer society (mass production, meeting the mass needs, etc.).

That's why today's sports can only be understood if we understand the real economic relations in which the actors of sports participate, make decisions, operate, succeed or fail. Therefore, it is necessary to point out that one of the objectives of this paper is to show the economic side of sports and see how the economic aspect of sports can be valorized and put at the service of the prosperity of a country.

Sports as an industrial economic sector

As we can see, sports have evolved into a respectable industry and thus have become an integral part of many developed economies of the world. The sports industry is so unique and different from other industries that all

those boundaries that existed between enjoyment that comes from doing sports on the one hand, and the commercialization of sports on the other hand, are completely deleted and they no longer exist.

As money entered the world of sports and with respect to the economic principles, necessary conditions were created for the development of a particular industry - the sports industry. By defining the general concept of the term industry (Porter, 1980) emphasizes that the industry is 'a market in which customers are sold related, similar, identical or equivalent products.' American authors Pitts and Stotlar extend this definition of sports terms and sporting activities, believing that the industry of sports is 'a market in which products are offered to customers, such as sporting, fitness, recreational service activities or free time, while those products can be goods, ideas, services, people, activities and places.' (Pitts & Stotlar, 1996, pg. 3). Professor Milan Tomić (2001) defines the sports industry as 'a market where at the same time and under the same conditions goods or some values of subjects of internal and external environments of sporting activities are exchanged'. (p. 49).

Sports and the sports industry are important economic activities and an increasingly important form of economic activity of society in which many people find sources of income, employment opportunities, while some sports are simply a matter of survival (existence). In whatever way we choose to understand the sports industry, it is such a segment of society and the economy that its index of

industrial growth shows that it progresses every day and that it is developing faster than many other indices and indicators of other industries. This line of argument is followed by the conclusion that sports as a branch of production have an irreplaceable impact on the national economy and is rightly considered "the sports industry."

The sports industry in today's modern society is becoming an important economic agency and an increasingly important form of economic activity in which two basic functions are equally realized:

1. **sports and competition**, in which through the function of training and professional creative work goals related to sports results are achieved, and ways and means of presenting sporting competitions in public are sought;

2. **business functions** - marketing function, the function of finance, human resources, facilities management and investments, which together seek opportunities and ways of organizing and financing of sporting competitions so that the sporting organization could be present through their commercialization in the national, but also in the global sports market.

Factors that directly influence the rapid development of sports and sports industry, according to Novak (2006, p. 23) are definitely:

- 1) **The trend of significant increase and growth of the world population.** Today, planet Earth has about 7 billion people, and it is anticipated that by 2050 that number will grow

to as many as 9 billion people. Regardless of such a huge increase in the population that affected the increase of the potential market of sports and recreation, the main and limiting factor of the consumption is personal income of each individual.

2) **Standard and increasing prosperity.**

The prosperity of humanity that has been made in the second half of the 19th century and especially during the 20th century is unprecedented in human history. The large population growth was accompanied by a direct increase in labor productivity of people, which led to unexpected prosperity of all mankind, despite all the differences that were present. An increasingly smaller percentage of income was allocated for existential needs, especially food (this refers to developed countries). Such purchasing power, with a sufficient amount of free time, effort, knowledge and capital allows for a market competition and a fight for every consumer in the field of sports industry.

3) **Reproduction (multiplication) of human knowledge and labor productivity.** One of the factors that in developed countries facilitated the growth of the share of personal expenditures for sports and recreation is certainly the above-mentioned labor productivity. The increase

in labor productivity is due to significant scientific and technological development, also to the multiple magnification of human knowledge. This phenomenon has enabled, first of all, the developed countries where people have a high GDP per capita to direct personal income of its residents to sports, leisure and entertainment industries.

4) **Reducing working hours.**

With the reduction of working hours, an average working man now has enough free time, which enables him to meet many unmet needs, wishes and preferences. Many activities, until then only unfulfilled wishes, such as active vacations, travel, various types of fun and games, and also sports and leisure are transformed into those that can be achieved.

