❖ SPORT AND PERFORMANCE

THE MOTORIC PROPERTIES OF INDIVIDUAL AND TEAM SPORTSMAN

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Abstract

The aim of this study is to compare some motorists properties of male sportmen students doing individual and team sports and determine the level of current students attending to Phisical Education and Sports Department at Harran University.

In this study, total, 40 sportmen samples who are stuying Physical Education and Sports Department at Harran University as 20 individual athletes and 20 team athletes participated. The numbers of individual sports are for 9 track and field, 4 wrestling, 2 gymnastics and 5 teakwando branches. The number of team sports is 6 basketball, 5 soccer, 4 handball and 5 volleyball players.

For comparison of individual and team sports groups, the t-test analyze was used and beside of this, one way variation analyze was used in order to determine the differences among the sport branches. Scheffe Procedure was applied on determining the resource of the differences among the groups and on the variation Analyzes (one way anova).

It has been found that individual athletes were heavy body weight and had high scores in dynamic and static arm flexion, 1500 meters run and 20 meters sprinting compare to high height of team spormen. No significant difference was found between individual and team sportsmen in age, step test and flexibility.

There were no important differences between groups in the mean values of age, static arm strength and PEI scores of step test. There were significant among groups in dynamic arm strenth, body wight and 20 meters sprint.These results support that both individual and team sports needing different physical and motorist features.

Key Words: Sportsmen, antropometry, physical, anatomic, motorist features.

Introduction

As developed countries implemented, the improvement in the science of sports to the selection and training of talented sports people, they have become successful in international contests. One of the scientific bases of training world-wide success is the selection of talented young people to that area of sport from the early age.

A work of 10 to 15 years is required to make a sports person gain international success. Generally, those young talented people start being placed in 6-8 years. They reach their upper successes almost after 10 years. That is, they become upper level sports people in the twenties accept in the branches of gymnastics and swimming. Therefore, it is important to start sports in early ages. Ability, which is defined to be natural power obtained with birth, can, on the other hand, be implied as ability in any learning or ability in practice as well. It is also absolute specificities in an area which are over a certain level but not yet defined. Those having such specificities are also talented people. Ability is the power which exists with birth and is specified genetically. This is called 'Motor Capacity'. (SA.Ağaoğlu 1989). Physical improvement, (N. Akgün, E. Ergen, A. Ertat, Ç. İşlegen, H. Çolakoğlu, Y. Emlek, 1986). Power (H., Akkuş 1990) Motor Learning Capability, Alter, Michael L., 1988. Agility and (P.O Astrand, and K.Rodahl, 1986) Coordination are discussed as indicators of five elements of motor capacity. Share of genetic factors on the performance of the sports people to get Olympic medal is great. Besides, achievement of the sports makers who succeed in trainings also depends on these genetic factors. About 70% of the maximal capacity of a sports person is denoted to have been related to genetic factors (T.Bompa, 1986) .

Besides specifying a person's general development, genetics specifies these physiological capacities as well; (Sa. Ağaoğlu, 1989) Aerobic capacity, (N. Akgün, E. Ergen, A. Ertat,Ç. İşlegen, H. Çolakoğlu, Y. Emlek, 1986). Anaerobic capacity, (H. Akkuş, 1990) (Maximal pulmonary beat count, (L. Alter, Michael, 1988) Tendon type and (P.O, Astrand, A K. Rodahl, 1986) Speed. It should be remembered, however, that if a young person with genetic capacity to be champion does not undergo scientific training methods in the attendance of a specialized coach, have a well-balanced diet, if, in short he does not have required environmental conditions and possibilities to be trained as champion, he cannot reach the desired

championship. As it is not possible to select talented children only through physical appearance, it is not possible to make a full selection only through a physical capacity test as well. Most writers argue that it would be healthier if ability selection is realized in a certain period of time and over progressive stages (P.O, Astrand, A K. Rodahl, 1986, I. Dragan, 1979, L.R, Gettman, M.L Pollack., 1977).

In the first stage, children of elementary level are selected looking to their physical, physiological and psychological characteristics. Of course, widening the basis of this selection will elevate the possibility of success. Selected children undergo a basic training of 1, 5 to 2 years for the improvement of basic characteristics pertaining sports. In the second stage, their improvement is tested due to training they received. Naturally some will be disqualified in these tests. It is necessary to be careful in these disqualifying tests because some children can reveal their abilities ether early or late. In this stage children can be introduced to special trainings in the sports of their area besides basic physical trainings, provided that they are not heavy. (V. Kavak, 2006) suggest that the factors which contribute to the increase the body fat percentage in girls, especially those older than age 13, are poor nutrition, lack of regular exercise, and low socioeconomic status. The third stage selection is realized 4-5 years after the first stage selection. In this selection; development in their performances, ability improvement of the children in related sports areas and anthropometric characteristics are tested. Those passing the test are the complete elements of that sports area any more. Consequently, selection of talented sports people is a long lasting hard work.

General motor ability tests; is the feeling of speed, power, endurance, agility, flexibility, kinaesthetic (position susceptibility), timing and motor rhythm reception. It is used quite interrelated with motor coherence conception which is a dimension of general motor ability or even used to replace it. The aim of this study is to compare some motoric properties of male sportsmen students doing individual and team sports and determine the level of current students.

Material methods

In this study, total, 40 sportsmen samples who are studying Physical Education and Sports Department at Harran University as 20 individual athletes and 20 team athletes participated. The numbers of individual sports are for 9 track and field, 4 wrestling, 2 gymnastics and 5 taekwando branches. The numbers of team sports are 6 basketball, 5 soccer, 4 handball and 5 volleyball players. Height and weight were measured by using standard anthropometric techniques (23).

Height was measured on a stadiometer (Holtain Ltd., Crymych; UK) to the nearest 0.1 cm, and the weight was recorded on a portable scale (model 707, Seca, Hamburg, Germany) to the nearest 0.1 kg. The tests were applied to the subjects in three days. In the first day the height, weight, flexibility, fastness, static and strenght measures were taken. The second day, step test was applied. In the third day 1500 meter running test was done. All the tests were applied to the subjects in the same order.

Flexibility (sit-reach) Test: Before the test the subjects were asked to do the warming up exercises. The flexibility of hamstring and dorsy muscles was measured. The subjects' soles were placed on the side of sit-reach chair looking at the subjects. The subject reached out towards the chair with his hands as much as he could without bending his knees. He stood still in this position for 2 seconds and the distance he could reach was recorded in centimeter. The best value of the test repeated twice was accepted as flexibility value.

20 Meter Rapidity Running: It was done in the sports hall having wood floor and with digital stopwatch. Dynamic hand pulling in the bar: The number of going up and coming down movements of the subject in the bar was measured. The repeated number of his was recorded as the subject's score. Static Hand Pulling in the Bar: The subject grabbed the 2.5 cm bar placed in a height that he can reach without Jumping in anatomic palm position. The subject grabbed the bar that he hold in shoulder width in his jaw level with external help. When the external help was cut , the stopwatch was started. The stopwatch was stopped in the subject's eye level. During the measurement, we took pains not tos hake the subject while in hanging position. The result was recorded in seconds.

Harward Step Test: The subject was made to climb up a 50 cm height bodywork and do the climbing downs with his different feet. At the end of the test, the heat beats of the subject made to sit on the chair was taken with the stopwatch as 1.5 cu p/m, 2.5 cu p/m and 3.5 cu p/m (Viviani, F. And F.Baldin, 1993).

Measuring The Physical Fertility Index(FFI):

$$FFI = \frac{\text{Time of Exercise (sn) X100}}{\text{2X total heartbeat during recovery time}}$$

Physical Productivity Index Evaluation (FVI):

$$FVI = \frac{\text{The Duration of the Exercise (with second)X 100}}{\text{2x the sum of heartbeat during the recovery}}$$

Physical Productivity Index Evaluation (FVI)	**Comment**
> 55	Weak physical comparability
55-64	Low average
65-79	High average
80-89	Good
90+	Perfect

1500 Meter Running Test: It was done with a stopwatch taking the score in minute in groups of five in a 400 width stadium.

In order to determine the aerobic capacity, a twenty meter shuttle run test was done on a grass field. The shuttle run test was utilized to measure maximum oxygen consumption VO 2max and defined in ml/kg/min (K. TAMER 1995). Anaerobic strength measurements were done utilizing the Bosco test protocol (Bosco, Contact Mat; New Test 1000) and the results indicated as watts. The vertical jump test was measured utilizing jump meter equipment and the sit and reach equipment was utilized to measure flexibility. The ten-meter and thirty-meter speed values were calculated on the grass field starting 1m behind the starting point with the help of sensory photocell.

For comparison of individual and team sports groups, the t-test analyze was used and beside of this, one way variation analyze was used in order to determine the differences among the sport branches. Schaffer Procedure was applied on determining the resource of the differences among the groups and on the variation Analyzes (one way ANOVA).

Results

Several physical and physiological properties of individual and team sports' were measured in a pre and post testing protocol and the measurements were recorded and evaluated. (Table1,2). It has been observed that the averages of height and body weight of the team sportsmen were more than that of individual sportsman. According to 1500 meters run and body height avarage for each sport's braches,it has been observed that sportsmen of basketball,volleyball and handball were more increasely compared athlets in other branches (Table 3). It has been found that individual athletes were heavy body weight and had high scores in dynamic and static arm flexion, 1500 meters run and 20 meters sprinting compare to high height of team sportsmen. No significant differences were found between individual and team sportsmen in age, step test and flexibility. At the static and dynamic evaluation of the arm strength, the individual sportsman was determined to be stronger than the team sportsmen (Table 4-6).These findings show that there were some statistically significant differences the measurements of individual and team athletes in the values concerning body weight, anaerobic power, aerobic power, and vertical jump at a level of ($p<0.05$). The values of ten-meter speed, thirty-meter speed, and elasticity improved, but they were not statistically significant at a level of (Table 4,5,6)($p< 0.05$). According to 20 meters speed average for each sport's branches, it has been observed that sportsmen of football, gymnastic and volleyball were more speedy compared athletes in other branches (Table 7).Statistically, there is not a significant difference between the groups at the tests of age, elasticity, static hanging strength and step tests when the comparison is made according to only sport branches without taking into consideration individual and team sports (7,8). According to Sex properties of individual, the results are presented in Tables 9.

Discussions

In this study, the results of the tests done to determine the physical, motor and physiological properties of a individual and team sport athletes. There were no important differences between groups in the mean values of age, static arm strength and PEI scores of step test. There were significant among groups in dynamic arm strength, body weight and 20 meters sprint. These results support that both individual and team sports needing different physical and motoric features. Personal sportsmen having average of 172 cm height are shorter than the team sportsmen having average 180cm height ($p<0.01$). Personal sportsmen weighing (average 61 kg) are lighter than team sportsmen weighing (average 71 kg). When personal and team sportsmen were compared physically, in terms of height and weight, team sportsmen have more advantages ($p<0.01$). The previous results of the studies support our results (Kollath, E.Ve Quade, K., 1993, Zhuo, D., Et Al.,1984, World, Health Organızatıon, 1995). According to the results of the dynamic test at Bar fix, that the individual sportsmen having 16, 65 recurrence average were stronger than the team sportsmen having 4, 32 average recurrence was determined ($p<0.01$). Cardiovascular and respiratory systems work together efficiently during the aerobic and anaerobic exercises. Both exercises are of vital importance to the sportsmen. While anaerobic exercises are important at fast and explosive functions, during the recover function aerobic is important (Akgün, N. E.Ergen, A.Ertat, Ç. İşlegen,H. Olakoğlu,.Emlek, Y., 1986).During the general durability improvement exercise, general and special durability must be described. The capacity must be improved through durability exercise. The increase of heartbeat volume gives rise to the fact that the sportsmen should increase his aerobic exercise. In this study the aerobic durability measurement has been measured by using 1500 m run and Haward Step tests. Speed is a motor characteristic that directly affects the success in sports. In the test of 1500 m run test, it was determined that the sportsmen running with an average of 4,59 minute were more durable than the ones running with an average of 5,15 minute ($p<0.01$). However, during the Harward Step Tests both groups seemed to have similar aerobic durability levels. Aerobic capacity is one of the basic targets in developing a pre-season preparation training program. In football, there is a complex order based on an aerobic structure. During the sportive activity, speed, quick movement or moving is important motoric characteristics. The speed term is described as the reaction time, the recurrence of movement at a unit of time and moving at a certain distance. The speed is a determinative skill in the individual sports such as

boxing, and in the team sports such as football and handball, sprint. During the sportive activities where speed is not a determinative skill, to add the speed to the training causes the overload at a high density. At the 20 m speed test, individual sportsmen were seen to have a better speeding skill than the tam sportsmen. ($p<0.05$) Some studies carried out in Germany showed the similar results with ours (E. Kollath, K., Quade, 1993). It was reported that the sportsmen of Trabzon had running evaluations in a shorter time comparing with other sportsmen (M.A, Ziyagil., E.Zorba, K.Sivrikaya, M.Mercan, 1997A**)**. Elasticity depends on anatomical limitations. These limitations are bones, muscles, ligaments, joint capsule, tendons and skin. That is why, the elasticity provided not only effective in winning the game but also important in preventing the possible defects (Greely, G.W., 1985). It was reported that there is a negative correlation between elasticity and height. The children were determine to be more positive for the development of elasticity before adolescence but were not positive after the aforementioned period. Fat is a basic compound of the body which is essential for certain anatomical and physiological functions (G.W.Greely, 1985, V. Kavak, 2006). At the sit and reach test performed on the children whose age were between 10-18, it was reported that the girls were more elastic than the boys (F.L. Hupperich, And P.O., Siegerseth, 1950, P., Johnson, 1988). At the elasticity test performed on the sportsmen who are without training, 35 cm elasticity was determined. The average of eleven sportsmen aged between 24 and 35, from China was reported to have 42.8 cm value. According to Ağaolu's (Sa., Ağaoğlu, 1989) investigations, the elasticity of men was 31±6.3 cm, and the elasticity of men was 34±5.2 cm. Coşkun (Coşkun, Fatih,M., 1989) determined the elasticity of men as 22,33 cm. Akkuş (H.Akkuş, H.1993) determined the elasticity of physical education department students as 32.88 cm, that of medical science students as 31,78 cm. Taner and his friends (M.A.Tamer, K., Ziyagilve F.Yamaner, 1992) determined the elasticity in boys was 19.5 cm. The averages of our studying are smaller compared with the previous values and they are found to be similar with the values reported among sedanter groups. Statistically, there is not a significant difference between the groups at the tests of age, elasticity, static hanging strength and step tests when the comparison is made according to only sport branches without taking into consideration individual and team sports. When the comparison is made in terms of the sports branches, there is not a significant difference at age, elasticity, static hanging strength and step tests. There is not a considerable statistical difference with respect to height from side, the dynamic arm pulling strength, the body weight and 20 m speed tests. In conclusion, it has been observed that the averages of height and body weight of the team sportsmen were more than that of individual sportsman. At the static and dynamic evaluation of the arm strength, the individual sportsman was determined to be stronger than the team sportsmen. We can say that at Harward step tests the aerobic durability capacity of individual sportsman was a little better that that of team sportsmen. In our study, it was observed that 20 m speed averages were lower than speed averages of German sportsmen and Trabzon sportsmen.

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Table 2. Comparison of physical and physiological features of individual and team sportsmen

Descriptive statistics of physical and physiological features of individual sportsmen.					
Parameters	**N**	**Mean**	**SD**	**SEM**	**Min-Max**
Age	20	22.95	2.03	0.46	20.0-28.0
Height	20	172.70	7.20	1.61	163.0-184.0
Weight	20	61.40	6.91	1.54	51.7-72.0
Flexion (dynamic)	20	16.65	10.44	2.34	0.6-38.0
Static arm traction (sec)	20	56.25	13.32	2.98	36.0-84.0
1500 meter sprint (min)	20	4.59	0.420	9.38	4.01-5.33
Step test (FVİ)	20	84.75	8.61	1.92	71.0-160.0
20 Meter speed (sec)	20	3.27	0.41	3.146	3.07-3.55
Sit - access (cm)	20	21.15	5.80	1.29	10.3-33.0
Descriptive statistics of physical and physiological features of team sportsmen					
Age	20	23.10	1.83	0.41	20.0-27.0
Height	20	180.75	7.83	1.75	165.0-195.0
Weight	20	71.65	6.75	1.55	57.0-87.0
Flexion (dynamic)	20	4.32	5.1	1.14	0.5-14.0
Static arm traction (sec)	20	41.40	10.07	2.25	21.0-58.0
1500 meter sprint (min)	20	5.155	0.33	7.37	4.30-5.51
Step test (FVİ)	20	84.75	9.40	2.10	73.0-108.0
20 Meter speed (sec)	20	3.43	0.197	4.40	3.1-3.71
Sit - access (cm)	20	18.65	4.34	0.97	10.0-26.0

Table 3. Averages of 1500 meter and height according to sports branch

	N	**Mean±SD**	**T value**	**Significance**
Age	20 20	22.95±2.03 23.10±1.83	-245	0.808
Height	20 20	172.70±7.19 180.75±7.83	-3.384	0.001**
Weight	20 20	61.40±6.90 71.65±6.75	-4.745	0.01**
Flexion	20 20	16.65±10.44 4.32±5.09	4.743	0.01**
Static arm traction (sec)	20 20	56.25±13.32 41.40±10.07	3.977	0.01**
1500 meter sprint (min)	20 20	4.59±41 5.15±32	-4.665	0.01**
Step test (FVI)	20 20	84.75±8.60 84.75±9.40	0.000	1.00
20 Meter speed (sec)	20 20	3.27±0.14 3.42±0.19	-2.892	0.05*
Sit - access (cm)	20 20	21.15±5.79 18.65±4.34	1.543	0.131

* There is statistically significance between two group $p<0.05$. ** There is statistically significance between two group $p<0.01$.

Branch	**N**	**Mean**	**SD**	**SEM**	**Min**	**Max**
Athletics	9	4.2711	0.1813	6.04	4.01	4.50
Wrestling	4	5.0025	0.3487	0.174	4.51	5.33
Gymnastic	2	4.4000	0.1414	0.10	4.30	4.50
Taekwando	5	4.9440	0.3186	0.14	4.40	5.25
Basketball	6	5.3150	0.2083	8.50	5.01	5.50
Football	5	5.0460	0.4204	0.1880	4.30	5.31
Handball	4	5.1500	0.1175	5.87	5.00	5.27
Volleyball	5	5.0760	0.4617	0.20	4.32	5.51
Total	40	4.8767	0.4670	7.38	4.01	5.51
Averages of height according to sports branch						

Athletics	9	174.333	8.0312	2.67	164.00	184.00
Wrestling	4	166.750	2.8723	1.43	163.00	170.00
Gymnastic	2	174.500	7.7782	5.50	169.00	180.00
Taekwando	5	173.800	7.1554	3.20	163.00	182.00
Basketball	6	188.333	5.6451	2.30	180.00	195.00
Football	5	173.000	6.2849	2.81	165.00	180.00
Handball	4	179.250	4.7871	2.39	174.00	185.00
Volleyball	5	180.600	5.5946	2.50	175.00	188.00
Total	40	176.725	8.4701	1.33	163.00	195.00

Table 4. Average of dynamic arm power and sit-access test according to sports branches

Average of dynamic arm power according to sports branches						
Branch	**N**	**Mean**	**SD**	**SEM**	**Min**	**Max**
Athletics	9	12.688	9.196	3.06	0.60	21
Wrestling	4	21.750	8.500	4.25	10.00	30.00
Gymnastic	2	25.000	1.414	1	24.00	26.00
Taekwando	5	16.300	14.065	6.29	0.80	38.00
Basketball	6	3.950	5.084	2.07	0.60	11
Football	5	2.640	4.118	1.84	0.50	10.00
Handball	4	3.100	4.600	2.30	0.80	10.00
Volleyball	5	7.440	6.402	2.86	0.50	14.00
Total	40	10.487	10.234	1.61	0.50	38.00
Average of sit-access test according to sports branches						
Branch	9	21.777	5.826	1.94	14.00	33.00
Athletics	4	24.000	7.615	3.80	16.00	31
Wrestling	2	21.500	2.121	1.50	20.00	23.00
Gymnastic	5	17.600	4.722	2.11	10.00	21
Taekwando	6	18.666	4.082	1.66	14.00	25.00
Basketball	5	19.800	3.701	1.65	15.00	24.00
Football	4	16.250	3.304	1.65	13.00	20.00
Handball	5	19.400	6.229	2.78	10.00	26.00
Volleyball	40	19.900	5.212	0.82	10.00	33.00
Total						

Table 5. Average of weight and static arm power according to sports branches

Average of weight according to sports branches						
Branch	**N**	**Mean**	**SD**	**SEM**	**Min**	**Max**
Athletics	9	60.56	8.41	2.80	51.00	72.00
Wrestling	4	57.50	1.91	0.95	56.00	60.00
Gymnastic	2	64.50	7.78	5.50	59.00	70.00
Taekwando	5	64.80	5.59	2.49	57.00	0.71
Basketball	6	77.17	5.31	2.16	73.00	87.00
Football	5	65.60	5.60	2.50	57.00	70.00
Handball	4	71.00	7.26	3.62	63.00	80.00
Volleyball	5	71.60	4.34	1.93	68.00	79.00
Total	40	66.53	8.51	1.34	0.51	87.00
Average of static arm power according to sports branches						
Athletics	9	54.89	14.19	4.73	36.00	84.00
Wrestling	4	53.25	10.37	5.18	40.00	62.00
Gymnastic	2	63.50	14.85	10.50	53.00	74.00
Taekwando	5	58.20	16.12	7.20	39.00	78.00
Basketball	6	42.67	8.09	3.30	30.00	51.00
Football	5	37.60	14.22	6.36	21.00	58.00
Handball	4	43.75	7.63	3.81	37.00	54.00
Volleyball	5	41.80	11.30	5.05	28.00	55.00
Total	40	48.82	13.87	2.19	21.00	84.00

Table 6. Average of age and Harward Step Test according to sports branches

Average of Harward Step Test according to sports branches						
Branch	**N**	**Mean**	**SD**	**SEM**	**Min**	**Max**
Athletics	9	84.22	7.45	2.48	71.00	94.00
Wrestling	4	90.00	11.04	5.52	81.00	106.00
Gymnastic	2	80.00	4.24	3.00	77.00	83.00
Taekwando	5	83.40	10.16	4.54	76.00	101.00
Basketball	6	88.16	12.72	4.84	73.00	108.00
Football	5	86.60	10.83	3.56	75.00	104.00
Handball	4	83.25	7.14	1.41	77.00	93.00
Volleyball	5	80.00	3.16	5.05	77.00	85.00
Total	40	84.75	8.90	1.40	71.00	108.00
Average of age according to sports branches						
Athletics	9	23.55	1.67	0.55	21.00	26.00
Wrestling	4	21.25	0.96	0.47	20.00	22.00
Gymnastic	2	22.50	0.71	0.50	22.00	23.00
Taekwando	5	23.40	3.05	1.36	21.00	28.00
Basketball	6	23.00	2.20	0.89	20.00	26.00
Football	5	22.40	1.68	0.74	21.00	25.00
Handball	4	22.50	1.00	0.50	21.00	23.00
Volleyball	5	24.40	1.82	0.81	22.00	27.00
Total	40	23.02	1.91	0.30	20.00	28.00

Table 7. Average of 20 meter speeds running according to sports branch

Average of 20 meter speeds running according to sports branch						
Branch	**N**	**Mean**	**SD**	**SEM**	**Min**	**Max**
Athletics	9	3.23	0.16	5.45	3.07	3.55
Wrestling	4	3.31	7.78	3.89	3.22	3.41
Gymnastic	2	3.42	0.12	8.50	3.34	3.51
Taekwando	5	3.24	0.12	5.48	3.11	3.44
Basketball	6	3.28	0.17	6.78	3.10	3.55
Football	5	3.54	0.18	8.26	3.25	3.71
Handball	4	3.33	0.13	6.48	3.21	3.51
Volleyball	5	3.57	0.15	7.03	3.31	3.71
Total	40	3.35	0.19	2.95	3.07	3.71

Table 8. Comparing with One Way ANOVA of physical and physiological features of sportsmen with different branches

		Sum of Square	**SD**	**Average of square**	**F**	**significance**
1500 meter sprint	Interval groups Inside group Total	5.634 2.871 8.506	7 32 39	0.805 8.973E-0.2	8.971	0.000**
Height	Interval groups Inside group Total	1480.642 1317.333 2797.975	7 32 39	211.520 41.167	5.138	0.001**
Dynamic arm traction	Interval groups Inside group Total	1973.734 2111.250 4084.984	7 32 39	281.962 65.977	4.274	0.002**
Elasticity (Sit – access test)	Interval groups Inside group Total	194.261 865.339 1059.600	7 32 39	27.752 27.042	1.026	0.432
Weight	Interval groups Inside group Total	1562.219 1261.756 2823.975	7 32 39	223.174 39.430	5.660	0.000**
Static arm power	Interval groups Inside group Total	2486.753 5017.022 7503.775	7 32 39	355.250 156.782	2.266	0.054
Step Test (FVI)	Interval groups Inside group Total	375.961 2711.539 3087.500	7 32 39	53.709 84.736	0.634	0.724
Age	Interval groups Inside group Total	28.903 114.072 142.975	7 32 39	4.129 3.565	1.158	0353
20 Meter Speed running	Interval groups Inside group Total	0.627 0.731 1.358	7 32 39	8.958E-02 2.284E-02	3.922	0.003*

Table 9. Physical features of sportsmen according to gender

Group name	Sex	n	Age	Height	Weight	Name of research's
Volleyball (amateur young)	Female	50	14±1.2	163±5.7	56±8.8	Viviani&Baldin,1993
Volleyball (amateur adult)	Female	50	20.7±2.2	163±4.7	59±2.2	Viviani&Baldin,1993
Volleyball (elite)	Female	13	23.31±4.4	174±4.5	64±5.9	Ergun& ark, 1993
Volleyball (elite)	Female	63	22.01±3.5	173±5.3	64±5.5	Ronkainen 1984
Volleyball 2. League	Female	11	20.63±1.8	176±4.36	63±4.7	Ergül 1995
Volleyball amateur League	Female	10	21.60±0.96	169±7.04	60±6.7	Ergül 1995
Sedentary	Female	12	20.31±0.60	155±4.66	55±4.1	Ergül 1995
Basketball (Elite)		10	18.4±2.1	172±6.9	65±10.1	Kuter 1992
BSO ability exam (1995)						
Winner	Male	96	20.14±2.34	174±5.92	65±6.25	Ziyagil 1997
Lost	Male	333	19.76±1.85	173±5.42	65±6.13	Ziyagil 1997
Winner	Female	49	19.04±1.99	162±5.36	52±5.85	Ziyagil 1997
Lost	Female	122	19.01±1.93	162±5.34	54±6.07	Ziyagil 1997
Athlete (elite)	Female	11	21.50±0.8	168±6.7	59±8.00	Dinçer 1993
Handball (Amateur)	Female	14	19.57±1.93	167±9.3	57±4.00	Tüzün 1988
Handball (Elite)	Female	36	20.92±3.8	168±5.9	59±5.2	Ateşoğolu 1995
Wrestlers	Male	10	17.37±0.5	167±9.3	68±9.36	Ziyagil 1994
Emlankbank (1991)	Male	11	28.0±5.04	190±4.27	82±4.98	Ergun 1994
Konyaspor soccer	Male	19	26.42±0.81	174±1.57	72±1.26	Tamer 1992
Amateur volleyballs	Male	32	12-15	165±5.67	50±3.25	Zorba 1994

OUTDOOR ACTIVITY IN WINTER SPORT – ALPINE SKIING

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Abstract

The aim of this study was to examine whether early and sustained organized youth sport during childhood and adolescence predicts frequency of leisure-time alpine-skiing at age 27. A 5-year longitudinal study of 180 adolescents was conducted to practice alpine-skiing after faculty. The correlation coefficients tended to be higher among males and decreased over time both in females and males. The age at becoming a member in organized sport and duration of participant in organized outdoor activity in winter during adolescence predicted 9 % of the variance of young adult alpine-skiing. The correlations were higher in males than in females, but these differences were not significant. Organized youth sports during childhood and adolescence was positively related to frequency of leisure-time alpine-skiing in young adulthood.