5) **Development trends of sports and the sports industry.**

Sports as an economic sector have especially been transformed in the last ten years from the traditional Spectators-Subsidies-Sponsors-Local model as a global model to a market Media-Corporations-Merchandising-Markets model. This new sports model has implemented the forms of vertical integration in the industry and created a synergy as a result of the interaction between businesses and sports. Economic developments, such as broadcast rights,

sponsorships, organization of major sporting events, sports tourism, sports and healthy living, public-private partnership in the construction of sports infrastructure, to name a few, have resulted in the development of the sports sector with great economic effects, significantly higher than the scope of the sports scene itself.

Economic impact on sporting business operations

As sports are predominantly focused on the competition which attracts a large number of people, they have become interesting in an entrepreneurial way due to their massive scale and attractiveness. Seen from the point of business, the most important thing is whether sports generate specific results, i.e., economic effects. Certainly, the largest effect in the development of economic activities comes from competitive sports and that is why it is good to know the conceptual framework of the role of sports in business, and not only the sporting ones, but all those that have any contact or use sports for the purpose of promoting and improving their own business goals and results.

Take, for example, major sporting events like the Olympic Games that don't only have sporting and general social importance, but to a large extent contribute to the overall economic activities and development of the

overall infrastructure of the host country. Of course, in the beginning finances for the organization of the games, which was an honor to do, were not of paramount importance. However, with the passage of time and changes in the development of society this kind of thinking has changed. Then came the new era in which besides honor and glory other benefits awaited, primarily financial ones. Under such circumstances, when the organization of major sporting events for the host country became a great financial burden, it was necessary to link sports with the economy.

It goes without saying that huge funds are allocated for their organization. Olympic Games in Athens in 2004 cost about \$10 billion US, while the next ones in 2008 in Beijing cost a boggling \$43 billion US. As for the Olympic Games held in London in 2012, the London organizing committee, according to the first estimates, earned \$2.14 billion. This includes \$1.1 billion from domestic sponsorships, \$931 million in ticket sales and \$125 million in licenses. It is interesting to note that earnings increased by \$989 million compared to the 2010 Winter Olympics in Vancouver. Table 1.1. presents the top sponsors for the 2012 London Olympic Games.

Table 1.1 Top sponsors of the London 2012 Olympic Games.

COMPANY	CATEGORY	Year joining of the program	Year of expiry of the contract
<i>Acer</i>	Computer technology and equipment	2009	2012
<i>Atos Origin</i>	IT	2001	2016
<i>Coca-Cola</i>	Non-alcoholic beverages	1986	2020
<i>Dow Chemical Company</i>	Chemical company (links chemistry and innovation with the principles of sustainability in terms of healthy water, renewable sources of energy and their conservation, and increasing agricultural productivity)	2010	2020
<i>General Electric</i>	Multinational corporation in various segments (energy, technology, infrastructure, capital market)	2005	2020
<i>McDonald's</i>	Fast food restaurant and services	1997	2020
<i>Omega</i>	Service activity	2003	2020
<i>Panasonic</i>	Audio/TV and video equipment	1987	2016
<i>Procter & Gamble</i>	Consumer goods (personal care and household products)	2010	2020
<i>Samsung Electronics</i>	Wireless communications equipment (consumer electronics, equipment, home appliances)	1997	2016
<i>Visa</i>	Payment service systems	1986	2020

Source: Sportcal /Olympic Marketing Fact File

Often, the economic impact arising from major sporting events such as the Olympic Games, and world and European championships, is often

overestimated and that's why everyone needs to be extra careful. It is certain that these events generate millions of dollars in revenue. However, the

question is at what price? Is a higher gain achieved when we subtract all costs and did the companies that participated in the games achieve a positive economic impact? At a consultative conference with the European sports movement in Brussels in 2006 (*The Role of Sport in Europe.Brussels* 29-30 June 2006) where there was talk about the role of sports in Europe and about the importance of sporting events as engines of regional development both in a political and promotional sense, the participants unanimously agreed, warning about redundancies and overvaluation of positive economic outcomes of major sporting events in cost - benefit analyses. In any case, sports are important factors in the economic development of any society and their role in this segment will intensify.

Conclusion

Looking at sports from the perspective of economics and everyday changes in all aspects of society (social, economic, technical and technological advances that are constantly evolving at an unprecedented speed), have led to society evaluating such changes in a financially manner. Dealing with the economic analysis of sports, we actually confirm that the economic aspect of sports can be valorized and put at the service of the prosperity of a country.