Key-words: alpine-skiing, adolescence, outdoor activity.

Introduction

A recently published US report concludes that participation in organized leisure-time activities by young people is statistically associated with positive outcomes such as healthier functioning, academic achievement, educational attainment, and psychological adjustment (T.Tammelin et al. 2003). In Romania, from where the present analyses stem, an overwhelming majority of sports clubs are organized within the national non-governmental sports association which receives a little strong financial state support (Journal F.R.S., 2008). Against this background, this study had two objectives:

1. To examine the extent to which age at initiation and duration of involvement in organized youth sports measured status predict adult frequency.
2. To examine whether organized youth sports as measurement by membership status is a stronger predictor of adult frequency in males than in females.

Subjects and methods

The longitudinal study realized with the students of FEFS University "Ovidius" who practiced alpine-skiing in faculty. This was 58 % of the initial sample of 180 students who were invited to take part. The reason was have close contact with the participants in the early important phase of the project to establish a foundation for a 5-year cohort study.

The analysis and interpretation of the results

Table 1 shows that mean number of being physically active in alpine-skiing per year was slightly less than two times per year for both males and females at age 27 years. Males reported being a member in an alpine-skiing significantly more times as a 24 – 25-year-old than did females.

The table 1. AS at age 27 years, age at becoming a member of an alpine-skiing group, and the number at times responding memberships at age 24 – 25 years by gender

	Range	**Male**			**Female**			**Gender difference**
		mean	SD	N	mean	SD	N	
AS at age 27 years	0-7	1.9	2.03	108	1.8	1.74	72	NS
Age at becoming a member	1-13	7.9	2.24	83	7.9	2.68	51	NS
Number of times in organized alpine-skiing	0-5	3.0	1.93	70	2.5	1.73	45	**

****** $P < 0.01$

The Pearson's correlation coefficient between age at becoming a member and the number of times reporting being a member during adolescence was low ($r = -0.17$, $P < 0.01$). In the final regression analysis AS at age 27 was regressed upon gender, age at becoming a member, and the number of an alpine-skiing group (table 2).

Table 2. Alpine-skiing activity at age 27 years according to the number of times reporting to be member an alpine-skiing group at ages 24 – 25 years, and gender (regression analysis) (N=102)[1]

	r	Standardized beta
Number of times reporting to be number of alpine-skiing group	0.27***	0.25***
Age at becoming a member	-0.18**	-0.14**
Gender	-0.03 NS	-0.01 NS
Multiple R^2	0.09***	

***** $P < 0.05$, ****** $P < 0.01$, ******* $P < 0.001$

NS, not significant

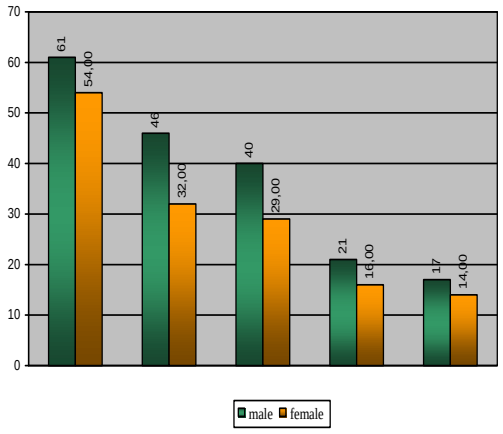
[1] Include complete longitudinal data from ages 27, frequency of exercise, times per year

Discussion

Most studies have either reported organized outdoor activity in winter at one age as part of sum index different AS variables such as frequency and intensity of leisure-time AS and participation in alpine-skiing groups (Aarino et al. 2002; Tammelin et al. 2003). An interesting finding in our study was that becoming a member at an early age and a long duration of participation during adolescence each contributed independently and significant to predict AS at age 27 years. Crease is can noticed in the chart 1.

Conclusions: The present study suggests that organized youth alpine-skiing in childhood and adolescence is positively associated tended to be stronger among males. Future research should investigate how and why organized outdoor activity in winter sports contributes to lifelong alpine-skiing habits and which forms of organized are most successful to produce AS habits.

The chart 1. The dynamics results of member number in alpine-skiing to the experimental study



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THE EFFECT OF EXERCISE FOR EIGHT WEEKS ON POSTURAL DEFECTS İN FEMALE'S

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Abstract

Objective: this research has been made to analyse the efect of exercise on postural physique in Konya. In this research; 35 women who are between 20 and 40 and have not been interested in sport and are chosen with random sampling method, are used.

Method: The hypertrophic measure of women has been taken by using accurate tape measure and glass plaque has been used to analyse posture. After analysing anomanies in anatomics of participans, the reformatory exercise protocol has been prepared and put into practise for 8 weeks. On the evaluation of data, SPSS (statistical package for social sciences) packet programme hes been used and by applying paried sample t test, the measures that are taken before and after exercise have been compared.

Results: while the average of sitlional width was 44, 77≠3,65 before exercise , it has become 43,52≠3,47 after exercise. While the average of Bithorachonterik width was 29, 3≠3,2 before exercise, it has become 26,67≠3,27 after exercise. While the average of abdominal width was 18, 64≠4,14 before exercise, it has become 18,01≠6,27 after the exercise. While the average of the extensive hip area was 78, 05≠6,01, it has become 94,29≠5,64. While the average of abdominal area was 93, 97≠8,91 before exercise, it has become 90,82≠8,24 after the exercise. The results are expressive statistically.($p<0,05$)

Discussions and Conclusion: some differences which are apt to characteristic of exercises, in muscles have been seen.With the conscious and regular exercises, both adscititious weights are losen and also these anomalies are reduced at the result of the exercise protocol for eight weeks.Moreover, if they attempt more,the anomalies can disappear.

Key Words: women, posture, exercise.

Introduction

Posture is the pose shape of body parts with each other.It is also component of all parts at any time (F.P. Kendall, E.K., Mc Ceary P.G Provance (1993). Posture is related not only with normal or pathology but also with gravity.(A. Livanelioğlu, S. Otman1994).

Genetic, Anatomical, Physiological, Cultural,Peripheral, Vocational,Technological and Emotional State affects posture. Furthermore, clothing, nutrition and gender can affect posture. The most important matter is postural mistake that occurs at the result of false habits and philistinism B. Leveau and B.Berndehart, 1984, N., Teymori, 1992, R.Cailliet, 1992). Ligaments and muscles must be in balance for correct posture.The imbalance in disordered posture causes pain with tiresome,assymmetry in skeleton and nociceptive alerts.(pressure on definite nevre fibres).Weight diffuses to all parts of the body,shock is absorbed,explicitness of action is kept ande necessary actions for stability and mobility are controlled independently with the correct posture (J.Seghers, A. Jochem, A. Shaepen, 2003). The aim of this research is to search the local and total structural changes in women who go to gyms to lose weight,at the result of the exercise protocol that is perpared apt to their individual states.

Method and procedures

Women, between 20-40 ages, participated to the research volunteerly in Konya. They have not been interested in sports before and they were chosen with sample method.The hypertrophic measures of women were taken by using accurate tape measure and glass plaque were used to analyse posture. In the light of the data, each participant put into practice the exercise for eight weeks that is prepared for their postural structure and according

to intensity of structural anomaly.The eight weeks' exercise is three days in a week and it is from easy to hard.

In the evaluation of data SPSS (statistical package for social sciences) package programme is used and by applying paried sample t test measures taht are taken before and after the exercises have beencompared.

Results

Table 1: The Average of Women's Width and Height Measurements before and after Exercise and Statistical Values

	N = 35	SD	Before exercise X ±Ss	SD	After exercise X ±Ss	Difference	t	P
1	Height	3	1,61±5,43	3	1,61±5,43	0,00	1,00	0,324
2	Weight	5	64,36±10,32	5	61,12±9,93	3,24	1,43	0,160
3	Width of hip	3	34,10±3,03	3	32,04±2,84	2,06	0,94	0,353
4	Olecrenal width	3	42,34±3,73	3	41,05±3,32	1,29	0,00	1,000
5	Sıtlıonel width	3	44,77±3,65	3	43,52±3,47	1,25	10,27	0,000*
6	Caput fibular width	2	24,55±2,15	2	23,58±1,99	0,97	2,38	0,023*
7	Bıthorachanteric width	3	29,3±3,12	3	26,67±3,27	2,63	4,01	0,000*
8	Abdominalwidth	2	18,64±4,14	2	18,01±6,27	0,63	7,21	0,000*
9	Abdominal depth	2	22,97±3,68	2	20,55±3,44	2,42	0,00	1,000
10	Distancebetween malleols	1	16,98±1,62	1	16,70±1,64	0,28	3,94	0,000*
11	Distancebetween first metatorcells	2	15,80±1,54	2	15,62±1,58	0,18	2,095	0,044

Table 2: Women's Hypertrophic Measurements Values Before and after the Exercise

N = 35		SD	Before exercise X ±Ss	SD	After exercise X ±Ss	Difference	t	P
1	Average of femur zone	3	55,35±3,96	3	52,98±3,83	2,37	-1,40	0,169
2	Average of tibia zone left	2	35,35±2,98	2	34,64±2,84	0,71	-0,29	0,768
3	Average of tibia zone right	2	35,97±2,89	2	34,77±2,79	1,2	0,57	0,571
4	Widest hip zone.	3	98,05±6,06	3	94,92±5,64	3,13	5,56	0,000*
5	Crotch zone left	3	62,22±5,15	3	60,11±4,85	2,11	1,07	0,292
6	Crotch zone right	3	62,21±5,52	3	60,27±4,80	1,94	-4,36	0,000*
7	Knee zone left	2	37,28±2,76	2	36,37±2,69	0,91	-1,35	0,183
8	Knee zone right	2	37,45±3,11	2	36,47±2,65	0,98	2,91	0,006*
9	Abdominal zone	3	93,97±8,91	3	90,82±8,24	3,15	-7,93	0,000*
10	Intra mamills zone	3	91,28±7,68	3	89,11±7,30	2,17	-0,42	0,676
11	Hip zone	4	104,02±7,95	4	100,58±7,38	3,44	1,97	0,057
12	Breast zone	2	78,98±8,06	2	77,28±7,29	1,7	5,38	0,000*

*P<0.005

Discussions

In this study, at the result of the exercise protocol, according to Table 1; while the average values of body weight before exercise was 48,00±92,00, after exercise it has become 46,00±88,00 and the odds is 3,24 kg. Although there is a definite difference between the averages, the result is found meaningless statistically.p>0.005. It is thought that the reduction of difference between the averages represents the reduction of the rate of lipid in the body and the lose of weight thanks to exercise.It is told that while the rate of lipid in the body is reducing with exercise, the mass of muscles that occurs as a result of hypertrophe,increases (Y.Kaya, 2003).

In Table 1, while the Sitlional width measures of subjects was 44,77±3,65 before the exercise,it has become 43,52±3,47 and the odds is 1.25 cm.It is seen that results are expressive(p<0,005). The difference between the findings is suitable with the study of Y. Kaya, 1991, and it is thought that the reductions result from the adductor's closing up to the upper extremite to the body.

When we look at the averages of Bithorachanteric width, while they were 29,3±3,12 before the exercise, they have become 26,67±3,27 and the odds is 2,63 (Table 1). The results look expressive statistically.($p<0,05$).It is thought that the reduction of Bithorachanteric width results from the reduction of soft fibres like lipid on trochanter majors.

In Table 2 it is seen that while the average of the widest hip zone was 98,05±6,06 before practice, it has become 94,92±5,64 and the odds is 3,13. The results are important stastically. ($p<0,05$). It is defined that since the most convenient zone which lipid fibres maximal occurs in women,at the same time because of exercise,hypertrophe can ocur and lipid fibres can turn into muscle fibres and the practice increases effiency. (A.C. Leon and et all.,2007), have determined that at the researches on sedentary women and the ones who are not interested in sports there is an essential and statistical differency in hip width before and after exercise. It shows parallelism with the study.

InTable2, the average of crotch zone, leg zone right before exercise was 62,21±5,52. After the exercise, it has become 60,27±4,80 and the odds is 1,94.It is expressive statistically ($p<0,05$). The hypertrophic differency in right legs is less than left legs because the right legs are used more in daily life. The hypertrophe in the study and hypodermic lipid fibres' reduction can be related to this.At the same time the right of crotch zone leg zone , is being practiced more, in comparison with the left ones and for this reason it is important statistically.

It is seen clearly that the average of abdominal zone and the breast zone before exercise differentiate with the one after exercise.It is also important statistically (Table 2), ($p<0,05$).It is thought that the clear difference between the averages and its being important statistically result from subjects' losing weight and slimming after the exercise programme.(L.I. Melinda and et all. 2003) have determined in a research on women that,after the exercise, there are essential differences in the average and the percentage of abdominal zone. They show parallelism with ths study.

Conclusions

As a result, when we look at the characteristic structuring of daily actions and most of the hypertrophic findings in the exercise, we see a lot of changes.

It is seen that some differences in muscles ocur apt to charasteristics of each exercise.It is thought that with the exercises that are standardized consciously and done regularly, over weights are losen and in paralel with this, anomalies can be reduced.As a result of eight weeks' exercise protocol and if it is practiced longer, the anomallies disappear.

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THE ASSESMENT OF THE FAİLURE AND SUCCESS CASES OF THE SPORTMEN PARTICIPATING TO MUAI-THAI TURKEY CHAMPIONSHIP

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SUMMARY

Objective: This research is made to determine the factors which affect the success and failure of the sportsmen competing at elite level in the branch of Muay-Thai in Turkey championship. The universe of the research involves Muay-Thai sportsmen at elite level and participating to Turkey Championship. The sampling group is constituted by 80 successful and 80 unsuccessful sportsmen in Turkey Championship. **Method:** In the research, a survey has been made to determine the factors affecting sportsmen's success and failure and by interviewing face to face with sportsmen participating to competition, dates have been collected. The findings have been analyzed statically by using frequency method. **Discussions and Conclusion:** After the research which has been made to determine the factors affecting the success and failure of sportsmen participating to Muay-Thai Turkey Championship, has been carried out, it can be conclude that while many factors are well to the fare in successful sportsmen, in failed sportsmen motivation, stress, regular training and lack of strategy are well to the fare.

Key words: Success, Failure, Muai-Thai, Sports

Introduction

The Far-Eastern sports are made to gain physical fitness, defense and mental discipline. (N. Merrilee, M. A. Zetaruk, D.Z.Violan, J.Lyle, M. 2000, Savaş S., Uğraş A., 2004) Muai-Thai is a type of martial arts of Thailand which allows boxing, kicking, using of knee and elbow. It is a branch of sports which provides physical and mental evolution and emphasizes discipline and respect momentously (C.Boykin 2002, S.Gartland, M. H. A. Malik and M. E., Lovell 2001**).**The concept of success is approached in terms of two aspects. In the first one, it is evaluated according to that a sportsman's fulfilling a movement function. In the second one ,success shows the result of this sports activity (C. İkizler, 1994). Motivation is defined as mechanisms which direct organism to behavior, determine the regularity and permanence of these behaviors and provide various interior and exterior factors determining and giving aim to behavior and working of these factors (A. Aydın, 2001). One of the factors affecting the success of the sportsman is the trainer. The trainer makes private practices to make the sportsman successful and to have the sportsman gain factors like motivation and necessary personality features. However a sportsman is capable and he practices, he needs help of trainer to win (E.Başer, 1998). The aim of this study is to determine the factors affecting the success and failure of the sportsmen participating to Turkey Championship in the branch of Muai-Thai.

Material and Method The aim of the research is to determine the factors affecting the success and failure of elite sportsmen competing at Muai-Thai Turkey Championship in Antalya. The system of the research involves sportsmen who participate to Turkey Championship and compete at Muai Thai at an elite level. The sampling group is constituted by 80 successful and 80 unsuccessful sportsmen in Turkey Championship. Dates have been collected to achieve the goal of the research in two ways. Firstly, the literature related to the subject has been scanned and then a survey has been made to determine the factors affecting the success and failure sportsmen for the aim of the research. Dates have been collected by interviewing face to face with sportsmen participating to the competition and by defining 24 survey questions one by one under a headline which have been measured in SPSS program, answer chicks to each defined question have been coded numerically. After all the question forms have been enrolled to the SPSS program, by taking frequencies and percentages of each question, table documentaries have been developed.

Discussions

There have been an intense stress and anxiety on sportsmen in competition period. If they can not be controlled, they can affect success and performance of the sportsmen negatively and they can cause failure (V.Yılmaz, Z.Korunç, 2004). Essentially, to prevent the factor of failure which is a negative result for sportsman and trainer, the factors causing failure should be determined.

Therefore; in the study to determine the factors affecting success and failure of sportsmen participating to Muay Thai Adults Turkey Championship, the factors like strength, resistance,

flexibility, family, climate referee, practicing regularly, the place they are practicing, technique dominance, tactic dominance, being coordinated better than rival, physical fitness, diet, saloon and materials are assessed individually on 80 successful and 80 unsuccessful sportsmen. At the result of the assessment, it can be seen that while in the success of the successful sportsmen, many factors are well to the fore, in the failure of unsuccessful sportsmen, only motivation, stress, lack of regular practice and lack of tactic are well to the fore. According to M. Akandere, 2000, this negative effect of motivation and stress on sportsmen shows parallelism with the study of M.C. CUE, 1984, named as "Stress in Junior Mecal Students, Relationship to Personality and Performance" (M. Akandere, 2000, M.C. Cue 1984). M. Gümüş and et all.,2006, have cited that in their study named as "Examination of Instant Anxiety Level according to Score Sequence in Professional Football Teams", at the result of subjective assessment of sportsman, the perception of possible failure is certainly followed by anxiety reaction (M. Gümüş, I.T.Ulusoy., F.Yamaner, T.C.Akalın, 2006). In the study of V.Yılmaz and et all.,2004, named as "The relation between the Anxiety Levels before and after Competition Performance ",when it is thought that sportsmen have too intense stress and anxiety in competition periods, it has been concluded that uncontrolled anxiety case affects performance of sportsmen negatively and it also causes failure (V.Yılmaz, Z.Korunç, 2004). In the study of Çoksevim and et all., 2006, named as "he Inventory Findings of the Permanence, Circumstance and short symptom in Kick Boxing sportsmen before and after matches", the study has been made on 20 national sportsmen in the branch of Kick Boxing and it has been observed that in competition sports, even in sportsmen at upper level, there is an intense anxiety before the match (B. Çoksevim., N. Sarıtat, 2006).The reason of this is determined as the cause of sportsmen's being sensually stressful before the competition can be the excitement of being elite sportsman, heavy concentration, getting a high degree and the thought of being champion. These studies support our research results.

Conclusions

It appears that each one of the factors affecting failure of sportsman related to one another, and if there is a lack of one of them, it causes failure of sportsman. Therefore, until the competition time, the conditions before competition, the relation between trainer and sportsman, the frequency and regularity of training affect both success and failure of sportsman. So, it is thought that trainers and families of sportsmen should be made conscious.

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Findings

Table 1: The interior and exterior factors affecting the success of subjects participating to the research

Variables	Yes		No		Partially	
	N	%	N	%	N	%
The effect of strength	27	33,8	47	58,8	6	7,6
The effect of resistance	25	31,3	48	60,0	7	8,8
The effect of flexibility	22	27,5	47	58,8	11	13,8
The effect of motivation	56	70,0	20	25,0	4	5,0
The effect of stress	50	62,5	24	30,0	6	7,5
The effect of trainer	18	22,5	61	76,3	1	1,3
The effect of family	11	13,8	65	81,3	4	5,0
The effect of balanced diet	19	23,8	47	58,8	14	17,5
The effect of climate	16	20,0	57	71,3	7	8,8
The effect of saloon	16	20,0	59	73,8	5	6,3
The effect of practicing regularly	44	55,0	28	35,0	8	10,0
The effect of the place they are practicing	18	22,5	57	71,3	5	6,3
The effect of materials they are using	23	28,8	48	60,0	9	11,3
The effect of technique dominance	33	41,3	37	46,3	10	12,5
The effect of tactic dominance	37	46,3	31	38,8	12	15,0
The effect of being coordinated better than rival	34	42,5	36	45,0	10	12,5
The effect of being well of their conditions	40	50,0	33	41,3	7	8,8

Table 2: The interior and exterior factors affecting failure of the subjects participating to the research

Variables	Yes		No		Partially	
	N	%	N	%	N	%
The effect of strength	68	85,0	5	6,3	7	8,8
The effect of resistance	75	93,8	3	3,8	2	2,5
The effect of flexibility	69	86,3	5	6,3	6	7,5
The effect of motivation	72	90,0	2	2,5	6	7,5
The effect of stress	35	43,8	31	38,8	13	16,3
The effect of the trainer	75	93,8	3	3,8	2	2,5
The effect of the family	50	62,5	20	25,0	10	12,5
The effect of balanced diet	52	65,0	17	21,3	11	13,8
The effect of climate	22	27,5	49	61,3	9	11,3
The effect of saloon	41	51,3	31	38,8	8	10,0
The effect of practicing regularly	72	90,0	7	8,8	1	1,3
The effect of the place they are practicing	70	87,5	6	7,5	4	5,0
The effect of materials they are using	51	63,8	21	26,3	8	10,0
The effect of technique dominance	70	87,5	3	3,8	7	8,8
The effect of tactic dominance	74	92,5	2	2,5	4	5,0
The effect of being coordinated better than rival	73	91,3	1	1,3	6	7,5
The effect of being well of their conditions	70	87,5	6	7,5	4	5,0
The effect of the competition referees	18	22,5	53	66,3	9	11,3

VIDEO ANALYSISES OF TECHNIQUES IN 17th MEN WORLD TAEKWON-DO CHAMPIONSHIP IN 2005

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Abstract

Objective: The target of this study is to research the techniqueal analysis of competition and the techniques which are effectiand on success in 17th Men World Taekwon-do Championship, 2005.

Method: Surrounding of the research consists of 31 sportsmen winning elimination competitions in Championship. Semi final and final competitions recorded by World Taekwon-do Federation have been watched on DVD and video analysis has been done. That the countries have used which techniques most to get the achievement in competitions is researched by examining usage frequency and numerical values of applied techniques according to rounds for all competitions in championship.

Results: İt is found out that the total points of the techniques used in all rounds throughout semi final and final competitions in Championship, is 277. The dispersion of this total point in semi final and final competitions according to rounds: it is 53 in 1. Round, 60 in 2, Round, 83 in 3. Round in semi final competitions; it is 18 in 1. Round, 25 in 2. round and 38 in 3.round in final competitions.

The pailding technique is used most. While they are attacking, the most applied technique is contra-pailding through semi final and final competitions. Korea becomes the first in contra-pailding, getting 31, the highest points. Iran becomes the second, getting 14.

Conclusions: Generally, Contra Pailding Technique is applied with 57 points in semi final competitions in15 matches and 45 rounds, with 25 points in final competitions in 8 matches and 24 rounds; Direct Pailding Technique is applied with 41 points in semi final competitions in 16 matches and 48 rounds, with 15 points in final competitions in 8 matches and 24 rounds and Pailding-in Lap Technique is applied with 52 points in semi final competitions in 16 matches and 48 rounds, with 18 points in final competitions in 8 matches and 24 rounds.

Key words: Video analysis, Taekwon-do, Competition

Introductıon

The history of Taekwon do goes back to 2000.the monuments on which Taekwondo doers expressed their art haand been found on the walls of tomb belonged to Kogurya Dynasty (R.Chun, C.A. Santa Clarita,. 1975). Until the end of the second world war, fighting arts were not known by Europan people so much, that those who took place in Pasific wars learned figthing arts made people interested in Taekwondo. In the of 1950's to meet the demands for formalTaekwondo, a few Koreaaan Taekwondo masters imigrated to the West (T.E.Lee, 1989). Thus, some parts of figthing arts were added fitness classes and applied in the USA (M.S.Olson, 1999).

Taekwon do consists of sudden and symetric action items in Karate, and more fluent and circular action items in Kung Fu. Studens firstly learn main stopping, boxing and kicking techniques after that they start to learn how to combine this knowledge with boxing and regular acting without touching. As lon as Taekwondo doers deandlop their skill, techniques and knowledge, they act according to their belt leandl serials. There is a belt-colour system from beginner leandl (white belt) to advanced leandl (black belt). Advanced leandl sportsmen are distinguished being awarded with liens (dan) from one to ten in black-belt leandl (D.R.Law, 2004).

Taekwon do or Olympic Taekwon do competition is a complete touch sports in which winner are defined by high score or knock-out. Points are gained by means of kicks and fists when they are done in the area that is regarded as legal. In a Taekwon do competition, in general, most points are gained by means of kick techniques more (approximately 80%, 90%) rather than boxing techniques. Sportsmen must produce enough power to get points from these actions (J.O.Koh, E.J. Watkınson, 1999).

In researches done before, it is emphasized that Taekwon do training and Taekwon do poomses (action series that come one after the other) belonged to general Taekwon do improand cardiorespirator durability and general physical talent (W.Pieter, D. Taafle, J.Heijmans, 1990, D.Young, 1992, A.E.Melhim, 2001).

Improandment of Taekwon do: after it has been built up Olympic sports statue by international olympic assembly: it has become andry popular fighting art in the world. Many countries haand giandn importance to it and each day with one million paticipant, it has been applied at all age groups (A.E. Melhim, 2001, M.S. Olson, 1999).

Materıal and method

The video analyse of 31 men who won semi final and final of election competitions in 17th Women

Taekwon do world championship that was held in Madrid, Spain in 2005 has been done.

All semi final and final recorded by World Taekwon Do Federation haand been watched on DVD and they haand been analysed as all techniques used in all rounds and their numeric values according to a competition liner deandloped by researchers.

Examining the frequency of applied techniques in all rounds in the competitions, that countries which won the games used mostly which techniques and their numeric values haand been researched.

Findings

İn World Taekwon Do Championship 54 Kg Men Semi Final and Final Competitions used techniques and Dispersion of Points,

SEMI FINAL (MEXİCA- KOREA): İn 1. Round of Mexica 1 direct pailding, 1 pailding in lap and against 1 dollyo çhagi Korea did not use any scorer techniques. Mexica applying in 2. Round pre-step pailding techniques while scores, Korea applying 2 pailding in lap of technique made point. While Mexica used 2 contra pailding, 1 direct pailding, 2 contra bando dollyo of techniques in 3. round, Korea used 1 direct paildingi as technique.

SEMI FINAL (İRAN-RUSSİA): Of İran sportmen in 1. Round 2 pre-step pailding and against 1 contra pailding of technique, Russia used 1 pailding in lap of technique, in 2. Round while İran used 1 contra dwit çhagi of technique, Russia used 1 dollyo çhagi of technique , in 3. Round of İran 1 double pailding and 1 direct pailding against of technique, Russia applying as technique 1contra dwit çhagi made point.

FİNAL (İRAN-KOREA): İran could not score in 1.Round, in 2. Round used 1 contra pailding of technique and against Koreaa used 2 direct pailding, in 3. round against of İran 1 double pailding of techniques, Koreaa used 4 contra pailding as technique.

58 Kg Mens used techniques in Semi Final and Final Competitions and Dispersion of Points;

SEMI FINAL (VİE-KOREA): Vietnam in1–2–3. rounds and could not scores, Korea applying 2 direct pailding in 1. round, in 2.round 1 pailding in lap and 3 dollyo çhagi, in 3. round 1 direct pailding technique made scores.

SEMI FINAL (İRAN-THA): Of İran soportmen in 1. round 2 contra pailding and 1 direct pailding technique against, of Thailand 1 contra pailding, in 2. round of İran used 3 contra pailding and 1 pailding in lap technique against 1 pailding in lap and 1 contra pailding of technique, in 3. Round İran used 2 pre-contra pailding, 1 contra pailding and 1 pailding in lap of technique Thailand used 2 pailding in lap and 1 direct pailding of technique.

FİNAL (İRAN-KOREA): Against of İran sportmen in1. Round direct pailding of technique, Korea used 1 direct pailding and 1 contra dwit çhagi of technique, in 2.round while of İran used 1 pre-step pailding and 1 contra pailding of technique, Korea used 1 contra dwit çhagi and 1 direct pailding of technique, against in 3. round İran 2 contra pailding and 2 direct pailding of technique, Koreaa applied 2 direct pailding and 3 contra pailding as technique.

62 Kg Mens used techniques in Semi Final and Final Competitions and Dispersion of Points;

SEMİ FİNAL(BRZ-ISR): While Brezilya used 1direct pailding of tecnic in 1. Round, İsrail applying of technique 1 contra pailding made score, against of Brezilia in 2. round 1 gimlet pailding and 1 step pailding technique, İsrail used 1 contra dwit çhagi and 1 contra pailding of technique; while Brezilya used 2 pailding in lap, 2 contra pailding and 1 dwit çhagi of techniques in 3. round, İsrail used 2 pailding in lap as technique.

SEMİ FİNAL(TUR-KOREA): While Turkey used 1 pre-contra pailding and 1 pailding in lap of technique in 1. Round, Korea used 1 pailding in lap, in 2. round of Turkey 2 contra pailding, 1 direct pailding and 1 pailding in lap against of technique, Korea used 2 pailding in lap and 2 direct paildingi as technique.

FİNAL(BRZ-KOREA): Against Brezilia 1 direct paildinge in 1.round, while Korea used 1 contra pailding, in 2. Round Brezilia used 1 contra pailding of technique; Korea used 1 direct pailding, in 3. Round, against of Brezilia 1 dwit çhagi and 1 contra pailding, Koreaa used 2 pre-contra pailding, 1 double pailding and 1 pailding in lapi as technique.

World Taekwon Do Championship 67 Kg Mens used techniques in Semi Final and Final Competitions and Dispersion of Points;

67 kg		Round	Contra pailding	Direct pailding	Kucakta pailding	Kucakta double pailding	Contra dwit çhagi	Önden double pailding	Ön contra pailding	TTL PN
M ESP	SEMİ FİNAL	1.round							1	4
		2.round			1					
		3.round		2						
K KOREAA	SEMİ FİNAL	1.round							1	5
		2.round	1							
		3.round	2					1		
M NED	SEMİ FİNAL	1.round	-	-	-		-	-	-	1
		2.round	-	-	-		-	-	-	
		3.round			1					
K USA	SEMİ FİNAL	1.round	-	-	-		-	-	-	3
		2.round	-	-	-		-	-	-	
		3.round	1	2						
M USA	FİNAL	1.round		1				1		7
		2.round		1						
		3.round	2		1	1				
K KOREAA	FİNAL	1.round	1							5
		2.round			1					
		3.round							3	
GENEL TPLM POİNTS			7	6	4	1	-	2	5	25

SEMİ FİNAL(ESP-KOREA): While İspanya used in 1. round 1 pre-step pailding of technique, Koreaa used 1 pre-step pailding of technique; against of Espania in 2. round 1 pailding in lap technique, while Koreaa used 1 contra pailding of technique and 3. Round Espania 2 direct pailding of technique, Koreaa used 2 contra pailding and 1 pre-double paildingi as technique.

SEMİ FİNAL(NED-USA): İn 1. And 2. Rounds Holland and America neither sportmens scored, against Holland of in 3. Round 1 pailding in lap technique, America used 2 direct pailding and 1 contra paildingi as technique.

FİNAL(USA-KOREA): WhileAmerica used in 1. round 1 direct pailding and 1 pre-double pailding of technique, Koreaa applying 1 contra pailding of technique made point; Against America of in 2. round 1 direct pailding of technique, Korea 1 pailding in lap of technique; against of America sportmen in 3. round 1 pailding in lap, 2 contra pailding and 1 double pailding in lap of technique, of Korea used sportmen 3 pre-contra pailding as technique.

72 Kg Mens used techniques in Semi Final and Final Competitions and Dispersion of Points;

SEMİ FİNAL(RUSSİA-ANDN): While Russia used in 1. Round 2 direct pailding of technique Andnedik used 1 pailding in lap of technique. When Russia did not use any score İn 2. round, Andnedik used 1 contra pailding of technique. Against of Russia 2 pailding in lap in 3. Round, 1 contra pailding and 1 pre-double pailding of technique, Andnedik used 1 contra pailding and 1 pre-pailding as technique.

FİNAL(RUSSİA-İRAN): While Russia made a point that applying 1 pailding in lap of technique in 1 round, By applying 1 pailding in lap of technique İran made a point. When Russia did not use any score İn 2. round, By applying 1 contra pailding and 1 pailding in lap of technique İran made a point. Russia used 1 double pailding of technique in 3. round, İran used 2 pailding in lapi as technique.

78 Kg Mens used techniques in Semi Final and Final Competitions and Dispersion of Points;

SEMİ FİNAL(USA-ESP) : While America used 1 pailding in lap of technique in 1. round İspanya did not use any score. Against of America 1 double pailding and 1 pailding in lap of technique in 2. round, İspanya used 1 direct pailding of technique; America did not use any point in 3. round, İspanya used 2 contra double paildingi as technique.

SEMİ FİNAL(AUS-İRAN) : While Aus used 1. round 1 contra double pailding and 1 kucakta double pailding in lap of technique, İran used 3 pailding in lap of technique. Against of Aus 1 direct pailding of technique in 2. round, İran applied 1 contra dollyo and 1 pailding in lap of technique. While Aus applied 3 double pailding of technique in 3. Round, İran used 2 contra pailding and 1double pailding as technique.

FİNAL(İRAN-USA) : İran did not use any score in 1. Round, America used 2 contra pailding of technique. Against of İran 2 pailding in lap of technique in 2. round, America applied 1 double pailding. İran applied 1 pailding in lap of technique in 3. Round, America used 1 gimlet pailding as technique.

84 Mens used techniques in Semi Final and Final Competitions and Dispersion of Points;

SEMİ FİNAL(KOREA-İRAN) : As technique1 pailding in lap applied against of at 2 contra pailding in

1. round; 1 double pailding and 1 pailding in lap used against of 3 contra pailding in 2. round; 2 pailding in lap and 1 contra pailding applied against of 2 contra pailding and 1 direct paildinge in 3. round.

SEMİ FİNAL(FRSA-ESP) : As technique 1 contra pailding and 2 contra ön pailding used against of 2 direct pailding and 1 contra pailding in1. round; 1 direct pailding and 1 naeryo çhagi against of 1 double pailding in 2; 1 contra pailding and 2 direct pailding against of 2 direct pailding and 1 contra pailding in 3. round.

FİNAL(KOREA-ESP) : In red corner could not any takeagainst of 2 contra pailding and 1 pailding in lape in 1. round; 2. round 1 contra pailding and 2 pailding in lape karşılık kırmızı köşe 1 direct pailding; In red corner applied 1 double pailding agaist of 1 pre-contra pailding as technique in 3. Round.

+84 Kg Mens used techniques in Semi Final and Final Competitions and Dispersion of Points;

SEMİ FİNAL(İTA-MOR) : As Italy applied 2 direct pailding of technique in1. Round, Morocco used 3 contra pailding and 1 direct pailding of technique; Morocco used 1 pailding in lap of technique against of Italy 1 contra pailding of technique in 2. Round; Italy applied 1 contra pailding in 3.round, Morocco used 1 direct pailding and 1 contra pailding of technique against of 1direct pailding and 1 pailding in lap of technique.

SEMİ FİNAL(KOREA-ESP) : While Korea used 4 contra pailding and 1 contra tolyo çhagi of technique in 1. round, Spain used 2 pailding in lap of technique; Spain applied 2 pailding in lap tekniği, 2 contra pailding and 1 direct pailding of technique against of Korea 4 pailding in lap and 2 contra pailding of technique in 2. round; Spain used 3 direct pailding and 2 pailding in lap of technique against of Korea 1 contra pailding of technique in 3. round.

FİNAL(ESP-MOR): Morocco applied 2 pre-contra pailding of technique against of Spain 1 contra pailding of technique in 1. Round; Morocco used 3 pailding in lap against of Spain 2 pailding in lap of technique in 2. round; Morocco applied 1 contra pailding of technique against of Spain 2 pailding in lap and 1 direct pailding of technique in 3. round.

Discussions and conclusions

31 women took place in semi final and final in the end of election competitions in 17th Women Taekwon do world championship that was held in Madrid, Spain in 2005.

Total technique points throughout semi final and final competitions are 277. When the dispersion of this total point is regarded for all rounds of semi final and final competitions, dispersion is seen as in 1. Round of semi final is 1. Round 53, 2 Round 60 and 3. Round 83. Totally, it is 196 points, in final 1.Round 18, 2.Round 25 and 3, Round 38; totally, it is 81 points. According to total point contra pailding with 82 takes the first order since it is the most applied one, pailding in lap with 70 takes the second and direct pailding with 23 takes the third points.

As it is seen at Table 1, in 54 kgs men semi final and final competitions, Korea is the country which used contra pailding technique most. Additionally, Korea used high level hit on head dolly change technique which is thought highly difficult in semi final.

Iran in 58 kg men contra pailding technique in semi final 8 points. Korea is which used most directt pailding of technique with 7 points and in semi finalde used high level hit on head contra dollyo of technique. Thailand and İran made from pailding in lap of technique 3 equal points in Semi final .

When we look at 62 kgs men the dispersion of points and used techniques in final semi final competitions, Turkey is which used most contra pailding of technique with 6 points in semi final. According to the dispersion of pailding in lap in semi final and final competitons, Korea is which used most with 6 points and at the same time used aynı directt paildingi of and naeryo chagi technique which is thought highly difficult in semi final.

In 67 kgs men Korea is which used most contra pailding technique in semi final and final competitions with 4 points and USA used most direct pailding technique totally with 4 points.

While the pailding in lap technique equal dispersion in semi final and final competitions, Korea is which used most pre-step contra pailding technique. As it is seen at Table 5, in 72 kgs men semi final and final competitions, Iran is the country which used contra pailding techniqu most with 4 points. In semi final competition, the Andnedik is used most contra dwit chagi technique with 2 points. According to the dispersion is used of techniques and points at 78 kgs men in Semi final and final competitions, general totally pailding in lap and double pailding of techniques are 9 points. When we look at the dispersion of point's Double pailding takes the most with 4 and Austria is used in semi final. Iran takes from Contra pailding 4 points, Besides Iran use high level hit on head contra dollyo chagi technique which is thought highly difficult in semi final and final.

In 84 kgs men, Korea is which used most contra pailding of technique with 10 points semi final and final competitions. While France is used most of directt pailding with 4 points in Semi final, Spain takes 3points. Iran is which used most Pailding in lap of technique in semi final and Korea is which used most in with 3 points. Additionally, Spain is which used naeryo çhagi technique which is thought highly difficult in semi final. According to Tablo 8, In +84 kgs men Spain used pailding in lap of technique totally with 9 points in semi final and final and Korea use most with 4 points in semi finalde. Besides, Korea applies contra dollyo of technique in semi final. When we look at the dispersion, Korea is which used most Contra pailding of technique the first order with 7 points in semi final, Morocco is which used the second with 4 points. Spain is used most direct pailding of technique totally with 5 points in semi final and final competitions, Italy is used most with 3 points.

When we examine, While Korea is wich use most contra pailding 31 points and directt pailding 18 points Korea, Iran the second order in use direct pailding of technique with 14 points. While Iran use the first order pailding in lap of technique with 18 points, Korea is which used the second order 16 points. Additionally, 5 Korean sportmen were in the final match and four of them became champion and one of them became the second. 4 Iran sportmen were in the final match and one of them became champion and three of them became the second.

As a final, pailding is the general technique which was 17th men world Taekwon do championship. Sportmen used pailding technique mostly in attacking as contra pailding, direct pailding and pailding in lap. Korea is which used most Contra pailding of technique throughout semi final final competitions and Korea takes most of points 31. Iran takes the second order with 14 points. As Iran is which used pailding in lap of technique the firs order with 18 points throughout semi final final competitions in world Taekwon do championship, Korea is which used the second order with 16 points. Again Korea is which used most direct pailding of technique with 18 points, again Iran takes the second order with 5 points. Korea is which used most dollyo chagi and naeryo chagi techniques which are hitting onto head techniques from 7 hits to 4 hits throughout semi final final competitions in world Taekwon do championship which are considered as high difficult techniques. Koh and Watkınson (1999) stated that total 15hitting onto head techniques were used in 1999 World Taekwon do Championship, in semi final and final competitions but in 2005 10th women world Taekwon do championship, in semi final and final competitions, total 7 hitting onto head techniques were used. According to general total points, Contra Pailding Technique is applied that with 57 points in semi final competitions in 15 matches and 45 rounds, with 25 points in final competitions in 8 matches and 24 rounds; Direct Pailding Technique is applied with 41 points in semi final competitions in 16 matches and 48 rounds, with 15 points in final competitions in 8 matches and 24 rounds and Pailding-in Lap Technique is applied with 52 points in semi final competitions in 16 matches and 48 rounds, with 18 points in final competitions in 8 matches and 24 rounds.

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THE RATIO OF PERFORMANCE OBTAINED INTO JUMP FIVE STEPS BY ATHLETICS TRAINING AND THE TEST RESULT OF TRIPLE - JUMP EVENT IN CHAMPIONSHIPS

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Abstract

The research is a study by the cross, wants to identify a correlation between the results obtained in jump five steps takeoff by the junior in training and the performance achieved by them in the big competitions in the event triple jump.

Research Methods and Procedures: This study used 6 males athlets (18±1.3years) and 6 females athlets(16±1.1 years) from Constanta sportclubs, which lies in the first 6 places in the national championships J.II girls and boys J.I. Values of variables were collected from documents, training of coaches these athletes, then interrelate and statistically calculated.

Results: in the event jump five steps without takeoff (average of length of 5 steps) is 15.48m±0.12 (males) and 13.79m±0.7 (girls) and performance obtained in the competition for triple jump event is 14.62m±0.42 (males) and 13.02m ±1.2 (girls); difference between jump 5 steps without takeoff and triple jump event is 0.89m±0.17, CV%=19.10 (for males, junior the first category) and 0.77m ±0.15, CV%=19.48 (second junior girls category).

Conclusions

Difference between jump 5 steps without takeoff and triple jump event is 0.89m±0.17, CV%=19.10 (for junior boys the first category) and 0.77m ±0.15, CV%=19.48 (second junior girls category). In the boys, the second step of triple jump event is approaching the length of 5 jump steps with takeoff 7 steps 4.15 vs. 4.38, for girls 3.79 vs. 3.90.

Key words: triple jump, standing jump five steps, athletics, performance, explosive power.

Introduction

The event *triple jump* is a test that requires a unique combination of speed, power and balance. Who practice triple jump should have an above average capacity to make the sprint and jump, strong muscles with a high explosive power and motor skills developed. (D. Hazes quote by J. L. Rogers, 2000). A significant difference was found between men and women triple jumpers in relation to the contribution of the step phase to the total distance of the jump (men, means = 29.5, SD = 1.46; women, means = 26.7, SD = 2.94; P less than 0.05). All remaining relationships among the kinematic variables studied were found to be not significant at P less than 0.05 or were less than r = 0.70. The phase ratios of current women triple jumpers were similar to ratios that have been reported for the novice athlete. (MA, Kilani, C.J.,Widule CJ, 1990). Study of Clifford Larkins, The University of Michigan demonstrated the ration of hop, step, jump by triple jump event:

	HOP	STEP	JUMP
Milburn (1979)	36.3%	31.3%	32.4%
Smith and Haven (1982)	33.6%	28.9%	37.5%
Fukashiro et al.(1981)	36.9%	29.1%,	34.0%
Hay and Miller (1985)	35.4%	29.4%,	35.3%

It is known that the explosive force of the jumpers is important to obtain high performance. Force explosive and dynamic are developing by plyometric method. Eccentric (lengthening) muscle contractions are rapidly followed by concentric (shortening) contraction in many sport skills. Whenever a long jump or triple jumper makes contact with the takeoff board, for example, there is a absorption of the shock of landing marked by slight flexion of the hip, knee and ankle followed by rapid extension of the takeoff foot and leg as a jumper leaves the board.(D.A.Chu, 1992). One of the exercises used in training the bounce triple jump is jump five steps instead of the impetus 3-5-7 steps. The author above states that the best way to improve performance in explosive tests is to increase leg power dynamic which leads to increasing step length, frequency and the length of jump five steps without takeoff.

Hypothesis

Starting from the idea that if a runner improves it s frequency steps from 3.0 to 3.5 steps per second, predictive performance of the long jump will be 15cm higher, I believe, I can get as obtained the next predictive: *the result in the event triple jump contest will be conditioned by the result of athlete in the control event* jump five steps takeoff *impetus obtained in practice.*

Research Methods and Procedures

Participants

The book is a transvers study which seeks to identify the predictions of the results obtained in competitive athletes in the triple jump event, the results obtained in jump five steps without takeoff, in practice, in the week of competition. Results were collected from the coaches of 6 boys and girls athletes from sport clubs of Constanta, who were ranked in the first 6 places in the national junior championships of second category.

Subjects

The subjects are presented in tables 1 and 2

Table 1. Females athletes, J II (age16±1.1)

Name	Standing Jump 5 steps	Triple jamp event	Difference between Standing jump 5 steps and triple jump event
BC	14.5	13.74	0.76
T.C.	13.6	12.98	0.62
S.C.	14.8	14.03	0.77
RA	13.35	12.50	0.85
MB	13.52	12.50	1.02
G.M.	13	12.40	0.6
			M=0.77; SD=0.15; CV% =19.48

Table no. 2.Males athletes, J.II(age 17±1.3)

Name	Standing Jump five steps	Triple jump	Deference between Standing jump five steps and triple jump event
D. A.	15.55	15.04	0.51
V.A.	15.67	15.03	0.64
S. A.	15.5	14.50	1.00
H. C.	14.7	13.88	0.82
S. D.	15.59	14.57	1.02
B.A.	15.9	14.74	1.36
			M=0.89, SD=0.17; CV%=19.10

The study was conducted between 1.10.2004 and 1.03.2009.

Results

Table 3. Characteristics results of the subjects

	M ± SD	
Variables	**Males JI (n = 6)**	**Females JII (n = 6)**
Standing Jump five steps	15.48±0.12	13.79±0.7
Triple jump event	14.62±0.42	13.02±1.2
Deference between Standing jump five steps and triple jump event	0.89±0.17 CV%=19.10	0.77±0.15 CV%=19.48

Table 4. Characteristics results of variables for the subjects

	M ± SD	
Variables	**Males JI (n = 6)**	**Females JII (n = 6)**
Average of step length on Standing jump five steps	3.09±0.07	2.74±0.17
Average of step length on triple jump event	4.84±0.14	4.34±0.04
Average of deference by step length on Standing jump five steps and step length on triple jump event	0.63±0.07	1.56±0.01
Deference between averages of both variables	1.77±0.9	1.58±0.05
Average of step length on jump five steps 7 run steps	20.79±0.42 (4.15m=1jump step)	18.95±0.3 (3,79m =1 jump step)
Average of deference by step length on Standing jump five steps and jump five steps with 7 takeoff steps	1.06±0.2	1.05±0.1

Discussions

In tables 1 and 2 are shown the best results achieved by athletes males and athletes females in the week of competition of *five steps* without takeoff and *triple jump event* in the same week. (tab.1 and 2). Also we are presented difference (cm) in length on the two events estimated by statistical calculation of average (M), SD and CV% for females and (tab. 3). In the event Standing jump five steps (average of length of 5 steps) is 15.48m±0.12 (males) and 13.79m±0.7(girls) and performance obtained in the competition for triple jump event is 14.62m±0.42 (triple jumpers males junior the first category) and 13.02m ±1.2 (triple jumpers girls second junior girls category); difference between jump 5 steps without takeoff and triple jump event is 0.89m±0.17, CV%=19.10 (for males, junior the first category) and 0.77m ±0.15, CV%=19.48 (second junior girls category).

In table no. 4 we presented the length by average of the jump five steps and length of steps in triple jump event both the girls and boys.

Under ideal proportion between steps (M. Ballesteros, 1993): Hop 35%, Step 30%, Jump 35% for triples jump of our research is:

HOP	STEP	JUMP
5.11	4.38	5.11 for triples jump boys
4.55	3.90	4.55 for triples jump girls

At boys, the second step of triple jump event is approaching the length of 5 jump steps with 7steps takeoff 4.15 vs. 4.38, for girls 3.79 vs. 3.90. (tab.no.4)

Conclusions

Difference between jump 5 steps without takeoff and triple jump event is 0.89m±0.17, CV%=19.10 (for junior boys the first category) and 0.77m ±0.15, CV%=19.48 (second junior girls category). In the boys, the second step of triple jump event is approaching the length of 5 jump steps with 7 run steps 4.15 vs. 4.38, for girls 3.79 vs. 3.90.