Within one orderly society, whether we look at it at a macro or micro level, the sports industry has developed into an economic power that is constantly on the rise and with a huge influence

on a number of areas of activities. Although those influences are partly immeasurable and thus subjective, areas of influence are different and include economic, technical, technological, social, cultural, educational, scientific, healthcare, legislative, legal and political aspects of society.

As an inevitable consequence of the modern treatment of sports and the gradual development of a new industry - the sports industry, the application of economic principles in modern sports is increasingly becoming a prerequisite for the survival of sporting organizations and companies operating in the sports market. It is therefore important to essentially create a new cognitive framework of the economic structure of sports because that's how we will better understand the economic nature and conditionality of modern sports. Future research in this area should focus on the quantitative measurement of the economic impacts in order to discover the extent of positive values of sports on the economic prosperity and development of a country.

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SPORT KAO EKONOMSKA VRIJEDNOST

Sažetak

Savremeni sport kakav ga mi danas doživljavamo ima ogroman uticaj na ekonomiju širom sveta. Zato i ne čudi da veliki međunarodni sportski događaji poput Olimpijskih igara ili svetskog prvenstva imaju veliki uticaj na privredu zemlje domaćina. Ovi ekonomski efekti mogu biti pozitivni ili negativni i mogu se odnositi ne samo na nacionalnom ili regionalnom nivou, već i na globalnom. Međunarodni sportski događaji povezuju sportiste i ekipe iz čitavog sveta, ali ono što je još važnije ovi događaji obezbeđuju poslove i dovode turiste koji su potencijal za ekonomski rast i globalnu vidljivost. U poslovnom svetu, sport može da bude najbolje priznanje za mnoge beneficije koje nude pojedinačna preduzeća, kao što su sponzorstva, brendiranje, reklamna mesta i ostale marketinške mogućnosti. Analizirajući sport kao ekonomsku vrednost ovaj članak treba da pokaže da sport ima značajan uticaj na ekonomski razvoj zemlje. Na osnovu zaključka u ovom radu, buduće studije treba više da se fokusiraju na kvantitativnom istraživanju koje može meriti tačan obim ekonomskog uticaja.

Ključne reči: sport, ekonomija, industrija sporta, sportsko poslovanje, sportski događaji.

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ACHIEVEMENTS OF CHILDREN WITH SPEECH DISORDERS WHOSE FAMILIES ACTIVELY PARTICIPATE IN THEIR REHABILITATION

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Original scientific paper

Summary

Speech is the process of production of the vote, a way of expressing thoughts and feelings with words in order to communicate with the members of a given linguistic collective. It is the function and characteristics of the human species, it is a natural instrument of thoughts.

With speech we express our needs and desires, emotions, opinions and attitudes about the world that surrounds us. Speech is a characteristic unique to a man, and therefore it is above all kinds of life on the earth. There is no other means of communication which can simultaneously nicer, more meaningful and more efficient to express thoughts, desires and ideas. Basically man is a social being and hence his constant desire to communicate with others, which enabled him the faculty of speech. Many factors affect the development of speech, but hearing, eyesight and sensibility play a decisive role. The paper explores the influence of the family in the rehabilitation of speech and at the same time concludes that in the group where the parents as team members were involved in systematic work on the rehabilitation of their children, better achievements are noticeable.

Keywords: *speech, children with speech disorders, rehabilitation, parents, achievements*

Introduction

Speech is a characteristic unique to a man, and therefore it is above all kinds of life on the earth. There is no other means of communication which can simultaneously nicer, more meaningful and more efficient to express thoughts, desires and ideas. Basically man is a

social being and hence his constant desire to communicate with others, which enabled him the faculty of speech. For thousands of years is constantly evolving, changing and improving. The ancient Greeks, Egyptians and others gave their own contribution to the voice treasury of civilized man. The result is a very

complex, related activities of speech organs, and takes place under the influence of activity of higher nervous centers in the cortex.