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STUDY ON THE IMPLICATIONS OF F.I.G. CODE OF POINTS ON THE COMPOSITION OF FLOOR EXERCISES

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Abstract

Paper to highlight the implications of FIG Code of Points on floor exercises contest of Artistic Gymnastics.

The main method of research, *comparative analysis*, was applied in the case of exercises presented in the floor finals of Olympic Games Athens 2004 and Beijing 2008. Sought to reveal the effects of the new code upon the floor exercises characteristics compared with the old code, valid for 2004 Olympic Games.

The research confirmed the hypothesis that the Code of semnificatife score has implications on the composition of exercises and largely determines the content, design, length of the dynamic and the slow parts, the difficulty degree, level of expressive movement.

Key words: artistic gymnastics, composition of floor exercises.

Introduction and research objective

The Code of points is the most important document that provides guidance for the preparation, as well as the basis of objective evaluation and enhances the development of sports. It is developed and changed periodically by the FIG, the Technical Committee (one for boys and one for girls), according to the development of Artistic Gymnastics worldwide and to the guidelines that may result along the years.

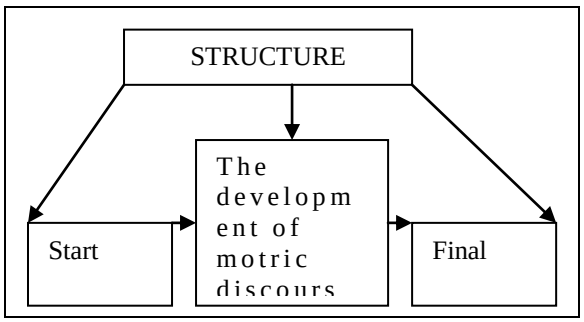
The Code of points is based on a "Technical regulation" (RT) and the FIG's decisions in concordance with the trends of evolution in Artistic Gymnastics worldwide (male and female). As a result there is a code for boys and another one for girls, in accordance with the specific of their activities and the assessment of their exercises.

The Code has a gradual systematization of the elements in terms of difficulty, in groups, for each apparatus separately. The purpose of such systematization is to obtain an assessment of the exercises as objective and uniform as possible, both on a national and international level, to raise the level of knowledge of the referees which must know in detail the provisions of the Code and apply them without subjective interpretations), to help both coaches and gymnasts to find the best solutions for the compositions of the exercises.

The Code structure consists of several articles, which provide rules regarding the composition and the type of the juries, the rights and duties of the referees, coaches and gymnasts, the methods for homologating the elements, for calculating the grade, general requirements as well as specific requirements for each apparatus,penalties (performed by persons with different responsibilities; tables with errors - small, medium and large), systematizations of elements depending on their level of difficulty (either devalued or new and original) and their corresponding graphic sign in accordance with the movografic transcription system of the exercises in gymnastics. *Choreograph*y as the dynamic expression of the composition, gives sense to carrying out the exercise (E. Abruzzini, 1998, quated by M. Manos, 2002) (V. Grigore, coord, 2002).

The general structure of any choreography includes several parts (fig. no. 1), connected through a relationship of interdependence, thus resulting one the

from the other. The choreography design emphasizes composition as a logical engine, precisely ordered from the point of view of motric sequences, the relation **Fig no. 1**



The choreographycal structure of floor exercises

The objectives of the research: to reveal the main implications of the FIG Code of points for floor exercises in female Artistic Gymnastics.

Hypothesis: the specific requirements for floor exercises as listed in the Code of points in effect at the date of a certain competition have significant effects on the exercises.

Research methods and procedures , **results, discussions**.

The main research method, the comparative analysis, has been applied for the exercises presented in the floor finals OG in Athens 2004 and Beijing 2008. The objective was to highlight the effects of the new Code upon the characteristics of the composition of floor exercises in comparison with the old code, valid for OG 2004, depending on the specific items choreography of the exercises.

The combination (acrobatic choreography, dance) in which values diversity and creativity, the progressive distribution of elements, rhythm changes, plan, position and direction and use the entire psychomotric space offered by the apparatus in question especially floor, the elements' difficulty and the relantionship with the music.. The combination appears as a factor of assessment solely for the note "B" for which the penalties goes for:

- The lack of creative composition;
- The lack of variety;
- The lack of progressive distribution of the elements leading towards an end correlated with the degree of difficulty of the exercise;

Comparative analysis was made according to the following items: content (acrobatic and gymnic), duration of the dynamic and the slow parts, the duration of the acrobatic and gymnic parts, the elements difficulty, the design of the exercise presented in the contest (the use of the space), variety, creativity, expressiveness.

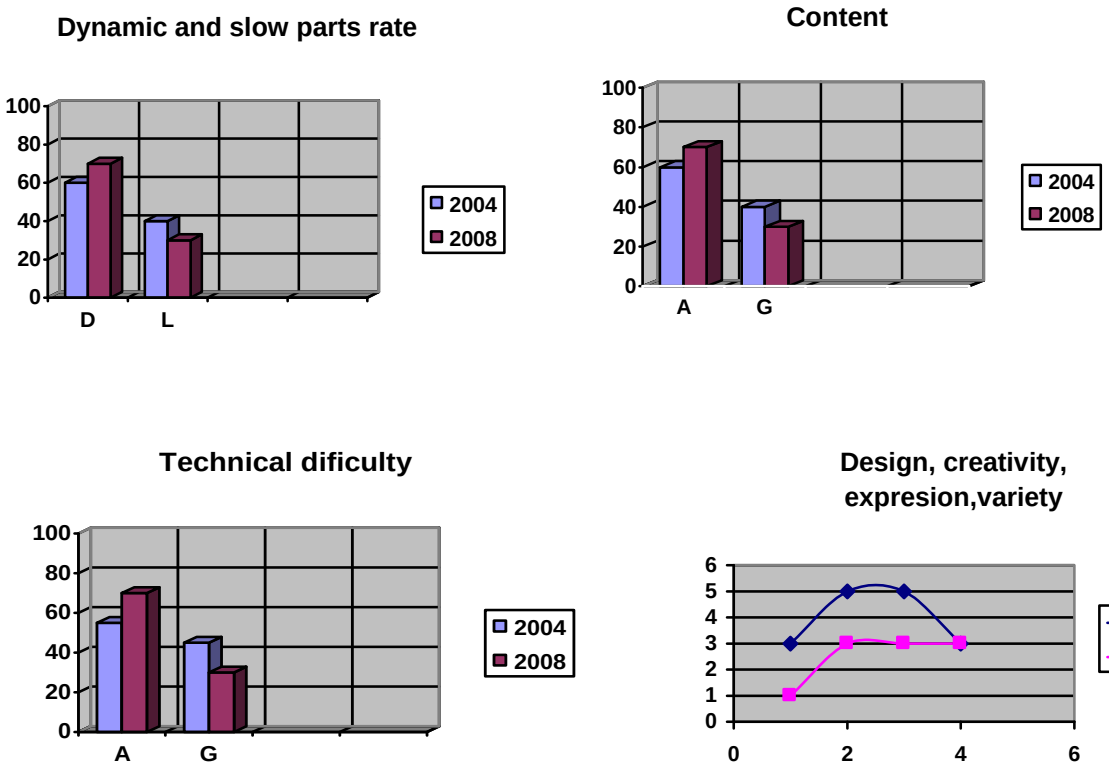
We present below (table no. 1, charts no. 1-4) research results.

Research results

Table no. 1

Itemi		**OG 2004**	**OG 2008**
Content *Technical elements isolated technical elments and bindings*	**A**	**70%**	**60%**
	G	**30%**	**40%**
Parts durations *dynamic and slow with acrobatic and gymnic content*	**D**	**60%**	**70%**
	L	**40%**	**30%**
Degree of difficulty	**A**	**55%**	**70%**
Technique	**G**	**45%**	**30%**
Design *levels of work and space covering*		**B**	**I**
Variety *in the selection and placement of elements, in alternating the parts and working levels*		**FB**	**B**
Creativity *the originality of the linkings and unity with musical background*		**FB**	**B**
Artististic expressiveness *Artistic and expressive interpretation of floor composition and musical theme*		**B**	**B**

The evaluation for the items "design", "variety", "creativity", "expression" was made according to a three-step scale: insufficient, good, very good. Grades were awarded points: 1pt. for insufficient, 3pt. for good and 5 pt. for very good.



Charts no. 1-4

The analysis revealed that the location of technical difficulties (Figure 4, 5)was in accordance with to the level of risk they presented, without neglecting the balanced distribution throughout the area of competition. This enhanced a better visualization of the technical content also managing to avoid the limitations of the carpet according to the official regulations. For every gymnast, the zone 1, 3, 7, and 9, are of major importance. This represent acrobatic diagonals. We present in Fig. 2.3, the trajectory and location of the acrobatic and gymnic difficulties in the compositions. For better illustration, we divided the area into nine zones corresponding to the which technical difficulties, presented in movement (acrobatics diagonal) and in a fixed position (pirouette, jump, balance, flexibility and value)and the areas where they occur most frequently.

Fig 4 The value placed on technical difficulties zone (Catalina Ponor)

1 0,20 p 5%	2 0,30 p 6%	3 0,40 p 10%
4 0,70 p 20%	5 0,80 p 25 %	6 0,60 p 15%
7 0,40 p 10%	8 0,40 p 9%	9 0%

Fig. 2 Catalina Ponor O.G 2004

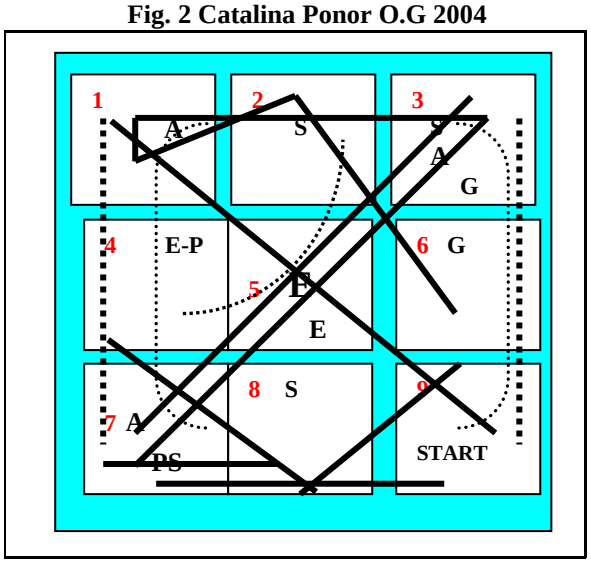
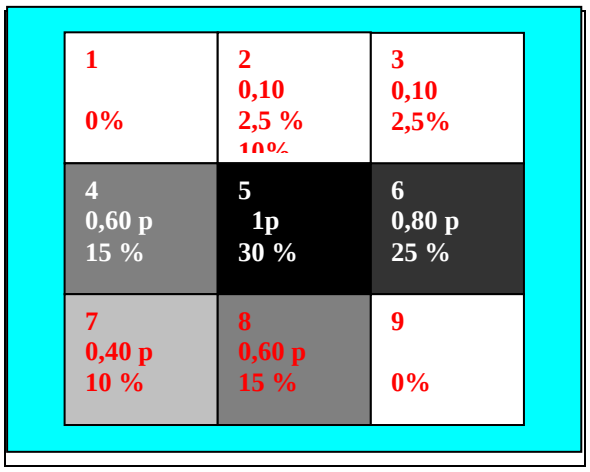


Fig. 5 The value placed on technical difficulties zone (Sandra Isbasa)



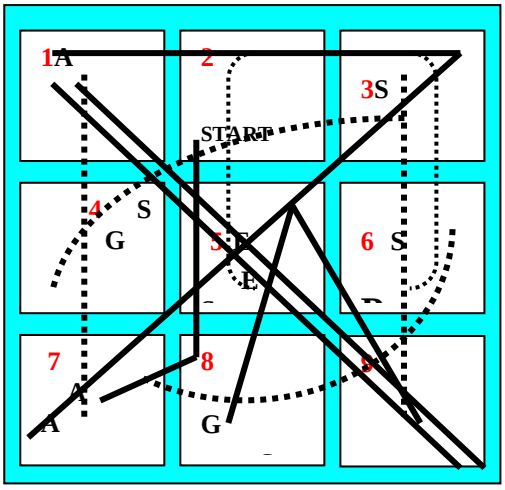


Fig. 3 Sandra Isbaşa O. G.. 2008

VI.Conclusions

The research confirmed the hypothesis and allowed us to formulate the following conclusions:
- The compositions are related to the specific requirements;
- An increasing level of difficulties of both gymnic and acrobatic elements (especially pirouettes and leaps with turn);
- Compliance with the 0072 general requirements concerning the compositions;
- The increasing similarity with the boys exercises in terms of content;
- High frequency of the same acrobatic and gymnic elements and binding
- Reducing the number of gymnic binding and combinations
- The execution of many movements in the corner of the carpet using especially the arms
- Mainly the use of diagonals
- Uncovering the entire space provided by the apparatus
- Small walking on shorter distances
- Reducing the expression and grace specific to the females
- Poor reflection of the musical theme content through the design map and variations of specific steps.

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EFFECTS OF FATIGUE ON THE BALANCE PERFORMANCE AS MEASURED BY BALANCE ERROR SCORRING SYSTEM IN VOLLEYBALL PLAYERS

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Abstract

The first aim of the study was to investigate the effects of fatigue on balance performance in men and women volleyball players. Eighteen volleyball players (9 men and 9 women) from a university volleyball team were examined. Subject characteristics were as follows: age (20.39 ± 1.15 years), height (177.2 ± 9.57 cm), and body mass (68.11 ± 10.62 kg).

The balance performance of subjects was assessed before and after fatiguing exercise, using the Balance Error Scoring System (BESS). Fatiguing exercise was performed on treadmill by using Bruce protocol. To determine different between fatigue and nonfatigue BESS scores was used Paired Samples t-test.

Different between the BESS total scores after fatigue in women volleyball players were not significant ($p>0.05$). Different between the BESS

Total scores in men and all subjects were significant ($p<0.05$). These findings suggest that fatigue exercise induced by means of treadmill increases postural sway in volleyball players. It is likely that the decreased motor performance declines the balance ability of volleyball players, because fatigue has adverse effects on Central Nervous System.

Key words: Balance, BESS, fatigue, volleyball.

Introduction

The maintenance and control of posture and balance, whether under static or dynamic conditions, are essential requirements for physical and daily activities (R.Lepers, A.X. Bigard, J.P. Diard, J.F. Gouteyron, C.Y.Guezennec, 1997). Sports trainings increase the ability of using somatosensorial and autolytic knowledge improving postural capacity (L. Bringoux, V. Marin, V. Nougier, P.A.Barraud, C. Raphel, 2000). The experienced athletes generally use specific perceptual (sensorial) knowledge in organizing posture in relation with the requirements of each discipline. (N.Vuillerme, F.Danion, L.Marin, A. Boyadjian, J.M. Prieur, I. Weise, V. Nougier, 2001; C.D. Davlin, 2004) Postural changes vary according to branch of sports (C.D. Davlin, 2004). For instance; judo trainings make somatosensorial knowledge more important, dancing practices make visual knowledge more important (P.Perrin, D.Deviterne, F.Hugel, C.Perrot, 2002).

Postural control or balance can be defined as the ability of maintaining support surface with minimal action statically and the ability of performing an action during maintaining a stable position dynamically.(K.M.Guskiewicz, 2001) The factors affecting balance involve somatosensorial, visual and vestibular system as well as coordination, joint range of motion and motor responses affecting strength. (L.M.Nashner, F.O.Black, C. Wall, C. 3rd., 1982; R.M. Palmieri, C.D.Ingersoll, M.L.Cordova, S.J.Kinzey, M.B.Stone, M.A. Krause, 2003) Mechanic characteristics of muscles is not sufficient for responding to the momentum being produced by external factors which cause disruption of posture during the practicing the movements related to sports. Therefore, balance is controlled by central nervous system invoking different postural muscles when it is required. (A.Nardone, A.Giordano, T.Corra`, M. Schieppati, 1990). The central nervous system requires proprioceptive, visual and vestibular inputs. If any of these inputs are damaged, body oscillation increases and muscle activity increases at the same time.(V.Dietz, 1992)

Various physiological mechanisms which occur at both central and peripheral levels cause fatigue induced reduction of motor control (T.D.Noakes, 2000). Muscle fatigue is related to a decrease in tension capacity or force output after repeated muscle contractions (S.K. Powers, E.T.Howley, 1990) The onset of fatigue may be attributed to metabolic or neurologic factors controlled peripherally and centrally by the neuromuscular system.((S.K. Powers, E.T. Howley, 1990, S.Yeung, A. Au, C.Chow, 1999) Fatigue have an adverse effect on neuromuscular control.(S.Yeung, A.Au, C. Chow, 1999;J.D. Watson, J.G. Colebatch, D.I. Mccloskey, 1984).

In evaluation of sportsmen's postural stability, there are many methods: Balance Error Scoring System (BESS), Star Excursion Balance Test, Kinesthetic Ability Trainer (KAT), Romberg Test.(C.T Lee, "Sharpening The Sharpened Romberg", 1998),

Chattecx Balance System D.(M.W Levine, J.A. Ollard, P.G., 1996), Equi Test System (Wrisley, D.M., Stephens, M.J., S. Mosley, A.Wojnowski, J. Duffy, R.Burkard, 2007) and Biodex Balance System (B.L.Arnold, R.J.Schmitz, 1998; A. Gioftsidou, P.Malliou, G.Pafis, A.Beneka, G. Godolias, C.N.Maganaris, 2006). However, few of these tests can be used for immediate sideline assessment. Balance Error Scoring System (BESS) is a valid and reliable measure method of postural stability (B.L.Riemann,, K.M.Guskiewicz, E.W. Shields, 1999). The test involves 3 stances (double leg, single leg and tandem stances), on both firm and foam surfaces, and was found to have an intratester reliability coefficient ranging from 0,78 and 0,96 (K.M.Guskiewicz, S.E.Ross, S.W. Marshall, 2001; Valovich, Mcleod T.C., Perrin, D.H., Guskiewicz, K.M., Shultz, S.J., Diamond. R., Gansneder, B.M., 2004). It is cheaper than force platforms, and requires less practice for effective administration (B.L.Riemann, K.M. Guskiewicz, E.W. Shields, 1999). Therefore, the aim of this study was to investigate whether a fatiguing exercise affects balance performance in male and female volleyball players as measured by the Balance Error Scoring

Material and Method

Subjects

Eighteen volleyball players (9 males and 9 females, aged 18-23 years) from a university team participated in the experiment. Any subject who had suffered a musculoskeletal injury to the lower extremity or a head injury during the 6 months before testing was excluded from the study. None of the subjects presented any history of motor problem, neurological disease, or vestibular impairment. All gave their informed consent, although the specific aims of the experiments were not conveyed. The experiment was administered in a week after competitive season.

Balance Error Scoring System

Postural control of all participants was measured using the Balance Error Scoring System (BESS). The BESS test battery requires participants to stand unsupported with their eyes closed under six conditions, using a combination of two surfaces (firm and foam) and three stances (double-limb, single-limb, and tandem) (Figure 1). The firm surface test was provided by the floor of a collegiate gymnasium. The foam surface was provided by a 50 x 41 x 6 cm block of medium-density foam (Airex Balance Pad, Alcan Airex AG, CH-5643 Sins/Switzerland).

One 20-second trial of each test condition was performed in the following order: double firm, single firm, tandem firm, double foam, single foam, and tandem foam. The same order of testing was used for each subject's pretest and posttest. A stopwatch was used to time each of the 20-second trials. Participants were scored based upon the errors recorded during each of the 6 balance tasks. Errors included lifting the hands off the iliac crest; opening the eyes; stepping, stumbling, or falling; moving the non-stance hip into more than 30° of flexion or abduction; lifting the forefoot or heel; and remaining out of the test position for more than 5 seconds. Error scores were calculated for each of the 6 conditions and summed to obtain the total BESS score. A full description of BESS scoring and reliability has been previously published (B.L.Riemann, K.M.Guskiewicz, 2000). Before the pretest, subjects were allowed to familiarize themselves with the different conditions. They were first allowed to try standing on the firm surface. Once they comfortable standing on each surface, they were instructed regarding the correct positioning for each of the 6 conditions. The double-leg stance conditions consisted of the subject standing with feet together. The single-leg stance was performed on the nondominant leg, as determined by which limb the subject would not preferentially use to kick a ball. The dominant leg was positioned so that the hip was flexed to approximately 30° and the knee flexed to 90°, leaving the foot approximately 20 cm off the ground. We instructed the subject not to lean the dominant leg on the nondominant leg. The nondominant foot was positioned behind the dominant foot in the tandem stance, and the subject was instructed to maintain the stance with the great toe of the nondominant foot touching the heel of the dominant foot. For all conditions, we instructed the subject to remain still with eyes closed and hands on the hips. After the instruction, each subject was given 2 familiarization trials on each condition before the actual data collection. Previous researchers have demonstrated a practice effect in which scores on the third day were significantly lower than the initial attempt (T.C.Valovich, D.H.Perrin, B.M.Gansneder, 2003). We instructed the subject to remain as still as possible; if he/she moved from the test position, he/she was to return to it as soon as possible.

A **B**

C **D**

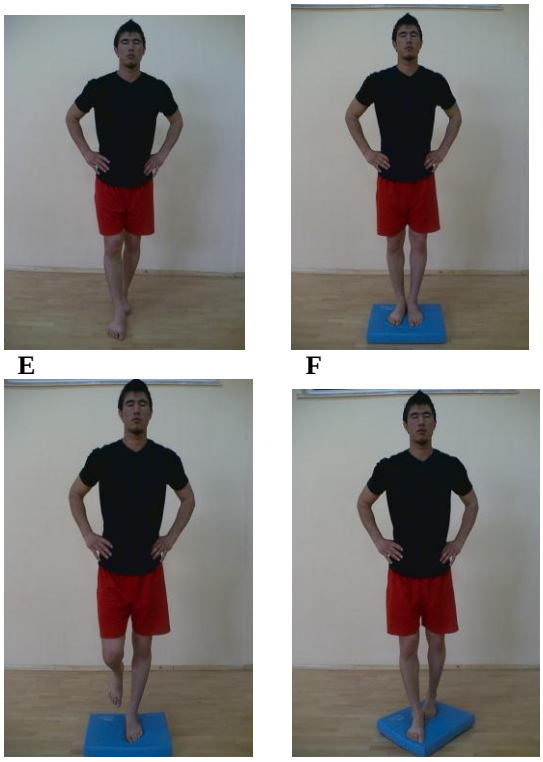

Figure 1: The 6 conditions of the Balance Error Scoring System. A: Double-leg stance, firm surface. B: Single-leg stance, firm surface. C: Tandem-leg stance, firm surface. D: Double-leg stance, foam surface. E: Single-leg stance, foam surface. F: Tandem-leg stance, foam surface.

As the subjects performed each 20-second trial, we observed and recorded the number of errors each subject made. Examiner stood 2.5-3 m from the subject to observe the eyes, hips, and feet at same time. Examiner scored all subjects and all trials. We confirmed scoring consistency before data collection through intra-tester reliability using a video camera. All subjects were videotaped performing the BESS, and scores of the live and videotaped conditions were used to determine the intra-tester reliability. ICCs for BESS scores ranged from 0.82 to 0.93.

Fatiguing Exercise

Bruce Protocol for fatiguing exercise was performed by a treadmill T150 Cosmed S.r.l., Italy). The exercise began at a speed of 1.7 mph and 10% grade for 3 min (32). The grade and speed were increased by 2% and 2.5 mph at the second stage, respectively. In each subsequent stage of the test, the grade and speed were increased by 2% and 0.8 mph until volitional exhaustion. Participants wore running shoes on treadmill but all BESS testing was performed barefoot. Subjects performed immediately the posttest after the fatigue protocol.

A 15-point Borg scale (from 6 to 20) (G.Borg, 1970) was used to measure ratings of perceived exertion (RPE) in an attempt to quantify the amount of exertion experienced by each subject. In addition, subjects wore a heart-rate meter (Polar Electro Inc., Finland) during the entire duration of the fatigue protocol. Heart rates (HR) of the subjects and RPE scales were monitored before fatigue protocol, at the end each stage and after fatigue protocol. RPE scale has been recommended for applied investigations of perceived exertion and for predictions of exercise intensity during sports and rehabilitation (G.Borg, 1982).

Statistical analysis

All analyses were performed using SPSS 13.0 for Windows (SPSS Inc., Chicago, IL). Values are expressed as mean ± standard deviation (SD). To verify the normality of the measured parameters, the Shapiro-Wilks test was used. The significance of any differences between the two conditions (pretest and posttest) was analyzed by paired t-test. A 0.05 significance level was used for all analyses.

RESULTS

The subjects' physical characteristics, the average (and ± SD) exercise time, HR and RPE after exercise are reported in table 1. The means (and ± SD) for the BESS scores in pretest and posttest were shown in table 2.

Table 1: The subjects' physical characteristics, the average (and ± SD) exercise time, HR and RPE after exercise.

Variables	***Women***	***Men***	***Total***
Age (Years)	20.00 (± 1.22)	20.78 (± 0.97)	20.39 (± 1.15)
Height (cm)	168.9 (± 4.88)	185.4 (± 4.06)	177.2 (± 9.57)
Weight (kg)	60.23 (± 5.93)	75.98 (± 8.06)	68.11 (± 10.62)
BMI	21.12 (± 1.98)	21.11 (± 2.50)	21.62 (± 2.24)
Exercise time (min)	12.32 (± 1.34)	14.35 (± 2.24)	13.33 (± 2.07)
HR after exercise (beats/min)	189.4 (± 6.15)	192.8 (± 6.69)	191.11 (± 6.46)
RPE after exercise	18.67 (± 1.00)	18.78 (± 1.56)	17.72 (± 1.27)

Table 2: The BESS Scores of volleyball players in pretest and posttest

	Firm Surface	***Foam Surface***	***Total BESS Scores***
Pretest			
Women	2,00 ± 1,90	12,89 ± 4,28	15,33 ± 6,42
Men	2,56 ± 2,19	14,78 ± 3,15	17,33 ± 4,66
All Subjects	2,28 ± 2,02	13,83 ± 3,78	16,33 ± 5,54
Posttest			
Women	4,11 ± 2,26	14,00 ± 2,69	18,22 ± 2,54
Men	5,33 ± 2,83	15,67 ± 2,45	21,00 ± 4,47
All Subjects	4,72 ± 2,56	14,83 ± 2,64	19,61 ± 3,81

The firm surface scores decreased significantly post exercise in women ($p<0.05$), men ($p<0.01$) and all subjects ($p<0.01$). No differences were seen at the total BESS scores in women ($p>0.05$). A significant effect of fatigue was presented between pretest and posttest in total BESS scores of men and all subjects ($p<0.01$). No differences between pretest and posttest were found in the foam surface scores taken from men, women and all subjects ($p>0.05$) (table 3).

Table 3: Comparisons of BESS Scores between pretest and posttest

	t	*P*
Women		
Firm Surface	-2,616	0,031*
Foam Surface	-0,626	0,549
Total BESS Scores	-1,506	0,170
Men		
Firm Surface	-5,625	0,000**
Foam Surface	-1,000	0,347
Total BESS Scores	-4,315	0,003**
All Subjects		
Firm Surface	-5,246	0,000**
Foam Surface	-1,038	0,314
Total BESS Scores	-3,207	0,005**

* P<0.05, ** P<0.01

Discussion

The main finding of this research was that all the BESS scores increased after fatigue. When the findings of research were examined, women volleyball players on firm surface scored significantly more errors on the posttest than on the pretest. On foam and total BESS scores, they performed also more errors on the posttest than the pretest. But, BESS scores between pretest and posttest was no significant. In foam surface, balance performance of men and all volleyball players was not different between pretest and posttest. Their firm surface scores and the total BESS scores increased significantly after fatigue exercise. Because, fatigue indicates a decrease in the central nervous system output to the muscles (G.A Brooks,. T.D., Fahey, , T.P., White1996).

In previous investigators, expensive computerized equipments are used to examine center-of-pressure changes and postural sway after fatigue protocols (R. Lepers, A.X. Bigard, J.P. Diard, J.F. Gouteyron, C.Y., Guezennec, 1997; P. Perrin, D. Deviterne, F. Hugel, C. Perrot, 2002; T.M., Lundin, J.W. Fuerbach, M.D.Grabiner, 1993; M.S., Davidson, M.L. Madigan, M.A. Nussbaum, 2004). In some researches, the effects of fatigue protocols on the BESS performance have been studied (J.C. Wilkins, T.C.V. Mcleod, D.H. Perin, B.M. Gansneder, 2004; D.H. Crowell, K.M. Guskiewicz, W.E. Prentice, J.A. Onate, 2001; J.P. Mihalik, L.Kohli, M.C. Whitton, 2007). The results of these researches used the BESS and expensive computerized equipments was similar. Therefore, the BESS was used in this study.

In parallel with the results of this study, it is declared that postural stability decreased significantly after local muscle fatigue (K.M.Guskiewicz, 2001; N.R. Colledge, P. Cantley, I. Peaston, H. Brash, S. Lewis, J.A.Wilson, 1994) And central fatigue (R. Lepers, A.X. Bigard, J.P. Diard, J.F. Gouteyron, C.Y. Guezennec., 1997; J.C. Wilkins, T.C.V Mcleod, D.H Perin,B.M Gansneder, 2004; D.H. Crowell, K.M. Guskiewicz, W.E., J.A.Prentice, Onate, 2001; A.,Nardone, , J., Tarantola, A.Giordano, , M Schieppati,., 1997; M., Hoffman, , J., Schrader, T.,Applegate, D., Koceja, 1998). Crowel et al (2001) have declared that there was a decrease in the BESS performance after a fatigue protocol including squat spring, sprint and treadmill running[38]. Wilkins et al (2004) have reported that the BESS scores increased after fatigue in first league college male athletes. Surenkok et al (2006) have pointed out that there was a decrease in balance ability after isokinetic fatigue (C.T. Lee, "Sharpening The Sharpened Romberg", 1998).

Muscle fatigue causes substantial postural control impairment, manifested as decreased balancing ability. Balance depends upon the central nervous system and on the 3 sensory systems (visual, vestibular, and somatosensory); alterations in central nervous system ability due to fatigue will likely affect one's ability to maintain balance.

Contrary to the findings of this study, some writers have found that there was no effect of fatiguing exercise on postural control (A. Rowe, S.Wright, J. Nyland, D.N. Caborn., R.Kling, 1999; S., Rozzi, ,S. Lephart., F Fu., 1999).

The most interesting result of the research was that although total BESS scores of female volleyball players increased after fatigue, any significantly difference had not been determined. This finding can result from that female volleyball players have better balance performances than male volleyball players. Some writers reported that men perform was more postural sway than women.However, Ekdahl et al (1989) declared that the results of functional balance test did not depend on gender. [46] It was said that standardizing the balance results by the length of the base of support or body weight removed the difference between the sexes (Era, P., Schroll, M., Ytting, H., Gause-Nilsson, I., Heikkinen, E., Steen, B., 1996; Maki, B.E., Holliday, P.J., Fernie, G.R., 1990).

In this study, in the evaluation of fatigue as well as HR, 15 points RPE scale which was developed by Borg was used. This scale was the most common scale in the evaluation of subjective qualities during dynamic physical load. [33] RPE scale is mostly used when the accurate guess of subjective exercise intension is required. The

advantage of rating scales is that they allow for direct inter-individual or intra-individual comparisons because the person reacts to the stimuli in an absolute manner (Borg, G., 1982).

Mahon et al (1997) reported that RPE was correlated with percentage of maximum heart rate reserve, percentage of ventilatory threshold, or percentage of VO_2 max during various exercise tasks (Mahon, A.D., Duncan, G.E., Howe, C.A., Del Corral, P., 1997). Therefore, it is thought that the subjects are doing exercises more than %85-90 of maximum VO_2 during the fatigue protocol. Besides, the increase of the BESS scores in posttest indicated that subjects were equally fatigued by the fatigue protocol.

Conclusions

As a result, it is determined that the fatiguing exercise on treadmill reduces balance performances of volleyball players. Since fatigue has negative effects on central nervous system, it could be said that the reduction in motor performance decreases the balance performance. It is suggested that trainers and conditioners should allow balance exercises in their programs to prevent probable injuries and the reduction of efficiency because of the decrease in balance performance.

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INFLUENCE OF MUSIC ON WINGATE ANAEROBIC TEST PERFORMANCE

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Abstract

While several studies have indicated that music has a beneficial effect on submaximal physical performance, few studies have investigated such effects on supramaximal exercise. The influence of music on the anaerobic performance was studied in 14 males and 6 females physically fitness college students (n = 20; mean age = 19,97 ± 1,34 years) under three music conditions ("no", "slow" and "fast") during the Wingate Anaerobic Test. Conditions were randomly ordered. Maximum Power Output (PP), Mean Power Output (AC), Minimum Power Output (MP) and Fatigue Index (FI) were compared between the all test conditions using a repeated measures analysis of variance.

As a result of the statistics analysis, for all measures were identified significant differences between the conditions with music (slow and fast music) and no music condition. Thus, Maximum Power Output, Mean Power Output, Minimum Power Output and Fatigue Index were significantly higher in slow and fast music tests than in no music test. No significant differences were identified between slow and fast music conditions for any measures (p >0,05).

In the conclusion, music can enhance anaerobic exercise performance.

Keywords: athletes, music, performance, Wingate Anaerobic Test.

Introduction

The use of music in sport and exercise contexts has attracted considerable interest from researchers in recent years (J. Potteiger, J. Schroeder, K. Goff, 2000; C. Karageorghis, and J. Lee, 2001; G. Tenenbaum, R. Lidor, J. Meis, et al. 2004; S. Simpson, and C. Karageorghis, 2006; M. Eliakim, Y. Meckel, D. Nemet, 2007), and it has long been considered effective for enhancing the exercise experience. Music motivates exercisers to sustain effort and at the same time is used to dissociate from the exertive sensations stemming from their bodies (P.C. Terry, and C. Karageorghis, 2006). Several studies have shown that up-tempo music has enhancing effects on performance, while slow tempo music had detrimental or relaxing effects (A. Ferguson, M. Carbonneau, and C. Chambliss, 1994; C. Karageorghis, K. Drew, and P.C. Terry, 1996). Others have shown both uptempo and slow tempo music have improved performance when compared to a white noise condition (N. Becker, S. Brett, and C. Chambliss, 1994). In contrast, B. Copeland and B.D. Franks (1991) failed to support the claim that loud and fast music enhances physiological and psychological responses in submaximal exercise. In line with H.

Lampl (1996) and L.B. Meyer (1994), if music serves to increase arousal in exercise, then it may be an effective preparation strategy when power or muscular endurance exercises are performed, but this same music may be counter productive for activities that require high levels of concentration and coordination (.

In an investigation of the physiological processes underlying the benefits of music, L. Szmedra and D.W. Bacharach (1998) showed that background music was associated with reduced heart rate, systolic blood pressure, exercise lactate, nor epinephrine production, and RPE during treadmill running at 70% VO_2 max. They suggested that music allowed participants to relax, reducing muscle tension, and thereby increasing blood flow and lactate clearance while decreasing lactate production in working muscle. While music has been suggested to be at its most beneficial to performance when played throughout the duration of aerobic exercise and endurance tasks, it is possible that in supramaximal tasks which require high levels of concentration, such as weight lifting, that the presence of music may be detrimental to performance. There is a void, however, in research on the effects of music on supramaximal performance. The purpose of the present study was to examine the effects of different types of music (slow, fast) on Wingate Anaerobic Test performance (T. Pujol, and M. Langenfeld, 1999; M. Eliakim, Y. Meckel, D. Nemet, 2007).

It was hypothesized that music induce significant improvements in supramaximal anaerobic athletic performance when compared with the non-music control condition.

Material and Method

Subjects 20 physically fitness college students among them 14 males and 6 females from the Gazi University have participated voluntarily in this research. They were healthy, exercised a minimum of 3 days per week in the university's sports programme. The ages ranged from 18 to 23 years: *M*=19,97; *SD*=11,34, weight: *M*=65,7 Kg; *SD*=8,64 and VO2 max: *M*=57,47 (ml.kg.min^{-1}), *SD*=11,90 (ml.kg.min^{-1}).

Instruments

A Monark 894 Ea cycle ergometer with a computer software program was used for testing. The resistance setting for the test was set at 7.5% of body weight in kg (T. Pujol, and M. Langenfeld, 1999). In the music conditions the subjects listened to the music through headphones connected to a type player.

Procedure

Each subject was asked to report to the laboratory on three occasions, each separated by at least 48-hours: slow, fast music and no music conditions. The order of testing condition was random. Subjects were instructed to refrain from eating or drinking, except water, for three hours prior to tests. For the conditions with music subjects were asked to select their favorite songs from selections presented to them. To ensure a level of familiarity and cultural appropriateness potential music selections were limited to songs which had featured in the Top 10 of Turkish Music during the previous six months (five tracks judged to be stimulative and five judged to be sedative were selected). The subjects listened to the music through headphones connected to a type player and volume was controlled by each subject, adjusted to comfort.

The Wingate Anaerobic Test consist of all out maximal pedaling at a specific resistance for 30 seconds on a stationary cycle ergometer. Revolutions are counted and recorded every 5 seconds during the 30 second all out performance. The individual was advised to complete a warm-up (3-5 minutes), followed by a recovery cool down (1-2 minutes). The resistance setting for the test was set at 7,5% of body weight in kg. In the music conditions, music was started as the subject began to increase pedal speed immediately prior to engaging the resistance. The music was played continuously from the start of the test until the test was stopped (T. Pujol, and M. Langenfeld, 1999; M. Eliakim, Y. Meckel, D. Nemet, 2007). Variables measured included Maximum Power Output, Mean Power Output, , Minimum Power Output and Fatigue Index. All power output measurements are based on 5-sec. averages as calculated by the Wingate Anaerobic Test software provided by Monark and are reported in Watts.Peak Power (PP) - the highest power output, observed during the first 5 sec of exercise, indicates the energy generating capacity of the immediate energy system. Mean Power Output (AC), was calculated as the mean power output for the length of each test (30 sec.) and reflects anaerobic capacity. Minimum Power Output (MP) was calculated as the lowest work output in a 5-sec. period. Fatigue Index (FI) provides percentage decline in power output and is calculated as follows: FI % = ((PP - MP) ÷ (PP)) /100. Means of all four measures were compared between the all test conditions ("slow", "fast" and "no music") using a repeated measures analysis of variance.

Results and Discussion

Statistical analysis for Mean Power Output, Maximum Power Output, Minimum Power Output and Fatigue Index for scores expressed in relative to body mass showed significant differences between slow music and no music conditions, fast music and no music conditions, but no significant differences between slow and fast music conditions. Means and standard deviations for Power Outputs during each test are shown in Table. Maximum Power Output, Mean Power Output and Minimum Power Output were increased

while listening to slow music and fast music compared to listening to no music ($p<0,0005$). Fatigue Index (%) during the test with slow music ($54,30 \pm 13,12$) and fast music ($52,10 \pm 14,04$) was significantly lower than the no music condition ($62,34 \pm 18,57$; $p<0,005$; $p<0,05$, respectively). Mean values for PP, AC, MP (watts/kg) and FI (%) for the test with slow music: $10,74 \pm 2,46$; $8,06 \pm 1,16$; $4,81 \pm 1,17$; $54,30 \pm 13,12$ were lower when compared to the fast music test: $10,96 \pm 2,62$; $8,07 \pm 1,33$; $4,90 \pm 1,44$; $52,10 \pm 14,04$ but these differences were not statistically significant ($p>0,05$).

Table Mean values of Power Outputs for the Wingate Anaerobic Tests with slow music, fast music and no music trials.

Variables	MUSIC CONDITION		
	Slow Music (means ± SD)	Fast Music (means ± SD)	No Music (means ± SD)
PP (Watts/Kg)	$10,74 \pm 2,46^{*}$	$10,96 \pm 2,62^{*}$	$9,07 \pm 1,73$
AC (Watts/Kg)	$8,06 \pm 1,16^{*}$	$8,07 \pm 1,33^{*}$	$6,64 \pm 1,09$
MP (Watts/Kg)	$4,81 \pm 1,17^{*}$	$4,90 \pm 1,44^{*}$	$3,28 \pm 1,57$
FI (%)	$54,30 \pm 13,12^{*}$	$52,10 \pm 14,04^{*}$	$62,34 \pm 18,57$

Significantly differences between music (slow,fast) and no music conditions.

Abbreviations: PP, maximum power output; AC, mean power output; MP, minimum power output; FI, fatigue index. While several studies have indicated that music has a beneficial effect on submaximal physical performance, few studies (K. Brownley, R. McMurray, and A. Hackney, 1995; C. Karageorghis, K. Drew, and P. Terry, 1996; T. Pujol, and M. Langenfeld, 1999; C. Karageorghis, and J. Lee, 2001; J. Pates, C. Karageorghis, R. Fryer, et al. 2001; G. Tenenbaum, R. Lidor, J. Meis, et al. 2004; S. Simpson, and C. Karageorghis, 2006; M. Eliakim, Y. Meckel, D. Nemet, 2007) have investigated such effects on supramaximal exercise. The research hypothesis was supported given that the anerobic power in the slow and fast music conditions were higher than those in the no-music control condition. The present study replicated the design of T. Pujol, and M. Langenfeld (1999) in testing the effects of music on Wingate Anaerobic Test performance. In this study, music yielded significantly higher anaerobic performance (Maximum Power Output, Mean Power Output, Minimum Power Output and Fatigue Index) than the control condition, while they found that music (120 bpm) did not affect performance in the Wingate Anaerobic Test. The authors attributed these results to the predominance of physiological as opposed to psychological cues at higher exercise intensities. In his study, the music condition consisted of the participant's choice from a selection of different musical pieces, which were all of equal tempo (120 bpm) and the subjects were asked to perform three consecutive Wingate Anaerobic Tests (with music) separated by 30 sec. rests. Thus, in our study, subjects were listened slow and fast music and asked to perform a Wingate Anaerobic Test in three occasions (once per test session) each separated by at least 48-hours: slow, fast music and no music conditions. But our results are aligned with M. Eliakim, Y. Meckel, D. Nemet, 2007, who reported higher Peak Anaerobic Power during the Wingate Anaerobic Test with music. They found that elite adolescent volleyball players who heard pop songs during a 10-minute stationary-cycle warm-up performed better on a Wingate Anaerobic Test of their anaerobic power than when they had warmed up without music. The young athletes (12 male and 12 female) underwent two separate exercise sessions a week apart, one of which involved warming up with music. Athletes' heart rates were higher when they warmed up with music, and they also perceived themselves as having worked harder. PP was significantly higher in all volleyball players ($10,7 \pm 0,3$ vs. $11,1 \pm 0,3$ Watts/kg, $p<0,05$, without and with music, respectively). But, the music didn't affect AC and FI, while in our study the music had significant effects on AC and FI. G. Tenenbaum, R. Lidor, J. Meis, et al. 2004, examined the effect of music type on running time and on sensations and thoughts experienced by the runners under high physical exertion, and the role that music plays in the use of two distinct self-regulation techniques during high exertion, namely dissociative and motivational. Music failed to influence HR, RPE and sensations of exertion in the three studies. However, about 30% of the participants indicated that the music helped them at the beginning of the run. The participants stated that music both directed their attention to the music and motivated them to continue. Despite the heavy workload reported by the runners, running with music was perceived as beneficial by many. The ergogenic effects of music in short-duration, explosive tasks have been frequently investigated. For example, C. Karageorghis, K. Drew, and P. Terry, 1996, tested the effects of stimulate (dance) music, sedative (easy-listening) music, and a control condition (white noise) delivered prior to a grip-strength test. The results were in the expected direction; grip strength following the stimulative music was significantly higher than in the other two conditions. K. Brownley, R. McMurray, and A. Hackney, 1995, studied the influence of stimulate (fast) music, sedative music, and a control condition on physiological indices during graded treadmill ergometer tests at low, medium, and high exercise intensities; stimulate music led to higher

respiratory rate when compared to sedative music and the control condition. This result suggests that stimulative music prompted the participants to expend more effort than the control or sedative music conditions in order to achieve an equivalent level of work rate. The present data support these findings, our study indicated that anaerobic performance following fast music (stimulate) was higher than following slow music (sedative), but this difference was not statistically significant (p>0,05). S. Simpson, and C. Karageorghis, 2006, investigated the effects of synchronous music during 400m track running. Their results showed that both motivational and oudeterous music elicited faster times than no music (ηp2 = .24), but times associated with the two music conditions did not differ; suggesting that the motivational qualities of music are not of critical importance when it is being used synchronously.

Conclusions

The present findings provided support for the research hypothesis given that anaerobic performance in slow and fast music conditions were superior to anaerobic performance with a no music control condition. Future research in the area may also wish to look at the effects of different types of music as anaerobic power stimulants on athletic performance. Clearly this is a fairly under-researched area of sport and exercise psychology, however, with further research into the effects of music on athletic performance, the area might prove to be a highly influential one in terms of revolutionizing the way athletes train for competitive sporting events.

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THE RELATIONSHIP OF JUMPING AND AGILITY PERFORMANCE IN CHILDREN

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Abstract

Agility is an essential component in most field and team sports. A new definition of agility is proposed: 'a rapid whole-body movement with change of velocity or direction in response to a stimulus'. The other definition of agility is the execution of a skill rapidly. Agility has relationships with trainable physical qualities such as strength, power and technique. Power, as a component of agility, can be defined as the amount of work produced per unit time or the product of force and velocity. The vertical jump has long been accepted for evaluating the leg power. With these definitions and explanations, additional information is required to determine the relationship between agility and jump performance.

Objectıve: The aim of the present study was to investigate the relationship of jumping and agility performance in children.

Research methods and procedures: Fifty healthy children aged 13 years (25 girls and 25 boys) participated voluntarily in the study. The age, body height and body weight were 13.02±0.54 y, 137.60±5.99 cm, 32.78±5.34 kg for girls, 13.21±0.43 y, 138.32±5.88 cm, 33.42±6.06 kg for boys, and 13.11±0.49 y, 137.96±5.88 cm, 33.10±5.66 kg for total group, respectively (mean+s). The subjects performed two tests; Agility test (Hexagonal Obstacle Test) and Vertical Jump (VJ) test. All data are expressed as mean± standard deviation (s). Pearson's r product-moment correlations coefficients were used to explore the relationships between agility and VJ ($p< 0.01$ and $p< 0.05$).

Results: The hexagonal obstacle agility test times mean±s for the girls, boys and all group were 18.90±2.62 s, 18.03±2.42 s and 18.46±2.53 s respectively. The vertical jump test heights, for the girls, boys and all group were 28.52±5.82 cm, 30.32±5.84 cm and 29.42±5.84 cm respectively.

There were significant and inverse relationships between the agility and vertical jump for girls ($p<0.01$), boys ($p<0.05$) and total group ($p<0.01$). There were no significant ($p>0.05$) differences between groups for vertical jump height and agility. However boys showed a better performance than girls on agility and vertical jump tests.

Dıscussıon and conclusıons: The results of the study confirm that a correlation exists between agility (hexagonal obstacle test) and vertical jumping performance (muscular power) in both girls and boys. Hexagonal obstacle agility test consists of jumping over a hexagon between the center and to the different directions of hexagon rapidly and accurately. Therefore vertical jump measurements may also be considered as possible predictor factor of agility performance. The relationship between the agility performance and vertical jump measures has to be tested with different agility tests too.

In conclusion, as leg muscular power measured by VJ, is thought to be a predictor of agility performance, improvement in this motor task should correspond to improved agility performance at a level. Further research is needed to determine the different agility performances and jumping ability. This relationship suggests that, trainings aimed to develop the leg muscular power could be emphasized for agility development trainings as a specific motor task, but this relationship needs to be evaluated in long longitudinal training researches.

Key words: Agility, jumping, leg power.

INTRODUCTION

Agility is an essential component in most field and team sports. Traditional definitions of agility have simply identified speed in directional changes as the defining component (Sheppard, et al. 2006; Draper & Lancester, 1985). A new definition of agility is proposed: 'a rapid whole-body movement with change of velocity or direction in response to a stimulus' (Sheppard & Young, 2006). The other definition of agility is the execution of a skill rapidly (Hazar, 2005).

Agility has relationships with trainable physical qualities such as strength, power and technique, as well as cognitive components such as visual-scanning techniques, visual-scanning speed and anticipation (Sheppard & Young, 2006).

Power, as a component of agility, can be defined as the amount of work produced per unit time or the product of force and velocity (Cronin & Slievert, 2005). In addition, muscle power refers to the ability of the neuromuscular system to produce the greatest possible impulse in a given time period (Sheppard & Young, 2006).

The vertical jump has long been accepted for evaluating the leg power (Burr et al. 2007).

With these definitions and explanations, additional information is required to determine the relationship between agility and jump performance (Vescovi and McGuigan, 2008, Barnes et al. 2007).

The aim of the present study was to investigate the relationship of jumping and agility performance in children.

Methods

Subjects

Fifty healthy children aged 13 years (25 girls and 25 boys) participated voluntarily in the study. A written consent was obtained from the parents before the study.

The age, body height and body weight were 13.02±0.54 y, 137.60±5.99 cm, 32.78±5.34 kg for girls, 13.21±0.43 y, 138.32±5.88 cm, 33.42±6.06 kg for boys, and 13.11±0.49 y, 137.96±5.88 cm, 33.10±5.66 kg for total group, respectively (mean+s).

Body Mass Index (BMI) was calculated by weight (kg) / height^2 (m^2) as kg/m^2.

Tests

The subjects performed two tests; Agility test (Hexagonal Obstacle Test) and Vertical Jump (VJ) test. Each test was carried out in an indoor gymnasium. No refusals and no injuries occurred during the testing procedures.

Agility Test (Hexagonal Obstacle Test)

Agility was assessed using the Hexagonal Obstacle Test. You stand in the centre of a hexagon with 66cm sides, marked out on the floor. You then, on command, have to jump as quickly as possible from the centre over one side, back to the centre and over another side, and so on all around the hexagon. Then, without ever turning the body, the participant jumps over all sides to complete one round. The participant continues until three full revolutions are completed.

The completion times were recorded using a handheld stopwatch to the nearest 0.01 second (s). The best value of two trials was recorded.

Vertical Jump Test

The vertical jump (VJ) test has been accepted as a valid measure of leg power (Winter & Maclaren, 2001; Van Praagh and Dore 2002). Van Praagh and Dore (2002) cited that, leg muscular power was evaluated by the vertical jump test (VJ) developed to measure maximal leg power.