Speech of the original man is combined with mime. Vocabulary which he dispose was small and closely related for the specific appearance. With the development and advancement of society, and the emergence of the division of work, human speech is becoming richer and more developed. Many factors affect the development of speech, but hearing, eyesight and sensibility play a decisive role. Speech largely depends on the physiology and anatomy of articulators that simultaneously measure two functions: biological and phonetic. Jaw, teeth, hard and soft palate are part of the articulation apparatus whose function is biological. They also play a specific role in breathing and speech. As with other parts of the body as well as in the articulator comes to hereditary, cognitive, anatomical physiological changes that cause disturbances and difficulty in speaking and voice function. Orthopedics deals with biological aspects, and Logopedics deals with aspect of speech.

The theoretical basis for this research

1. Stages of development of speech

THE FIRST PHASE covers the period in which the child expresses his inner state with the external signs of emotion and motor skills. That is the phase ORE EXPRESSA EMOTIO - emotional

expression with the mouth. The appearance of the first scream beside of physiological nature, contain emotion as psychological. Already during the first weeks of life the crying of a newborn has the function of communication because using it establishes relations with the environment by crying represent emotional response to situations that disturb homeostasis instinct for self-preservation-child cries if she is hungry, thirsty, sick, etc. The crying of a child in the first few weeks is composed of vowel groups that do not have a fixed phonemes but are very variable. In normal development, the child at the end of the first month manifested a special form of behavior expressed with the feeling of discomfort. If you are talking close to the child the child turns his head toward the sound source. During the first month of life normally develop psychophysiological skills of analysis and synthesis to create the sound of crying units in the form of noise, which is later converted into votes, firstly vocals, which are quite impure and that is maturing and experience turn into pure voices.

Principles that determine the speech in its entirety:

- We learn speech from the earliest days or immediately after birth
- A grown man does not remember learning techniques of the speech
- We learn speech from the environment in which our development takes place under

the condition that the language is listened to and actively enforced. The children of deaf although healthy can not learn to talk, if they are constantly with the parents.

For children, there is a sensitivity to the voices as structural disposition whereby we can conclude special dispositions for the color, intensity and rhythm of the sounds and words.

These structures are best developed with the constant stimulation of parents.

THE SECOND PHASE - covers the time period in which the child expresses and communicates its internal environment psychological states in the way it was done during the first phase, except that it occurs at the intuitive ability to communicate with the environment. That is the phase *ORE EXSPREEA EMOTIO ET INTUITIO* - emotional expression with mouth and intuition. Negative and positive emotions and appearance of intuition dominate during other phases whereby the intuition implies involvement of the child emotionally and psychological status of parents. An infant with emotive empathy reveals whether the mother is gentle and mild or angry and in bad mood when she bends over him. It is endowed with a certain ability to direct intuitive knowledge or at least as far as the mother and those closest to him *with* which it is in contact. When the infant would feel only a mother's love then we could talk about the instinctive reaction. But he recognizes the opposite feelings of his mother - he reveals

when she was angry and nervous. Mother on the basis of child's cry quickly discovers the cause of crying and timely responds, while the ability of mother to very quickly find the cause with her own feelings and eliminate it has influence especially emotionally stimulating the maturation of the infant as well as its whole development. A larger number of children who are cared and raised under the protection of parents manifest cooing in the third month of age. On the emotional development the child is more oriented to speech environment. It then begins to imitate and reproduce the sound groups which he hears around himself.

THE THIRD PHASE - It covers the period in which the word appears for the first time besides the means of communication that are used in the preliminary stages. That is the phase *ORE EXPRESSA RATIO, EMOTIO ET INTUITIO* - intellect, emotions, intuition expressed by lips. At the age of 6-7 months, the child develops chatter. At this age the child is pronounced stylistic composition, *mo-my, la - la, da-dy*, which later connect with some object outside itself. Development of the capacity of the gab is one of the most crucial points during the development of speech, because if a child at this age develops this capability, it is the best indicator that his sensory-motor development is normal. When a child starts babbling it gets up with holding on to and makes some movements as he wants to walk. When a child is chatting *mo-my, da-dy*, parents can imitate and repeat those words so that child

pronounce a word momy, dady. It quickly learn what that word means, so that the spoken word mama for child has a very cognitive-emotional meaning. Later, the child begins to bind the words for objects and phenomenon so that phenomenon of the first word represents a watershed moment in the history of the child. Later, the child begins to bind the words for objects and phenomenon so that phenomenon of the first word represents a very important moment in the history of the child. The first spoken word means a whole sentence and a child between the seventh and twelfth months operates with 10-15 concepts related for words. So the word "mom" can mean "come here", "Give me water," "Take Me" and others. In the first words often missing some votes but the parents well understand because they know the situation in which it is spoken. At the end of the first year, most children already walk without holding on and in his vocabulary has 12-20 words.