For the test, each subject stood flat-footed and extended his arm as high as possible and this starting height was recorded. Participants are required to jump vertically as high as they can. At the peak of the jump, the test administrator marks the measuring board with chalk.

Vertical jump height was calculated as the distance from the highest point reached during standing and the highest point reached during the vertical jump.

The best value of the two jumps was recorded as the test score. The individual's ability to exert leg power is derived from the height of the jump.

Statistical Analysis

All data are expressed as mean ± standard deviation (s). Data were verified for normality of distribution. Variables that did not meet the assumption of normality were analyzed with non-parametric statistics.

Pearson's product-moment correlations coefficients were used to explore the relationships between agility and VJ. Statistical significance was set to $p< 0.01$ and $p< 0.05$.

Results

The descriptive data of the girls, boys and all group; age, body height, body weight and BMI are presented in Table 1.

Table 1. Descriptive Characteristics of Girls, Boys and All Group

	Girls (N=25) Mean (±S)	Boys (N=25) Mean (±S)	All Group (N=50) Mean (±S)
Age (years)	13.02 (0.54)	13.21 (0.43)	13.11 (0.49)
Body Height (m)	137.60 (5.99)	138.32 (5.88)	137.96 (5.88)
Body Weight (kg)	32.78 (5.34)	33.42 (6.06)	33.10 (5.66)
BMI (kg/m^2)	17.28 (2.24)	17.45 (2.53)	17.36 (2.36)

There were no statistically significant differences in body weight, height and BMI between the girls and boys ($p>0.05$).

The hexagonal obstacle agility test times (mean±s) for the girls, boys and all groups were 18.90±2.62 s, 18.03±2.42 s and 18.46±2.53 s respectively.

The vertical jump test heights, (mean±s) for the girls, boys and all groups were 28.52±5.82 cm, 30.32±5.84 cm and 29.42±5.84 cm respectively.

Table 2. The Agility, VJ Values and Pearson's Correlation Tests in Girls, Boys and All Group

		Girls (N=25) Mean (±S)	Boys (N=25) Mean (±S)	All Group (N=50) Mean (±S)
Hexagonal Obstacle Agility Test (s)		18.90 (2.62)	18.03 (2.42)	18.46 (2.53)
Vertical Jump (cm)		28.52 (5.82)	30.32 (5.84)	29.42 (5.84)
Hexagonal Obstacle Agility Test (s)	**r**[1]	- 0.516**	- 0.501*	- 0.521**
Vertical Jump (cm)	**p**	.008	.011	.000

* $p<0.05$ ** $p<0.01$ [1] Pearson's Correlation

There were significant and inverse relationships between the agility and vertical jump for girls ($p<0.01$), boys ($p<0.05$) and total group ($p<0.01$).

There were no significant ($p>0.05$) differences between groups for vertical jump height and agility. However boys showed a better performance than girls on agility and vertical jump tests.

Discussions

The results of the study confirm that a correlation exists between agility (hexagonal obstacle test) and vertical jumping performance (muscular power) in both girls and boys.

Negrete and Brophy (2000) reported that power has an influence on a complex, multidirectional change of direction sprints (agility) task that supports our results.

Vescovi and McGuigan (2008) reported inverse relationships between agility and countermovement jump height as r=-0.477, r=-0.551, r=-0.698 for three different sports players and age level girls high school soccer players (15.1±1.6 years), college soccer players (19.9±0.9 years), college lacrosse players (19.7±1.1 years) respectively. Barnes et al. (2007) found a inverse relationship between jumping and agility performance as r=-0.580 in collegiate female volleyball players from Division I (n=9; 20.3±1.5 years), Division II (n=11; 19.6±1.4 years), Division III (n=9; 20.0±1.3 years).

The results of Vescovi and McGuigan, 2008, and Barnes et al., 2007, are convenient with the results of present study that is there is a relationship between agility performance and jumping.

Barnes et al., 2007, cited that "maximal jumping is generally considered as dynamic movement requiring high muscle power" and because agility performance is also a dynamic movement requiring high muscle power, it is reasonable to assume jumping and agility performances would be closely related.

Hexagonal obstacle agility test consists of jumping over a hexagon between the center and to the different directions of hexagon rapidly and accurately. The jumping component of hexagonal agility test is similar to the VJ test and that may be one reason of the significant correlations between hexagonal agility and VJ tests. Therefore vertical jump measurements may also be considered as possible predictor factor of agility performance.

However it has to be taken into consideration that, there are some other types of agility tests that include change of direction runs in different ways. Therefore the relationship between the agility performance and vertical jump measures has to be tested with different agility tests too.

Conclusions

In conclusion, as leg muscular power measured by VJ, is thought to be a predictor of agility performance, improvement in this motor task should correspond to improved agility performance at a level. Further research is needed to determine the different agility performances and jumping ability.

This relationship suggests that, trainings aimed to develop the leg muscular power could be emphasized for agility development trainings as a specific motor task, but this relationship needs to be evaluated in long longitudinal training researches.

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CONSTATATIV STUDY ON THE LEVEL OF SPORTS TRAINING BASKETBALL PLAYERS IN HIGH SCHOOL

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Abstract

Physical preparation includes a whole system of measures which ensure a high functional capacity of the organism, through development of basic motor skills and combined the best values on morpho-functional indices, technical mastery and execution processes perfect state of health of the future.

Basketball player involved must prove speed and explosive action, carried out with minimum effort and maximum efficiency, unlike the novice basketball player carrying out actions and activities without a driving speed of the game proper execution of modern basketball.

Methods: The research was based on the proper investigation methods and processing, analysis and interpretation of the data obtained through research – the mathematic method and statistic method.

Results: The results recorded in the 6 samples (4 samples and physical evidence technical 2) compared with grid points required by the Romanian Basketball Federation to participate in competitions at this level of age, shows a poor training of future high school sports.

Conclusions: The sports training basketball players to high school is not sufucient high to allow participation in competitions at this age level.

Key words: sports training, samples and control rules, basketball, high school students.

The introduction and the objectives of the research

In the contemporary concept of training, achievement of performance is determined largely by the preparation as early players [Predescu, T., Negulescu, C., 1994].

Preparing the physical support for all other components of the training, even as the basis for the entire process of preparation. Physical preparation includes a whole system of measures which ensure a high functional capacity of the organism, the level of development of basic motor skills and specific optimum of morpho-functional indices, full mastery of exercises used and a state of perfect health [Predescu, T., Ghițescu, G., 2001].

But to achieve sporting success, in addition to physical preparation, basketball players need a perfect technique, the most effective and rational execution of an effort. The technique is closer to the perfection, the athletes consumed less energy to achieve the desired result [Bompa, T., 2003]. Technique should not be targeted only to the normal or ideal. Techniques must be developed to allow players to adjust performance in line with growing competition increased. Today technology has become faster, removing large movements, smooth and slow and predictable here, with short movements, stimulate and effectively.

Technical support is the driving qualities. A corresponding technical skills allow manifestation athletes close to the maximum of possibilities.

In these circumstances we believe that technology must be developed in conditions as close as possible to those encountered in the game competition. In this context we have used the two tests technical characteristics of each post of the team, which tests approaching situations encountered in the game.

Purpose of paper

In this paper we wanted to find out which is the preparation of reports to the sports federation Romanian Basketball players in high school basketball.

To this end were tested teams of 5 players basketball school level, which were applied to testes of the FRB:

- 4 testes of physical training
  - Speed - 30 meters;
  - Detention on the spot;
  - Small marathon;
  - Endurance - 800 meters.
- 2 testes of technical training:
  - Free throw;
  - Test of the post game.

Were tested a total of 76 basketball players of the high school: 21 guard players, 31 forward players and 24 center players.

Results and their analysis

To determine the level of training of basketball players in the secondary cycle, subjects were subjected to a number of 6 samples imposed by the Romanian Basketball Federation in this age group. Following application of physical tests were obtained the following data:

Table 1 - Results from the tests FRB.

Tests		Speed 30 m (sec)	Detention on the spot (cm)	Small marathon (sec)	Endurance 800 m (sec)	Free throw (baskets)	Test of the post game (points)
Guard players n = 21	X	4,536	51,524	23,871	5,333	5,333	10,190
	DS	0,100	1,965	0,481	1,017	1,017	2,250
	Cv	2,20	3,81	2,01	19,06	19,06	22,08
Forward players n = 31	X	4,695	48,258	24,135	5,581	5,581	9,903
	DS	0,115	2,569	0,472	1,025	1,025	2,181
	Cv	2,45	5,32	1,96	18,38	18,38	22,02
Center players n = 24	X	4,838	44,917	24,488	4,375	4,375	9,250
	DS	0,101	1,840	0,495	0,970	0,970	2,111
	Cv	2,10	4,10	2,02	22,16	22,16	22,82
Total players n = 76	X	4,696	48,105	24,174	5,132	5,132	9,776
	DS	0,157	3,353	0,533	1,124	1,124	2,182
	Cv	3,35	6,97	2,20	21,90	21,90	22,32

As can be seen from Table 1, test **speed 30 m** were recorded following average results obtained compared with the table of scores of FRB looks like this:

- Guard players (n=21) X = 4,536 = 8 points;
- Forward players (n=31) X = 4,695 = 7 points;
- Center players (n=24) X = 4,836 = 5 points;
- Total players (n=76) X = 4,696 = 7 points.

In the test of **detention on the spot** were recorded and the average scores for:

- Guard players (n=21) X = 51,524 = 3 points;
- Forward players (n=31) X = 48,258 = 1 point;
- Center players (n=24) X = 44,917 = 0 points;
- Total players (n=76) X = 48,105 = 1 point.

In the **small test marathon** have been following media, expressed in seconds and corresponding scores:

- Guard players (n=21) X = 23,871 = 7 points;
- Forward players(n=31) X = 24,135 = 5 points;
- Center players (n=24) X = 24,488 = 2 points;
- Total players (n=76) X = 24,174 = 2 points.

Endurance test at 800 m were obtained the following average, expressed in seconds and corresponding scores:

- Guard players (n=21) X = 179,191 = 3 points;
- Forward players(n=31)X = 179,86 = 3 points;
- Center players (n=24) X = 185,183 = 1 point;
- Total players (n=76) X = 181,357 = 2 points.

Analyzing all the physical evidence we see that the best results are obtained by the players follow the guard of forward players and center players.

To establish the technical preparation were applied 2 test technical free throw for the sample and the sample post, the 2 test piece of evidence required, the FRB determined for this age level.

As can be seen to **free throw** off the test were recorded the following average results, expressed in number of successful baskets, which compared with the table of scores of FRB looks like this:

- Guard players (n=21) X = 5,333 = 7 points;
- Forward players (n=31) X = 5,581 = 7 points;
- Center players (n=24) X = 4,375 = 5 points;
- Total players (n=76) X = 5,132 = 6 points.

In the **test of the post game** as has been made following average value expressed in points in a successful sacks and corresponding scores:

- Guard players (n=21) X = 10,190 = 10 points;
- Forward players (n=31)X = 9,903 = 10 points;
- Center players (n=24) X = 9,250 = 9 points;
- Total players (n=76) X = 9,776 = 10 points.

Two technical evidence, and the endurance test of 800 m the coefficient of variance values recorded between 18-23% which means that we have groups with medium and low homogeneity. On the other physical evidence varibilitate coefficient is less than 10%, meaning a high homogeneity of the results obtained from subjects in these samples.

In Table 2 are shown the number of points obtained by the subjects based on the results obtained in the 6 samples, according to the scoring table of the Romanian Basketball Federation.

Table 2 - Table centralizing the score obtained from samples FRB

Proba	Speed 30 m	Detention on the spot	Small marathon	Endurance 800 m	Free throw	Test of the post game	Total points
Guard players	**8**	**3**	**7**	**3**	**7**	**10**	**38 points**
Forward players	**7**	**1**	**5**	**3**	**7**	**10**	**33 points**
Center players	**5**	**0**	**2**	**1**	**5**	**9**	**22 points**
Total players	**7**	**1**	**2**	**2**	**6**	**10**	**28 points**

Conclusions

Since the requirements for graduation tests imposed by the Romanian Basketball Federation for this age group involves accumulating a minimum total score of 72 points we can say that the sports training of basketball players in the secondary cycle is inadequate.

As can be seen from Table 2 the best score was obtained by the guard players, followed by forward players and the center players.

Also see that the highest scores were obtained from samples preparation technique.

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MUSCULAR PREPARATION INFLUENCE ON BODY MASS INDEX AND POWER TO RUGBY PLAYERS

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Abstract

Purpose: The purpose of this research work is to optimize the muscle preparation in line with new approaches to the game of rugby. We believe that by adopting a new approach to preparing the muscle adapted to the new orientations of the modern game of rugby, body mass index of players will drop in favor of increasing the quality of development required active mass of large powers shortly.

Material and Methods: Basic experiment was conducted in the muscle preparation and rugby ground. Number of players in the batch experiment was 24 of 12 players and 12 players' forwards of the back line. Number of players in the control group was 24 of 12 players and 12 players' forwards of the back line. Muscle training program was conducted over 6 weeks in preparation for winter 4 times a week at the strength with exercises using weights and cargo between 70% and 100% of 1 RM. Completion of training in muscle, we introduced a program of general physical training took place on the stadium. Initial and final tests included samples and measuring the maximum force, a watt of power developed in the bounce platform Miron Georgescu, use a BMI test and Jackson Pollock.

Results: Compartment for players' forwards, the initial testing, the average values of experimental group are 1.63 W, while the final test has been the average of 1.84 W. For the average section of the back line to the experimental group at initial testing are 1.61W, the final test were recorded average values of 1.77W. The evolution of media is significant headway in the compartment, $t = 3$, $p < 0.01$, and for the back line, $t = 3.88$ $p < 0005$.

Conclusion: Power needed to accelerate over a short distance, a change of direction has increased following the introduction of muscle training program, based on the average weight increase and decline of players average BMI.

Keywords: rugby player, training, muscle, weight, body mass index.

Introduction

The game of rugby is considered one of the men's sports. Force, energy waste, speed, fight the elements are outlined in a game, doubling the team spirit, courage and boldness that is manifested in behavior on the field each player. Total Rugby involves maintaining a ball in the game as a long time, so the attack phase is more extended through the support of teammates to a player with the ball carrier that increases the probability of producing effects in the defense team open spaces, which can lead the team in attack by land and the target of increasing the psychological pressure on the defense and in default to induce physical fatigue.

International specialist publications are increasingly targeting new strategies for preparing for a rugby team in the modern muscle preparation is

increasingly important. In his "Strength and power in rugby" center manager for training coaches for Japan and the Far East says that "technical mistakes most senior players are caused by insufficient muscle training started at age too low or too high weights have resulted technical performances to spoilage or modification in the negative sense (C. Frederick, 2007).

A group of authors states that "maintaining a high level of preparedness throughout the muscle decrease the possibility of injury among athletes (J. H. M. Brooks, C. W. Fuller, S. P. T. Kemp, D. Reddin. B.,). Strength is defined by a common sense of many specialists, being able to defeat efforts to achieve, maintain or disposal in relation to an internal or external resistance by contraction of one or more muscle groups. Preparing technical rugby player, includes all actions performed driven ideal in terms of their effectiveness. Analysis of new techniques in the international competitions, it is obvious that the introduction of domestic teams in the game requires serious muscle training.

Adverse results recorded international games, currently in the 80-90 years able to cut into our favor, led to the unanimous opinion of specialists in a field that is due to the low level of muscle preparation. This gap can be overcome through a permanent concern of all specialists to adapt the training for technical tasks proposed. The new regulations are tailored provisions trends revealed by the increased average weight of players from teams in the first echelon of most major nations, "when in 1995 the average weight of all players All Black team representative of New Zealand was between 95-100 kg (depending on the season and the competition), in 2007 it has grown as the range 111-113 kg (D. McGrath.). Thus a team of study authors concluded that the "muscle training programs which involve explosive force shortens reaction time, making coordination and an optimal relationship between the muscle groups of agonist and antagonists such technical possibilities of the players rugby can highlight an increased level "(D.LaRoche, S. Roy, C.Knight)

Aerobic system has the ability to use carbohydrates, proteins and free fatty acids to provide ATP as long as oxygen is present. Thus "ATP is the immediate source of energy available for muscle contraction (J.Weineck). The result of this process is heat, water and carbon dioxide. Aerobic system needs" of 60 to 80 seconds to produce the necessary energy from ATP and ADP + P"(T.Bompa). Anaerobic system uses only carbohydrates to produce ATP. This system does not use oxygen. The aerobic energy "for a period of 45, maximum 75 seconds to a maximum"(G.Joan, A.Creager.).

Material and methods

Basic experiment was conducted in the muscle preparation and rugby ground. Number of players in the batch experiment was 24 of 12 players and 12 players forwards of the back line. Number of players in the control group was 24 of 12 players and 12 players forwards of the back line. Muscle training program was conducted over 6 weeks in preparation for winter 4 times a week at the strength with exercises using weights and cargo between 70% and 100% of 1 RM. Completion of training in muscle, we introduced a program of general physical training took place on the stadium. Initial and final tests included samples and measuring the maximum force, a watt of power developed in the platform Bounce Miron Georgescu, Equipment is a platform for contact, with useful area of about 1 mx 1.2 m, coupled by serial interface (RS-232) to a PC. Through the acquisition is made: in times of state air (Ta) and contact with soil (Ts) with an accuracy of 0.001 seconds, and calculates, based on their parameters and energy control.

Program used for acquisition and processing done automatically as the primary measurement data and calculation results for each series of the lift for the whole sample. Full sample consists of achieving a 3 series every jump 15 \ "as the ball \ ', subject, each spring, the maximum height of detachment and a minimum of contact with the ground (hence the notation MGM-15 - test \ "Dr. Miron Georgescu Changed - jump by 15 \"). The first series of runs on the lift both legs. In the second series runs on the lift right leg and the third series run on the left leg, breaks with data speed of data processing by computer (30 \ "-1 ')." From a theoretical point of view, a sports is even better in terms of neuromuscular control is adjusted as better and more quickly to a new (Hillerin, P.). Jackson and Pollock Skinfold Test, Measuring body fat percentage is an easy method of discovering correct body weight and composition. Beneath the skin is a layer of subcutaneous fat, and the percentage of total body fat can be measured by taking the skinfold at selected points on the body with a pair of callipers. The Jackson Pollock and technique requires three measurements. Required resources to undertake this test you will require: Skinfold calliper, Assistant.
Measurement sites Take measurements from the following sites according to gender:
Male athletes measure the Chest, Abdomen and Thigh

Exercise Protocol

Preparation of muscle - Subjects were tested as regards the maximum (1RM) for each year of the muscle that provide training based dosing 1RM. During preparatory effort was 60-100% of opportunities. They worked four sessions a week muscle training. Pre competition - during the effort was about 70% of possibilities, with 2 min. break. They worked two training sessions per week muscle. On perioadacompetiţională effort was about 60% of opportunities.

Statistical Analysis

The experimental results were performed in triplicate. The data were recorded as mean ± standard deviation and analyzed by SPSS (version 11.5 for Windows 2000, SPSS Inc.).

Results

Evolution of basic anthropometric indices during the experiment is significant. Analyzing the evolution of weight, the index of body composition and waist changes we can say at this level are not due to biological evolution. It notes that from the waist to the experiment are not any changes, keeping the average at 187.5 cm.

Tab 1. Index of body composition

Indices statistics	Initial Testing		Final Testing	
	Forwards	Back line	Forwards	Back line
$\overline{X}$	17,13%	13,417	14,88%	11,417
DS	3,310	1,5787	3,08	0,6337
C.V.	19,332	11,767	20,727	5,5502
T Test	Forward	4,025	p<0,005	
	Back line	4,267	p<0,005	

Tab 2. Jump on both legs, Power –Miron Georgescu Platform

	Initial Testing		Final Testing	
	Forwards	Back line	Forwards	Back line
$\overline{X}$	2,6172	3,4878	3,0208	3,7609
DS	0,3708	0,4016	0,4622	0,2604
C.V.	14,168	11,514	15,3	6,9238
T Test	Forwards	3,5332	p<0,005	
	Back line	3,5329	p<0,005	

On the evolution of weight compared to the experiment, we find an increase of 1.42 kilograms in parallel with a decrease of fat percentage from 17.13 to 14.88 in the compartment of forwards. Group witnessed the compartment forwards, changes to the weight is 0.45 kilograms more than the final test forwards section. Percentage of body composition is amended from the initial test experiment for the group to 16.92 from 17.67, registering a growth of 0.77 kilograms of fat on average. Talia does not record changes in the compartment of advancement between the two test group witness.

Discussions

Changes in the indices are back line with the same trend occurred in the submission section, so that weight is an increase of 0.42 kg. ICC drops the group experiment to back line line with 0.4% from 13.4 at initial testing at 13. The average weight for a line group back line back line witness drops 0.2 kilograms. Weight. Initial testing (TI), the average group of forwards is experimental section of 106.53 kilograms. And standard deviation of 6.49 while the final test (TF) recorded average values of 108.33 kilograms. and standard deviation 7.38. The coefficient of variance indicates the experimental group for testing the ultimate value of 6.09% while for the final testing is 6.82%, which shows us a low dissipation of the results, groups with a high degree of homogeneity. To section back line of the mean experimental group at initial testing are 87.6 kg and standard deviation of 5.8 sec, while the final test were recorded average values of 88.908 kg and standard deviation of 6 , 06. The coefficient of variance indicates the experimental group for testing the initial value of 6.62% while for the final testing is 6.82% which shows us a low dissipation of the results, groups with a high degree of homogeneity. Evolution of media is significant headway in the compartment, $t = 2.473$ to $p < 0.025$, and for line back line, $t = 4.2$, $p < 0.005$.

Index of body composition. Initial testing (TI), the average groups of forwards are experimental section of 17.125% and the standard deviation of 3.3106 while the final test (TF) recorded means values

of 15.083% and standard deviation 3.3428. The coefficient of variance indicates the experimental group for testing the initial value de13, 41% while for the final test is 11.41%, which shows us a high degree of dispersal of the results, groups with a low uniformity. Back to the section line the average values of experimental group at initial testing are 13.4 and standard deviation of 1.57 sec while the final test were recorded average values of 11.41 and standard deviation of 0.63. The coefficient of variance indicates the experimental group for testing the initial value of 11.76% while for the final testing is 5.55% which shows us a low dissipation of the results, groups with a high degree of homogeneity. Evolution of media is significant, the forwards section, $t = 2.526$ to $p < 0.025$, and for line Back line, $t = 4.26$, $p < 0.005$. We can say that the training program introduced in the training group experiment as somatic characteristics of players bringing them closer to those of model rugby player. Power - GM platform jump on both legs. For forwards compartment at initial testing (IT), average values of the experimental group are 2.61 W and the standard deviation of 0.37 while the final test (TF) recorded average values of 3.02 and standard deviation 0.47. The coefficient of variance indicates the experimental group for testing the initial value of 14.16 while for the final test of 15.3 is what we show an average degree of dispersal of the results, groups having an average degree of homogeneity. See section back line of the mean experimental group at initial testing are 3.48 and standard deviation of 0.40, while the final test were recorded average values of 3.76. and standard deviation of 0.26 coefficient of variance indicates the experimental group for testing the initial value of 11.51 while for the final test of 6.92 is what we show an average degree of dispersal of the results, groups having a average degree of homogeneity. Evolution of media is significant, the forwards section, $t = 3.53$ to $p < 0.005$, and Back line, $t = 3.5329$, $p < 0.005$.

Conclusion: Power needed to accelerate over a short distance, a change of direction has increased following the introduction of muscle training program, based on the average weight increase and decline of players average BMI.

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EXAMINING THE PHYSICAL SELF-PERCEPTION LEVEL OF ELITE SPORTSMAN IN ACCORDANCE WITH DIFFERENT VARIABLES

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ABSTRACT

The aim of this study is to examine the physical self-perception level of elite sportsmen.

The surveying group consists of 57 boy and 38 girl, totally 95 elite sportsmen do sport at the department judo, taekwondo, wrestling and bicycle.

Firstly, present data related to the aim of the search was given systematically by scanning literature. Thus a theoretical frame was formed about the subject. Secondly, to reach the aim of the search, Physical Self-Perception Profile(physical perceived inventory itself), which was developed by Fox and Corbin in 1989 and in 1999, done the validity and reliability to the Turkish university students by Aşçı and his friends, carried out to the elite sportsmen.

On the analysing and commenting, t test, one Way Anova (one way variance analyse) were used and to determine the difference between the groups tukey test was used and $P<0,05$ signifance was received. SPSS (Statistical package for social sciences) was used to assess the data assessment and findnig the calculated the values.

At the end of the study, a meaningful difference was found between sport ability sub- dimension of ego, physical condition and body attractiveness with gender level, physical condition and body attractiveness sub-dimension with branch level, sport ability, power sub-dimention score with variables that shows how long they are licensed.

Physical self notion is defined as perception of individual at the dimention of psychomotor and evaluation. In other words, it helps to know individual's motor ability (coordination, sport ability etc.), awareness of physical availability parameters (power, strength, elasticity etc.) and certain point of view about individual's own (supreme behavior form of sensation, wish, ability, limitedness, care and unconcernedness).

Key words: elite, sportman, physical self.

Introduction

Human behavior comes up with personality is a dynamic and complex structure. Personality consists of different features. Self concept is the main feature to form personality. Person can think external events and objects as well as himself. Thinking capacity is the main feature of human being. Person who is healthy think about himself and effect on the others (Gergen and Marlowe 1971).

This kind of physical features have (appearence, health etc.), personal features (personality, mental, ability etc..), ssocial relations (family member, friends etc.), gathering roles (student, accounter, teacher, sales person etc.), religions which take conscious (religion belief, ideas, life phylosophy etc..), personal life and even you belong (books, dresses, car, music player etc.) informations (Cevher and Buluş, 2007).