The physiological basis for the development of speech

- Development of the general body coordination and speech organs
- Development of acoustic speech perception
- Development of visual perception
- Development the ability for concentration attention
- Development of intelligence
- Development of reaction body movements

- Development of basic voice response and speech attempts
- However, the conditions for the development of speech does not lie only in the child but also in the emotional climate in which the child lives in emotional-social contact with the environment and in the total number and quality of the speech stimulation that the child receives from that environment.

2. RELATIONSHIP BETWEEN THE SPEECH AND HEARING

For the development of speech function is the most important connection between the sense of hearing and speech. This relationship is not symmetric, because, although the sense of hearing is necessary for the normal development of speech, can not be said that the normal development of hearing depends on the development of speech. There are a large number of children with impaired speech where he preserved hearing, in cases where states with voice disorders and hearing impairments it is a disorder occurring independently of the speech disorder. However, the dependence voice function from the hearing function is a huge.

3. REHABILITATION

For the rehabilitation of persons with hearing impairment of the utmost importance is to detect as early as possible a child with a defect and immediately start the treatment team in terms of diagnosis and rehabilitation. In

rehabilitation of children with hearing impairment applies an interdisciplinary method that jointly carry out team:

Otorhinolaryngologist, pediatrician, audiologist, psychologist, psychiatrist, dentist, and complete therapist team.

Rehabilitation methods are as follows:

- a) Medical intervention
- b) surgical intervention
2. Pharmacological interventions
3. Audiological intervention
4. Amplification - monaural and binaural
- b) Sociological intervention
- c) Psychological intervention

The role of parents

Parents are immediately involved in the rehabilitation of the child, after the first intervention, as a very important team members. Parents are taught about what kind of attitude they should take toward his own child to stimulate it and help in the rehabilitation process. Age from one to three years is the period when they can achieve significant success in the work. This period is called "useful time", because this period can best utilize and coincides with the time when normal language development in children.

When a child reach a period to be included in preschool, they should be immediately include there. The importance of including the child in the preschool department is large, so that the success of social education depends on involvement in preschool. Depending on the parents' involvement of children in regular kindergarten and school has different stages. In essence, a child with a

hearing impairment should always be included in the regular educational system, only needs to be included in a special school for students with hearing impairments, if it can not successfully attending classes in regular schools.

4. SPECIAL RESEARCH OBJECTIVES

The aim of this study is to ascertain the effect of rehabilitation depending on the co-operation:

Parent-child; parent-therapist-child

5. HYPOTHESIS

- A parent who is an active contributor in the treatment of its own child has better results in the rehabilitation of the same.
- When the whole team involved - therapist, teacher and parent in the process of rehabilitation, children undoubtedly achieve better results in the construction of verbal ability than children with whom work only therapists.
- Better results are achieved by the children you are working systematically than the children with whom it is not systematic.

6. WORK METHOD

This research was done using method "cross-sectional" to children who were on a systematic rehabilitation of last year, on the Institute for psychophysiological and speech disorders in Belgrade. The children

were divided into two groups. In the first group parents were active collaborators in therapy, and in the second group parents were passive when it concerns the rehabilitation process. In both groups, there were ten examinees for comparative results.

As noted above, this paper is made by using cross-section at the Institute in cooperation with the extremely professional team in which they participated: otolaryngologist,

surdidipadagogues, speech therapist, pediatrician and neuropsychiatrist. Spoken treatment with children was carried out using the already known and recognized methods for children with hearing impairments. Analysis and treatment of families was carried out exclusively by the method of Dr C. Brajević.

7. RESULTS AND DISCUSSION

Aa) Number of votes at the beginning of treatment in children whose parents are active

	0-5	6-10	11-20	21-30	score
N	5	3	2	0	10
%	50	30	20	0	100

Ab) Number of votes at the beginning of treatment in children of passive parents

	0-5	6-10	11-20	21-30	score
N	7	2	1	0	10
%	70	20	10	0	100

It is evident that children whose parents are active have more votes in his speech inventory than is the case with children whose parents are passive. The conclusion is evident that the parents of the first group dedicated

to children more than parents from other group. Even when it comes to the number of words the results are very similar, also at the beginning of treatment.

B) Number of votes at the end of treatment

Ba) Number of votes at the end of treatment in children whose parents were active

	0-5	6-10	11-20	21-30	score
N	0	0	2	8	10

%	0	0	20	80	100
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Bb) Number of votes at the end of treatment in children whose parents are passive

	0-5	6-10	11-20	21-30	score
N	0	2	3	5	10
%	0	20	30	50	100

Looking at the results, i.e. number of votes at the end of treatment in children whose parents are active and in children whose parents are passive,

we can say the same as before: without parental activities success is significantly weaker. Comparative chart records this constataction.

C) Number of words at the beginning of treatment

Ca) - Number of words at the beginning of treatment in patients whose parents are active

	0-10	11-25	26-50	51....	
N	7	3	0	0	10
%	70	30	0	0	100

Cb) Number of words at the beginning of treatment in patients whose parents are passive

	0-10	11-25	26-50	51...	E
N	9	1	0	0	10
%	90	10	0	0	100

With comparative chart - Table (C), it can be seen that children whose parents are active have a greater number of words than children whose parents are passive. The constataction is

as in the previous finding that parents in the first group (active parents) are more dedicated to children than parents from other groups (passive parents).

D) Number of words at the end of treatment

Da) In children whose family is active

	0-10	11-25	26-50	51...	E
N	0	2	7	1	10
%	0	20	70	10	100

Db) In children whose family is not active

	0-10	11-25	26-50	51...	E
N	1	3	6	0	10
%	10	30	60	0	100

Comparing the results table (D), which refers to the number of words at the end of treatment in children of active and passive parents, it is clear that the constant work of active parents have higher scores (of course with professional help) than patients whose parents are passive.

CONCLUSION

1. Parents who were active collaborators during treatment of their child had higher scores in the rehabilitation of the same.

2. When the whole team involved - therapist, teacher and parent in the

process of rehabilitation, children undoubtedly achieve better results in the construction of verbal ability than children with which it was not work systematically.

3. Without interested families there is no education or any other success, including the issue of rehabilitation of this kind, with their child.

All the hypothesis were confirmed, from which it can be emphasized:

"When I'm healthy, I can do it"

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DOSTIGNUĆA DJECE S POREMEĆAJEM GOVORA, ČIJE PORODICE AKTIVNO UČESTVUJU U NJIHOVOJ REHABILITACIJI

Sažetak

Govor je proces proizvodnje glasova, način izražavanja misli i osjećaje riječima kako bi komunicirali sa članovima datog lingvističke collective. It je funkcija i karakteristike ljudske vrste, to je prirodni instrument misli. Uz govor izražavamo naše potrebe i želje, emocije, mišljenja i stavove o svijetu koji okružuje us. Speech je karakteristika jedinstvena za čovjeka, i zbog toga je iznad svih vrsta života na Zemlji. Ne postoji drugi način komunikacije koji može istovremeno ljepši, sadržajniji i efikasnije da izrazi misli, želje i ideas. Basically čovjek je društveno biće i stoga njegovo stalno želju da komunicira sa drugima, što mu je omogućilo fakultet speech. Many faktori utječu na razvoj govora, ali sluh, vid i senzibilitet igraju odlučujuću role. The papira istražuje utjecaj obitelji u rehabilitaciji govora i istovremeno zaključuje da u grupi u kojoj su bili uključeni roditelji kao članovi tima u sistematski rad na rehabilitaciji njihove djece, bolja dostignuća su primjetna.

Ključne riječi: *govor, djeca s poremećajima ugovoru, rehabilitaciju, roditelji, dostignuća.*

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