There are many opinions were given and searches were done therefore some explaining and make conceptual until nowadays. Questions are related to concepts are based on Greeks especially Aristo and his papers about psychology and other topics.

Aristo helped to distinguished human behaviour's physical and unphysical part, developed the other hypothesis about idea and inform's nature by different philosopher. After the ages, these opinions about Aristo made be stronger by Descartes. His famous speech "I think so I am exist." Does not mention differentials about mental and body but also it emphasize relation between them. According to Decartes, relisting about our self ideas not only show physical self-concept but also b emphasize an existence (Strauss and Goethals 1989).

Self respect will be continuing during person's life and it can response of some environmental changes and person's work and social life. Rosenberg emphasize that self respect is a kind of manner when occurred from self-evaluation. When he evaluate himself if he is in positive situation his self respect is high; if he is in negative position; his self respect will be low (Çuhadaroğlu, 1986; Gün, 2006).

In recent years, terms of self has been in much variant and hierarchical structure as a result of these dates physical self term is determined by different studies (İnanç, 1997). Physical self concept are getting important and it became an important element of self trust and general self-concept it is accepted anymore the mostly important multiple and physical term (Fox, 1990). Physical self-concept or physical self-perception are important to make relation with our environment and talents of being expert and healthy development since we were a children (Fox, 1990). Physical self-concept can be explain that people's psychomotor dimension and evaluated him (Fox, 1990). According to Sonstroem and Potts (1996), physical self concept is a privatized personal perception like self-concept, athletic skill and power. On the other hand, people's mental skill (coordination, sport talenty etc..) and physical suitability parameters (power, durability, flexibility etc...) is how evaluated himself. (Smith and at al, 1998).. When we look at the development of physical self concept we can see that this topic started with general self-concept and body image. After that these works were determined and multiple self concept are found and these kinds of tools are improved to join in the searches.

Self concept and self respect is a topic for physiology, sociology, social physiology and personal physiology and cultural physiology. Positive self concept are evaluated like aim of being social and educative (Aiken, 1993; King, 1997). Self concept and self respect are close to each other. Self concept means idea about who he is. Self respect is result of accept and refuse exceptions (Hendrick, 1975).

According to Aiken, term of self represent person's belief and ideas about himself; self respect is how a person evaluates himself (Aiken, 1993). Literature explain many terms about self and self respect. Some authors' claim that reflect differences between self respect and real self. According to Atherley'e (1990) a person who has low level of difference between self respect and real ago will develop positive self perception and a person who has high level difference between real self and ideal self will improve himself in negative perception (King, 1997).

This study aims that to determine physical self perception level of elite footballers to various labile.

Method

Study Group:

The Study group consists of 57 boy and 38 girl, totally 95 elite sportsmen do sport at the department judo, taekwondo, wrestling and bicycle.

Data Collection:

Firstly, present data related to the aim of the search was given systematically by scanning literature. Thus a theoretical frame was formed about the subject. Secondly, to reach the aim of the search, Physical Self-Perception Profile(physical perceived inventory itself), which was developed by Fox and Corbin in 1989 and in 1999, done the validity and reliability to the Turkish university students by Aşçı and his friends, carried out to the elite sportsmen. There are features of data gathering process in the below.

Physical Self-Perception Profile: Inventory which measure a person's 4 sub-dimension (Sportive ability, Physical condition, body attractiveness and power) and general physical ability consists of 6 part and totally 30 items. Inventory provides two different explanation of human begins and it wants to learn how much does like them and especially question is which one acceptable for him? First of all a person should be determining which one is him and step of this resemblance was determined as "completely for me and it is acceptable". Points of items are between 1-4. 4 is high ability, 1 is low ability. Inventory is given 6-24 grades by 5 different points in physical perception.

Data Analyzing

İn the data analysis and commenting, t test, one Way ANOVAs (one way variance analyze) were used and to determine the difference between the groups turkey test was used and P<0,05 significant was received. SPSS (Statistical package for social sciences) was used to assess the data assessment and finding the calculated the values.

FINDINGS

Table 1 According To Sex Variant; Distrubition Which Shows Comparison Of Physical Self Perception Level Of Elite Players

		N	Mean	Standart Deviation	t	P
Sport talenty	Boy	57	14,5263	2,5079	-2,630	0,010
	Girl	38	15,7632	1,7772		
Physical conditions	Boy	57	14,1754	2,5851	-1,970	0,050
	Girl	38	15,0526	1,7545		
Body attractiveness	Boy	57	13,0877	2,4369	-2,791	0,006
	Girl	38	14,5526	2,6066		
Power	Boy	57	13,0351	2,0871	-0,780	0,437
	Girl	38	13,4211	2,7276		
General physical ability	Boy	57	14,2281	2,2442	-0,863	0,391
	Girl	38	14,6579	2,5709		

As you see in table 1; according to sex variant; when we analyze of physical self perception of elit players by t test;

According to sex variant; there is a meaningful difference between sport talent sub-dimension points [t value =-2,630 P=0,010<0,05]. When we look at the averages; boy players average is ($\overline{X}$ =14,5263) girl players average is ($\overline{X}$ =15,7632).

According to sex variant; there is a meaningful difference between physical condition sub-dimension points. [t value =-1,970 P=0,050<0,05]. When we look at the averages; boy players average is ($\overline{X}$ =14,1754) girl players average is ($\overline{X}$ =15,0526).

According to sex variant; there is a meaningful difference between body attractiveness sub-dimension points [t value =-2,791 P=0,006<0,05]. When we look at the averages; boy players average is ($\overline{X}$ =13,0877) girl players average is ($\overline{X}$ =14,5526).

According to sex variant; there is no meaningful difference between power sub-dimension points [t value =-0,780 P=0,437>0,05].

According to sex variant; there is no meaningful difference between power sub-dimension points general physical ability [t value =-0,863 P=0,391>0,05].

Table 2 According To Branch Variant; Distrubition Which Shows Comparison Of Physical Self Perception Level Of Elite Players By One-Way Anova Test

	Varience Source	Sum of Squares	sd	Mean of Square	F	P	Difference Tukey test
Sport talenty	Between groups	11,417	3	3,806	0,701	0,554	No difference
	In the group	494,267	91	5,432			
Physical conditions	Between groups	20,545	3	6,848	1,289	0,048	Judo-Wrestle
	In the group	483,413	91	5,312			
Body attractiveness	Between groups	111,347	3	37,116	6,476	0,001	Wrestle -Taekwondo Wrestle-Bicycle
	In the group	521,537	91	5,731			
Power	Between groups	17,277	3	5,759	1,037	0,380	No difference
	In the group	505,312	91	5,553			
General physical ability	Between groups	20,625	3	6,875	1,226	0,305	No difference
	In the group	510,175	91	5,606			

As you see in table 2; according to branch variant; when we analyze of physical self perception of elit players by One-Way ANOVAs test;

According to branch variant; there is no meaningful difference between sport talent sub-dimension points [F value =0,701 P=0,554>0,05].

According to branch variant; there is a meaningful difference between physical condition sub-dimension points [F value=1,289 P=0,048<0,05]. As a result of this difference judo players have higher physical condition level than wrestler players.

According to branch variant; there is a meaningful difference between body attractiveness sub-dimension points [F value =6,476 P=0,001<0,05]. As a result of this difference wrestler players have lower boy attractiveness level than taekwondo and bicycle players.

According to branch variant; there is no meaningful difference between power sub-dimension points [F value =1,037 P=0,380>0,05].

According to branch variant; there is no meaningful difference between general physical ability points [F value =1,226 P=0,305>0,05].

Table 3 According To How Many Years Registered Players Variant; Distrubition Which Shows Comparison Of Physical Self Perception Level Of Elite Players By t Test

		N	Mean	Standard Deviation	t	P
Sport talenty	4-10 year	58	15,3448	2,1889	1,724	0,048
	11-18 year	37	14,5135	2,4452		
Physical conditions	4-10 year	58	14,8276	2,2489	1,598	0,113
	11-18 year	37	14,0541	2,3798		
Body attractiveness	4-10 year	58	13,8103	2,5851	0,641	0,523
	11-18 year	37	13,4595	2,6310		
Power	4-10 year	58	13,6207	2,4267	2,281	0,025
	11-18 year	37	12,5135	2,1032		
General physical ability	4-10 year	58	14,6207	2,2698	1,135	0,259
	11-18 year	37	14,0541	2,5270		

As you see in table 3; According to how many years registered players variant when we analyze of physical self perception of elit players by t test;

According to how many years registered players variant; there is a meaningful difference between sport talent sub-dimension points [t value =1,724

P=0,048<0,05]. When we look at the averages; players in the 4-10 year avarage is ($\overline{X}$ =15,3448) 11-18 year players averages is ($\overline{X}$ =14,5135)

According to how many years registered players variant; there is no meaningful difference between physical condition sub-dimension points [t value=1,598 P=0,113>0,05].

According to how many years registered players variant; there is a meaningful difference between body attractiveness sub-dimension points [t value =-2,791 P=0,006<0,05].

According to how many years registered players variant; there is a meaningful difference between power sub-dimension points [t value =2,281 P=0,025<0,05 When we look at the avarages; players in the 4-10 year average is ($\overline{X}$ =13,6207) 11-18 year players averages is ($\overline{X}$ =14,0541).

According to how many years registered players variant; there is no meaningful difference between general physical ability points [t value=1,135 P=0,259>0,05].

Discuss and results

In this study we determined physical self perception level of elit players according to some variables . Results of the study and their explanations are in the below.

When we analyze; physical self perception of elit players according to sex varian;

There is a meaningful difference between sport talent sub-dimension points [P<0,05]. When we look at the averages; boy players avarage is ($\overline{X}$ =14,5263) girl players average is ($\overline{X}$ =15,7632). According to these results girl players have higher sport talent sub dimension points than boy players. This finding is not parallel with; Fox and Corbin (1989), Sonstroem and et al (1992), Marsh (1998), Aşçı (2002), Aşçı (2004), Aşçı and et al (2008), Altıntaş and et al (2007)'s works. This can be happen because of different analyze of sampling group.

According to sex variant; there is a meaningful difference between physical condition sub-dimension points [P<0,05]. When we look at the averages; boy players avarage is ($\overline{X}$ =14,1754) girl players avarage is ($\overline{X}$ =15,0526). According to these results girl players have higher physical condition sub dimension points than boy players. Although this finding is parallel with; Kılıçarslan (2006), It is not parallel with Crockers and et al (2000), Aşçı and et al (1998), Hayes and et al (1999), Altıntaş and et al (2007)'s works.

According to sex variant; there is a meaningful difference between body attractiveness sub-dimension points [P<0,05]. When we look at the averages; boy players average is ($\overline{X}$ =13,0877) girl players avarage is ($\overline{X}$ =14,5526). According to these results girl players have higher body attractiveness sub dimension points than boy players. This finding is parallel with; Çok (1996), Kuru and Baştuğ (2008), Altıntaş and Aşçı (2005), Mülazımoğlu and Aşçı (2004), Mülazımoğlu and et al (2002), Yin (2001), Koca and et al (2003), Güçlü and Yentür(2008)'s works.

According to sex variant; there is no meaningful difference between power sub-dimension points [P>0,05].

According to sex variant; there is no meaningful difference between power sub-dimension points general physical ability [P>0,05]. This finding is parallel with; Wong and et al (1993), Martin and Mack (1996)'s works. Both group of players have the same exercises That's why there is no difference between boy and girl players self presentetion points.

According to branch variant; when we analyze of physical self perception of elit players ;

According to branch variant; there is no meaningful difference between sport talent sub-dimension points [P>0,05]. Elit players realize themselves positive and they have athletic ability and they have different physical perception level That's why there is no meaningful difference.

According to branch variant; there is a meaningful difference between physical condition sub-dimension points [P<0,05]. As a result of this difference judo players have higher physical condition level than wrestler players. Although this finding is parallel with Yaman and et al (2008), Koca and et al (2003)'s works and It is not parallel with Wong and et al (1993)'s works. This can be happen because of different analyze of sampling group.

According to branch variant; there is a meaningful difference between body attractiveness sub-dimension points [P<0,05]. As a result of this difference wrestler players have lower boy attractiveness level than taekwondo and bicycle players. this finding is parallel with Güçlü and Yentür (2008)'s works. Branch differences can effect on players understand their body and conscious and unconscious.

According to branch variant; there is no meaningful difference between power sub-dimension points [P>0.05]. Elite players have high physical durability and existence condition level. That's why there is no difference.

According to branch variant; there is no meaningful difference between general physical ability points [P>0.05]. Physical self perception has important effect on person's behavior.

According to how many years registered players variant when we analyze of physical self perception of elite players by;

According to how many years registered players variant; there is a meaningful difference between sport talent sub-dimension points [P<0,05]. When we look at the averages; players in the 4-10 year average is ($\overline{X}$ =15,3448) 11-18 year players averages is ($\overline{X}$ =14,5135). According to these results 4-10 year players have higher sport talenty than 11-18 year players.

According to how many years registered players variant; there is no meaningful difference between physical condition sub-dimension points [P>0,05]. Elite players have physical physiological fetaures because of high level games. That's why there is no meaningful difference.

According to how many years registered players variant; there is a meaningful difference between body attractiveness sub-dimension points [P<0,05]. According to these results how can realise himself and as well as how can realize the others are important. Its depend on this idea there is no difference meaning between body perception

According to how many years registered players variant; there is a meaningful difference between power sub-dimension points [P<0,05]. When we look at the averages; players in the 4-10 year average is ($\overline{X}$=13,6207) 11-18 year players averages is ($\overline{X}$=14,0541). According to these results 4-10 year players have higher power sub-dimension points than 11-18 year players.

According to how many years registered players variant; there is no meaningful difference between general physical ability points [P>0,05]. Muschle and bone structure of elite players are high. That's why there is no meaningful difference.

At the end of the study, a meaningful difference was found between sport ability sub- dimension of ego, physical condition and body attractiveness with gender level, physical condition and body attractiveness sub-dimension with branch level, sport ability, power sub-dimension score with variables that shows how long they are licensed. Physical self notion is defined as perception of individual at the dimension of psychomotor and evaluation. In other words, it helps to know individual's motor ability (coordination, sport ability etc.), awareness of physical availability parameters (power, strength, elasticity etc.) and certain point of view about individual's own (supreme behavior form of sensation, wish, ability, limitedness, care and unconcernedness).

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EVOLUTION OF PHYSICAL INDICES AND TECHNIQUES A TEAM OF FOOTBALL PLAYERS WITH CHILDREN AGED 11-12 YEARS

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Abstract

We examined the possibility that several skills from soccer children can be consolidated, by using special training. Were tested 12 children born in 1997.

Means of training used in this period led to significant improvements in indices and physical techniques to test children. The data were collected at the beginning and at the end of the study period, and showed significant($p < 0,0005$) greater gains for experimental group.

Keywords: football, kids, evolution, physical indications and techniques

Introduction

Football is one sport in which science has operated with greater efficiency, contributing to the achievement of solutions spectacular. Football is dependent on ball control and technical skills. (Melenco I., 2008). Coaches must emphasize, from the small age (children and junior), all players, develop skills and knowledge necessary function of coordinator of the game. We understand this ability by any player who came into possession of the ball can and should begin to overrun the ball, but especially by care, the most relevant actions to attack (counter, attack quickly or point). (D'Ottavio, 2002). Group under investigation has been evaluated since 2004 at various somatic tests, physical and technical (Stănculescu, G., I. Melenco, 2005, Melenco I., 2006). During these years development of children has been positive, they get significantly better results from one test to another. We consider it necessary and useful for certain periods of time children should be evaluated using different tests.

Hypothesis. We believe that based on modern methods of training, effective use and taking into account the particularities of age can significantly improve the level of physical indications and techniques in a group of children of 11-12 years.

Tasks. In order to prepare our study we fixed the following tasks:

* developing and implementing a system of operation at the football players aged 11-12 years

* development and application of battery of tests to check the preparedness of the group

* data collection and interpretation of our research and verify the effectiveness of applied research methods. In our research we have used a number of known methods for investigating the parameters tested. Proposed to solve the tasks we used the following methods: analysis of literature, teaching observation, test method; educational experiment; statistic-mathematical method.

The contents of the experiment. The experiment was conducted at FC Farul Constanta group of children born in 1997. During the conduct of the experiment were conducted over 200 training. In this experiment, 12 children participated. Throughout the period of the experiment (February 2008 - February 2009) were performed on average every 4 practices per week. The presence of children in the training group was over 85%.

In the experiment group of children were subjected to physical and technical tests (speed 5m, 16m, 4x5m, running the 16m back, keeping the ball in the air strikes by alternative-leg knee, sending the ball into the area fixed).

Tests.

1. Speed 5m, 16m, 4x5m, running back to 16m
2. Keeping the ball in the air strikes by alternative foot-knee
3. Forwarding ball fixed in area (long într4 care a square mesh of 5m) note that training took place outdoors (synthetic field).

In the training we used:

- Exercises for developing speed of reaction, movement and coordination (10 minutes / 3 times per week)
- Ways of driving the ball with a foot (10 minutes / 3 times per week)
- Ways to improve the sense and control the ball (5 min. / training.)
- Transmission of exercises with the ball inside the leg (3 per week 20 min.)

Results obtained.

Table nr.1

Nr. crt	Name and surname	Speed 5m		Speed 16m		Speed 4x5m	
		Feb. 2008	Feb 2009	Feb. 2008	Feb 2009	Feb 2008	Feb 2009
1	MARALOI M.	1,40	1,33	3,11	2,97	6,85	6,74
2	LAZAR D.	1,39	1,34	3,24	3,15	6,78	6,66
3	ROGOZA V.	1,18	1,12	2,90	2,81	6,32	6,20
4	NEDELCU D.	1,38	1,30	3,00	2,90	6,42	6,33
5	CONSTANTIN L.	1,42	1,35	3,20	3,14	6,30	6,23
6	MANOLE M.	1,35	1,30	3,11	3,00	6,40	6,34
7	BARBU D.	1,40	1,34	3,21	3,12	7,10	7,01
8	IANI A.	1,41	1,36	3,30	3,23	7,22	7,15
9	BENGHEA C.	1,40	1,33	3,15	3,06	6,91	6,80
10	ANGHEL B.	1,39	1,34	3,21	3,10	7,10	7,02
11	FIMNIU T.	1,52	1,47	3,55	3,49	8,00	7,92
12	NEAGU A.	1,41	1,35	3,19	3,13	7,11	7,04
	X± DS	**1,38± 0,07**	**1,32±0,07**	**3,18± 0,15**	**3,09± 0,17**	**6,87±0,48**	**6,78± 0,49**
	CV	**5,54**	**5,87**	**4,99**	**5,56**	**7,09**	**7,24**
	t		**19,9(a)**		**12,71(b)**		**14,64(c)**
	p		**< 0,0005**				

(a), (b), (c) - significantly different from February 2008 ($p < 0.0005$)

Table nr.2

Nr. crt	Numele şi prenumele	Running back to 16m		Maintenance		Forwarding ball fixed in area	
		Feb. 2008	Feb 2009	Feb. 2008	Feb 2009	Feb. 2008	Feb. 2009
1	MARALOI M.	4,11	4,02	11	18	4	8
2	LAZAR D.	4,00	3,91	33	53	6	8
3	ROGOZA V.	3,93	3,80	14	24	6	9
4	NEDELCU D.	3,94	3,80	31	46	7	10
5	CONSTANTIN L.	3,51	3,42	5	11	4	6
6	MANOLE M.	3,88	3,80	11	21	4	6
7	BARBU D.	3,86	3,79	21	30	5	8
8	IANI A.	4,14	4,07	9	14	5	8
9	BENGHEA C.	3,90	3,84	9	18	4	7
10	ANGHEL B.	4,13	4,07	5	8	4	6
11	FIMNIU T.	3,98	3,90	6	12	4	6
12	NEAGU A.	4,25	4,18	9	16	4	6
	X± DS	**3,96± 0,18**	**3,88± 0,19**	**13,66± 9,61**	**22,58± 13,98**	**4,75 ± 1,05**	**7,33± 1,37**
	CV	**4,76**	**5,04**	**70,34**	**61,91**	**22,21**	**18,69**
	t		**11,71(d)**		**6,65(e)**		**13,38(f)**
	p		**< 0,0005**		**< 0,0005**		**< 0,0005**

(d), (e), (f), - significantly different from February 2008 ($p < 0.0005$)

Interpreting results

* Speed 5m. At this year players were able to progress between the two tests. It notes that the testing results of 2009 are significantly better than in testing since 2008. (t = 19.9, $p < 0.0005$, table 1). The values of coefficient of variance indicates a good homogeneity in the group.

* Speed 16m. At this year players were able to progress between the two tests. It notes that the testing results of 2009 are significantly better than in testing since 2008. (t = 12.71,

p <0.0005, table 1). The values of coefficient of variance indicates a good homogeneity in the group.

* Speed 4x5m. At this year players were able to progress between the two tests. It notes that the testing results of 2009 are significantly better than testareadin 2008. (t = 14.64,

p <0.0005, table 1). The values of coefficient of variance indicates a good homogeneity in the group.

* Running back - 16 feet. At this year players were able to progress between the two tests. It notes that the testing results of 2009 are significantly better than in testing since 2008. (t = 11.71, p <0.0005, table 2) The coefficient of variance indicates a good homogeneity in the group.

* Keeping the ball alternate leg-knee. Also, this exercise is a good evolution of the results between tests. From Table 2 notes that there are significant differences, the players have progressed significantly between tests (t = 6.65, p <0.0005). The coefficient of variability (CV = 61.91) shows a lack of homogeneity within the group.

* Transmission in the fixed area. Also, the exercise in shot in a fixed area is a good evolution of the results between tests. In Table 2 is observed that this year there are significant differences, the players have progressed significantly between tests (t = 13.38, p <0.0005). The coefficient of variance testing in 2008 shows a group scratchy. Testing of the 2009 rate (18.69) indicates an average homogeneity within the group.

Conclusions

Comparisons made within the group in terms of physical and technical performance have highlighted significant differences between tests. We believe that progress is due to the means used by our practice. Significantly better results obtained by children from these tests confirm the hypothesis came to work.

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THE RELATIONSHIP BETWEEN CHANGE DIRECTION ABILITY AND EXPLOSIVE STRENGTH IN PROFESSIONAL SOCCER PLAYERS

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Abstract

The purpose of this study was to determine the relationship between explosive strength and change direction ability in professional soccer players.

The sample included 120 professional soccer players at third soccer league in Turkey. Subject characteristics were as follows: age (23.84±3.15 years), height (179.29±4.96 cm), and body mass (73.54±4.37 kg). The tests were performed at the competition season and conducted on a single day for each test subject. 10x5m Shuttle Run Test to

measure change direction ability and standing broad jump to measure explosive strength were used. The tests were taken from Eurofit Test Battery. All data was reported as means ± standard deviation (SD). To determine the relationship between two tests was used Pearson Correlation Coefficient. Level of statistical significance was set at $P<0.05$. The correlations between change direction ability and explosive strength for all soccer players and playing positions were no significant ($p>0.05$).

The results of the present study suggest that explosive strength in soccer players was not an indicator of change direction ability. If tests included more complex ability to measure explosive strength were used, the relationships between this parameters can be obviously observed.

Key Words: Professional soccer player, explosive strength, speed, agility**.**

Introduction

The most important variants are physical condition and technique and tactic performance to measure the performance in soccer. However, it is difficult to determine the relative importance of each one of these variants because soccer has a complex structure (D. Rösch, et al, 2000). Soccer is a sport which is characterized as small sprints, acceleration or deceleration, turning, jumping, kicking and tackling (A. Arnason, et al, 2004,U. Wisloff, U.,1997). Soccer players have to adapt to the rules to compete in an elite competition. Moreover, the physical capacity of elite players can be an indication of the physiological demands of the soccer (Strudwick, A, et al., 2002). In soccer, high performance needs a combination of technique, tactic and physical ability at upper level (V.I, Kalapotharakos et al, 2006.). The physiological profile (G.Cometti, et al, 2001, U. Wisloff, C. Castagna, J. Helgerud, R. Jones, J. Hoff, 2007, N. Erkmen, T. Kaplan, H. Taşkın, 2005, S. Müniroğlu, 1997, S. Müniroğlu, Duygulu, A., Balcı, V., C. Akalın,1997, H.Taşkın, M.Kaya, N. Erkmen, 2007) and physical features' role (fat, muscle force and strength, the ability of high jumping) (Wisloff, U., Helgerut, J., Hoff, J., 1998, Kaplan, T., et al, 1996, Kızılet, A., Erdem, K., C. Karagözoğlu, N.Topsakal, E. Çalışkan, 2004) soccer players from different national leagues were examined in many researches which were done before.

The quick movements during a soccer contest can be categorized among the movements requiring accelerate, maximal speed or agility. The acceleration is a change rate in speed to reach maximum speed at the least time. The maximal haste is a maximum speed in which a player can do spring. The agility doesn't have a global definition, but it is often recognized as the ability to change direction and start and stop quickly (V.Gambetta, 1996).

On the other hand, power and strength are two factors that are necessary for success in soccer and have a vital importance (V. Gambetta, 1998). The strength is a power that an athlete can produce during the voluntary contraction of his skeleton muscle. However, the power is the production of the strength and the speed. The speed is an ability of neuromuscular system to produce the fastest skeleton cramp. The force, the strength and the development of the strength rate are important factors for the soccer players, because soccer is a sport including quick and strong run and sudden maneuvers (S.A. Paradis, 2003).

Although the physical sides of the soccer (speed, power, strength and agility etc.) were not examined at the same level, most of the researchers focus on the technique and tactic side (A. Lees, L. Nolan, 1998, J. Levanon, J. Dapena, 1998). Studies about explosive power, running speed, and agility performances of soccer players were not sufficiently conducted. Therefore, in this study, the relation between the performance of the professional soccer players' explosive strength and change direction ability is aimed to be determined.

Methods

120 soccer players from the third soccer league of Turkey were assessed. Subject characteristics were respectively as follows: age =23.84±3.15 years, height =179.29±4.96 cm and body mass = 73.54±4.37 kg. The information about the risk and the advantage of the the study was given to the subjects who were volunteer to participate to the study.

10x5 m shuttle run tests (10x5 SRT) from Eurofit Test Battery was used to measure soccer players' change direction ability. The other test which was applied to the athletes was standing broad jump test that was from Eurofit Test Battery again and aimed to measure the explosive strength. These tests were preferred because of being appropriate to the characteristic feature of soccer. The tests were performed during the competitive season and each of the subjects, at first, completed the standing broad jump and later completed 10x5 m shuttle run test in the same day.

10 x 5 m shuttle run test (10 x 5 SRT)

The 10x5 SRT is a running and turning (shuttle) test at maximum speed and called a running speed and agility (change direction ability) test. The test protocol consisted of an individual running and change direction at maximum speed. The 10 x 5 SRT was conducted according to The Eurofit Test Battery (Council of Europe, Handbook of Eurofit, 1988). For the test field, two parallel lines were drawn on the floor (with tape) 5 m apart. The line was 1.20 m long, and the ends of each line were marked with cones. It was required that both feet crossed the line each time, that he remained in the required path, and that the turns were made as quickly as possible. Subjects called out the number of cycles completed after each cycle. The test stopped when the subject crossed the finish line with one foot. A slip-proof floor was required so the subject would not slip or slide during the test. A stopwatch was used to determinate scores. The time required to complete the 5 cycles was the score and written in 10ths of a second. For example, if a subject

has 21,6 seconds after the test, he/she will get 216 points (Council of Europe, Handbook of Eurofit, 1988).

Standing broad jump test

The test was performed according to Eurofit Test Battery (Council of Europe, Handbook of Eurofit, 1988). A start line was determined on a nonskid floor and a tape meter was extended from the start line forward. The subjects were requested to stand in a way that their feet were open at a normal distance, their toes were away from behind the start line, their arms were on the front in parallel with the floor and knees were bent. They were also requested to jump forward as far as they could with the oscillation of their arms at this position and land on the floor with two legs at the same time. As they could with the oscillation of their arms at the position, and that their both legs lowered at the same time. Test was done twice and the best degree was recorded in terms of cm. At the same time, this account was accepted as the score which the subject took from the test.

Statistical Analysis

SPSS 13.0 statistical program was used for evaluation and calculation of the data. We summarized the data and evaluated the means and standard deviations. To explain relation between measurements, Pearson Correlation Analysis was used according to the results of the test of normality. The significance level was taken as 0.05.

RESULTS

The means for age, height and weight of the subjects in table 1 and the scores of the tests in table 2 are presented.

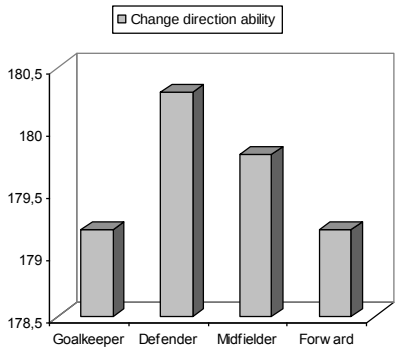
Table 1: Physical characteristics of subjects according to playing position

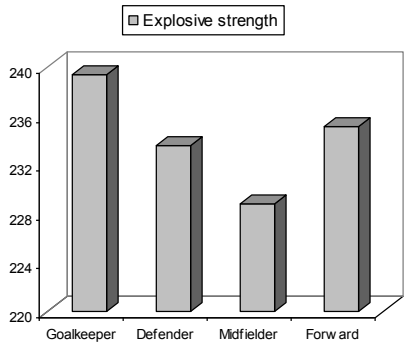
Variables	Playing Position	N	Mean	Std. Deviation
Age (years)	Goalkeeper	12	24,23	2,37
	Defender	35	23,89	3,60
	Midfielder	42	24,23	3,21
	Forward	31	23,02	2,74
	Total	120	23,84	3,15
Height (cm)	Goalkeeper	12	181,72	3,10
	Defender	35	180,45	5,19
	Midfielder	42	177,02	4,64
	Forward	31	177,98	4,77
	Total	120	179,29	4,96
Body mass (kg)	Goalkeeper	12	75,85	3,27
	Defender	35	73,66	4,37
	Midfielder	42	71,74	3,82
	Forward	31	72,89	4,92
	Total	120	73,54	4,37

Table 2: Mean scores for running speed-agility and explosive power

Variables	Playing Position	Mean	Std. Deviation
Change direction ability	Goalkeeper	179,2	6,06
	Defender	180,3	7,02
	Midfielder	179,8	6,74
	Forward	179,2	7,11
	Total	179,6	6,80
Explosive strength	Goalkeeper	239,4	11,53
	Defender	233,6	15,50
	Midfielder	228,8	14,15
	Forward	235,1	15,23
	Total	232,9	14,82

Figure 1: Scores taken for the change direction ability and the explosive strength according to playing positions





It has been determined that there was no statistically significant relationship between the change direction ability of all subjects and the explosive strength scores ($r = 0.178$, $p>0.05$). Mean Scores taken for the change direction ability and the explosive strength according to playing positions of soccer players were shown in figure 2. No significant relationships between the change direction ability and the explosive strength according to playing positions were found (goalkeeper: $r= -0.562$, $p>0.05$, defenders: $r = -0.213$, $p>0.05$, midfielders: $r = -0.230$, $p>0.05$, and forwards: $r = -0.031$, $p>0.05$).

Discussions

The relation between the change direction ability and explosive strength of the professional soccer players was examined in this study. In this study, a statistical meaningful relationship between the change direction ability and the explosive strength performances was not determined. Another result is that there is no correlation between both the tests and the results, even if the soccer players were categorized according to their degrees.

Many studies examining the explosive power, the velocity and the agility of the soccer players have been carried out (U. Wisloff, 2004, D. Sale, 1992, K. Pauole et al 2000). However, the relationship of running speed and agility (change direction ability) was taken up on the few studies. Many activities in soccer need explosive power covering tackling, jumping, kicking, turning and changing speed. The power which is produced during such activities has a critic role to attain a successful performance. It is important that the soccer players have velocity, agility, muscle force and anaerobic strength in a high level to tackle with the physical needs of a soccer competition at high level (A. Strudwick, T. Reilly, D. Doran, 2002).

In addition to the sports activities such as jumping, kicking or sprint, most of team sports and racket sports require to apply frequently the maneuvers of changing direction such as zigzag run, side run, crossing run, shuttle run (D. Metikos, G. Markovic, F. Prot, I.Jakic, 2003, S. Trninic, G. Markovic, S. Heimer, 2001). Changing direction ability or quick start and stop represent a complex motor ability which is usually called as agility in literature (T. Bompa, 1999, J.F. Graham, 2000). Although agility represent an important feature for a successful performance in different sports (S. Trninic, G. Markovic, S. Heimer, E. Müler, et al, 2000), its physiological and muscular determining are known little (G. Markovic, 2007).

Some biomechanical studies show that changes direction can be related with muscle strength and force. Mostly in practicing movements including agility, leg extensor muscle are stretched tight concentrically and following an acceleration phase it includes a fast deceleration phase in which leg extensor muscles are stretched eccentrically (E.B.Simonsen, et al 2000). To carry out a quick changing direction, it requires attaining to time of contact to quite short place, and so power is required to be produced at a brief period (W.B. Young et al 2002. Consequently, it can be presumed that a high leg extensor strength and force can be related to a successful agility performance (T. Bompa, 1999).

Up to now, there has been no evidence of a relation between agility performance and lower extremity strength and force (G. Markovic, G, 2007). Moreover, the present literature findings have been contradicting with each other (K. Pauole, et al 2000, W.B.Young et al, 2002, D.S. Davis, et al 2004). While some of the writers have declared that there is a mediocre important and a relation between agility, strength and force, the others have said that there is a low relation or there is no relation (Young et al 2002 D.S. Davis et al D.S.,2004,. G. Markovic, 2007) has declared that there is a low relation between agility performance tests and strength and force tests which he used in his study (G. Markovic, 2007). Young et al. (2002) have also acquired data in parallel with that result (Young et al 2002. Any relation has not been found between speed agility performance and explosive strength in this study, too.

Contrary to the results of this study, it is reported that there are more correlations in the researches which examine the relation between force quality, leg extensor strength like sprint and jumping, and the other quick movements (U. Wisloff, et al, 2004, J. Augustsson, R. Thomee, 2000, J.R. Blackburn, M.C. Morrissey, 1998). In the studies related to the subject, different methods were used and standard tests weren't applied in measuring especially agility. Also, while running speed and agility require complex motor control and coordination of much muscle group, standing broad jump tests in which explosive strength is measured require simple motor abilities. (G. Markovic, 2007) has declared that unlike one-way movements like sprint and jumping, agility (changes direction) movements are multi-directional, and all of the body must turn around vertical axis (G. Markovic, 2007).

Conclusions

In conclusion, this study show that explosive strength measured with standing broad jump for professional soccer players doesn't reflect change direction ability. In the measuring of explosive strength, the selection of tests including more complex skills can reveal the relation between verifying parameters more clearly. It is also thought that the explosive strength may not be a parameter which reflects the speed-agility performance.

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❖ KINETOTHERAPY

EFFECTS OF PHYSICAL RECUPERATION IN PATIENTS WITH MULTIPLE SCLEROSIS

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Introduction

Multiple sclerosis, with its disability, chronic and unforeseeable features, brings about a series of changes in the patient's life. The pathophysiology of multiple sclerosis (MS) is characterised by fatigue, motor weakness, spasticity, poor balance, heat sensitivity and mental depression.

Considering the youthful age during which the disease arises, patients are obliged to review their own life plans in their family, social and working circles and have to face living with the chronicity and the loss of their own autonomy.

Results

After we applied the rehabilitation programme we observed a good results for functional scores and parameters. We include patient with SM with moderately impaired MS patients with an EDSS score of less than 5. We realized endurance training at low to moderate intensity, as the existing literature demonstrates that MS patients can both tolerate and benefit from this training modality. Also, resistance training of moderate intensity was well tolerated and to have beneficial effects on MS patients. Exercise therapy was better compared to no exercise therapy in terms of muscle power function, exercise tolerance functions and mobility-related activities. No evidence was observed for exercise therapy on fatigue and perception of handicap when compared to no exercise therapy. Beck depression scale show improving mood.

Conclusions

Good assessment of gait in multiple sclerosis means using the specific tests of assessment. Using a kinematics analyze can improve the modalities of rehabilitation programme. Earlier rehabilitation programme involve an increase of functional status of our patients.

Comparative assessment of gait parameters at lower limbs show to us a good evaluation after the rehabilitation programme, because after this analyze we can use specific exercises for each muscle group.

Further research into appropriate outcome measures, optimal intensity, frequency, cost and effectiveness of rehabilitation therapy over a longer time period is needed. Future research in rehabilitation should focus on improving methodological and scientific rigour of clinical trials.

Key words: multiple sclerosis, muscle, rehabilitation, exercise, therapy

Introduction

Multiple sclerosis, with its disability, chronic and unforeseeable features, brings about a series of changes in the patient's life. The pathophysiology of multiple sclerosis (MS) is characterised by fatigue, motor weakness, spasticity, poor balance, heat sensitivity and mental depression.

Considering the youthful age during which the disease arises, patients are obliged to review their own life plans in their family, social and working circles and have to face living with the chronicity and the loss of their own autonomy.

Group psychotherapy was qualified as a preferred ambit to express and to share individual problems. The disease also involves the family: relatives must revise certain plans and projects made before. Psychological support could help relatives not only with the emotional load following on from the disease so that they do not feel alone in the patient's everyday care, but also with their own emotional management, in order to give them a listening space also for their distresses and fears. Sometimes the drastic reorganization of his own performances lead him inevitably to social withdrawal, self-depreciation, identity crises and loss of role and self-esteem (C.M. Wiles, 2008). The aim of this study is to present a rehabilitation programme including kinetic and medical therapy. For many years, patients have been advised to avoid physical activity. Today, however, an increasing number of studies have shown beneficial effects of exercise training in MS. It has been reported that such programs not only improve fitness parameters but can also enhance quality of life and beneficially affect some suggestive disability measures. Pilot studies even indicate a neuroprotective potential (Erin M. Snook, Ms, Robert W. Motl, Phd, 2009).

Material and methods

We study 16 patients with multiple sclerosis clinical assessment, functional assessment and specific scale for assessment.

Rehabilitation programme objectives: induce of voluntar motor activity; prevent wrong movement; prevent muscle retractures and joints diformities, decrease spasticity. Rehabilitation programme: we used physical programme for reduce pain, spasticity and also kinetic method for each objective. In each month we followed the evolution using specific scale assessment. We must say that during the acute period they did not came at rehabilitation programme.

We compared 8 patients with whom we performed exercise and 8 without exercise. Patients have in both lots EDSS fewer than 5.

Results

Physical exercise depends on patients' physiological tolerance and response to exercise. MS patients can exhibit dysfunction of cardiovascular adjustment accompanied by respiratory involvement, which can alter aerobic capacity. These abnormalities tend to increase with the neurological impairment. Muscle weakness is the consequence of not only altered central motor drive but also disuse. Several studies have shown the benefits of physical training, with improvements in aerobic capacity, gait parameters and fatigue, and an influence on quality of life. Regular aerobic physical activity is necessary to maintain the benefit of physical training. After we applied the rehabilitation program we observed good results for functional scores and parameters. We include patient with SM with moderately impaired MS patients with an EDSS score of less than 5. We realized endurance training at low to moderate intensity, as the existing literature demonstrates that MS patients can both tolerate and benefit from this training modality. Also, resistance training of moderate intensity was well tolerated and to have beneficial affects on MS patients. Exercise therapy was better compared to no exercise therapy in terms of muscle power function, exercise tolerance functions and mobility-related activities. No evidence was observed for exercise therapy on fatigue and perception of handicap when compared to no exercise therapy. Beck depression scale show improving mood.

Conclusions

Rehabilitating intervention consequently has to be aimed at relieving the distress and pain caused by living together with the chronicity and disability of the neurological disease (Landoni, 1989). The problems that relatives have to face are found to be an important therapeutic factor in the psychological support. Rehabilitating intervention improving mood. Psychological intervention must then be aimed at finding resources: to help relatives bear up emotionally following on from the disease so that they do not feel alone in the patient's everyday care; and in managing their own emotions in order to give them a listening space for their distresses and fears. At first the Psychological Rehabilitation Course should include the individualization of the essential phases about the patient's basic personality, the verification of the changes that the disease caused and the evaluation of the cognitive aspects and of possible psychiatric troubles within the new definition of the family network where the patient is included. Furthermore, it could be important to end, and moreover to encourage, the elaboration of motivational references of weighty life quality that, being over the goal of the adjustment to the pathologic condition, allow the patient to open some passages to his wishes and to the project of himself. The rehabilitative project to change the multiple sclerosis patients should also involve the more external realities of the patient such as his family, his group, his working experience and his social life. We developed our experience inside the Centre of Clinical Psychology and Psychotherapy of the Fondazione Don C. Gnocchi in Milan, and considered in particular group psychotherapy for multiple sclerosis patients and psychological support for families of the multiple sclerosis patients. Good assessment of gait in multiple sclerosis means using the specific tests of assessment. Using a kinematics' analyze can improve the modalities of rehabilitation program. Earlier rehabilitation program involve an increase of functional status of our patients.

Comparative assessment of gait parameters at lower limbs show to us a good evaluation after the rehabilitation program, because after this analyze we can use specific exercises for each muscle group.

Further research into appropriate outcome measures, optimal intensity, frequency, cost and effectiveness of rehabilitation therapy over a longer time period is needed. Future research in rehabilitation should focus on improving methodological and scientific rigor of clinical trials.

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Patient	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
EDSS	2.5	3	2	4	3	5	2	2.5	3.5	4	2	3	2.5	3	4	5
TIME 25-FOOT WALK	06.5	06.1	05.1	08.6	06.7	0.11.0	05.2	07.1	08.5	09.1	005.3	006.5	05.2	06.4	09.4	10.8
MFIS	0	2	8	6	1	24	9	1	5	8	7	10	8	2	9	6

TAB.1. EDSS, TIME 25-FOOT WALK, MFIS ON PATIENTS BEFORE STARTING

Patient	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
EDSS	1.5	2	2	3	2	4	1.5	1.5	2.5	2.5	2	2.5	1.5	2.5	3	4.5
TIME 25-FOOT WALK	005.5	005.1	004 .7	007 .6	006 .1	0.10.0	004. 7	006. 1	007.5	008 .1	004 .3	005 .5	004.2	006.0	009.0	010.1
MFIS	9	11	9	13	14	23	8	9	12	14	9	9	10	10	21	25

TAB.2. EDSS, TIME 25-FOOT WALK, MFIS ON PATIENTS AFTER STARTING EXERCISE TRAINING(one month)

Patient	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
EDSS	2.5	3	2	4	3	5	2	2.5	3.5	4	2	3	2.5	3	4	5
TIME 25-FOOT WALK	06. 5	06.1	05.1	08.6	06.7	0.11. 0	05.2	07.1	08.5	09.1	005. 3	006. 5	05.2	06.4	09.4	10.8
MFIS	0	2	8	6	1	24	9	1	5	8	7	10	8	2	9	6

TAB.3. EDSS, TIME 25-FOOT WALK, MFIS ON PATIENTS AFTER STARTING EXERCISE TRAINING(after six month)

THE IMPACT OF HOMONYM HEMIANOPSIA IN FUNCTIONAL RECOVERY OF THE UPPER LIMB

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Abstract
Hypothesis
We assume that by applying a rigorous exercising program to patients with homonym hemianopsia in which the therapeutic conduct takes into consideration its presence there is an improvement of the functional level of the patients compared to those with the same pathology in which the therapeutic program "omits" the presence of the homonym hemianopsia.

Material and method

The study has comprised a number of 57 (n=57) patients with hemiplegia. The selection of the patients was done according to their hospitalization into the Clinic Hospital of Medical Recuperation from Baile Felix, between October 2007 – May 2008.From the total of the evaluated patients we have diagnosed a number of 20 patients with homonym hemianopsia (representing 35% from the total patients).Out of the 20 patients, 9 are females and 11 males, with the age between 41 and 70. The 20 patients were divided into 2 lots:- experimental lot - 10 patients - control lot - 10 patients.

Data analysis and interpretation

Using the presented evaluation test (in extenso) we have done an initial test, in the first day of hospitalization, and a final test, at the end of the treatment. *The results of "Rivermead" test and their analysis* According to Rivermead scale – we evaluated the functional level by selecting only those items that assessed the upper limb function. Rivermead test has a maximum score of 15 points for the upper limb.

Conclusions

According to our research and obtained data we can notice that our hypothesis is confirmed by the following:

- Fulfilling the conditions required by the Rivermead test there is a very high standard for the affected hemibody of the hemiplegic patients which can be proven by the minimum modification obtained to the final score compared to the initial one.
- The functional level of the experimental lot has improved after Rivermead test with a progress of 0.6 points, and with 0.1 for the control lot.
- The hypertonic tonus already installed at the hospitalization can be less influenced over a period of 2 weeks; we can only try to obtain a muscular tonus within the functional limits.
- The assessment of proprioceptive sensibility and knowing the affected hemibody shows according to the Placing test an improvement during the research, the experimental lot has progressed with 0.7 while the control lot with 0.1

The applied methodology has proven its efficacy so that the experimental endeavor has been positively successful almost for all evaluated parameters.

Key words: hemianopsia, hemiplegic upper limb, physical therapy

INTRODUCTION

The devices used in visual study can be classified according to:

- the area where the test is projected: they can be flat (campimetric screens) and curves (perimeters);
- the modality of presenting the test: they can be dynamic and static;
- the light of the background: they can be photopic, mezotopic, and scotopic;
- the manner of handling: they can be manual methods and automatic method

HOMONYM HEMIANOPSIA

1. Homonym hemianopsia is the loss of left sided or right sided visual field as a consequence of specific lesions that affect the optic bandelettes, external genicular bodies, Gratiolet's optic radiations or the brain.(Davies, P., 1994;
2. www.library.med.utah.edu/neurologicexam/html/download_by_exam.html#cranialnerve_ab_03, www.lowvision.org/new_page_1hemi.htm)

There are several traits that can lead to the determination of the pathologic process.

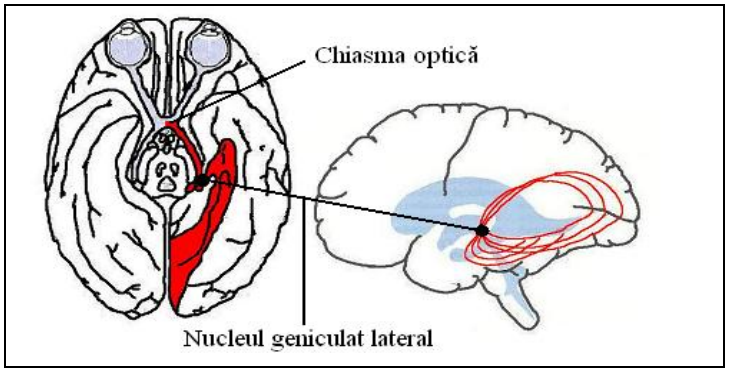


Figure 1.

– The disruption of the optic links from the right side can determine the loss of the visual field in the left temporal eye and right nasal eye, while the disruption of the optic links from the left side can determine the loss of the visual field in the right temporal eye and left nasal eye. (Mark, L., Tant, M., 2002)

Figure 2.
Confrontation test
– The test is used for diagnosing the homonym hemianopsia (www.RegieLive.ro)

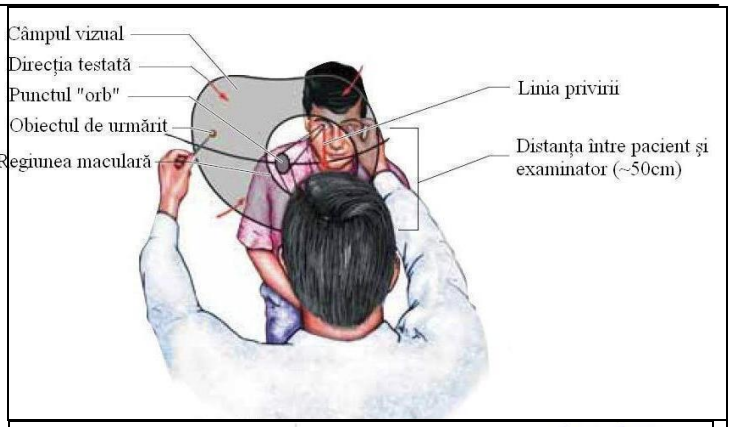


Figure 3.
Clock test
– The test is used for diagnosing the negligence syndrome

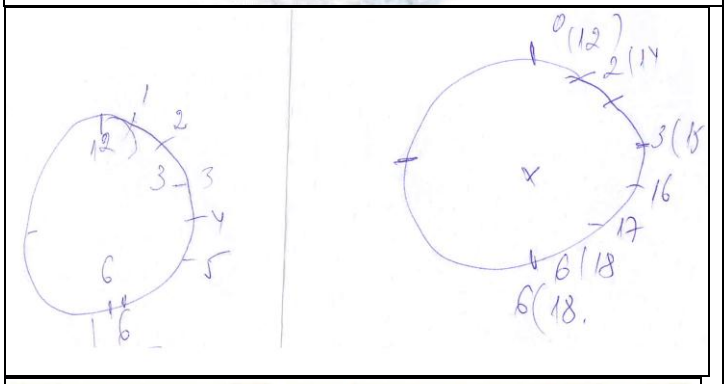
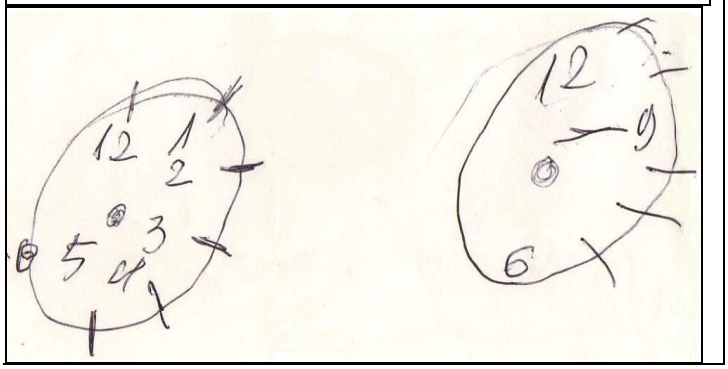


Figure 4.
-The result of testing the homonym hemianopsia and the neglect syndrome at the patient C.A. from the control lot



METHODS AND TECHNIQUESUSED IN THE STUDY

- observation;
- clinical assessment;
  - Modified Ashworth Scale;(1,4,)
  - Rivermead test for Upper limb ;(9)
  - European Stroke Scale;(1,4,6)
  - Placing Test;(3,11,7.8,)
  - Confrontation Test; (3,11,)
  - Clock Test.(5,)
- therapeutic interventions;
  - Bobath Concept;(1,4)
  - PNF elements;(1,4)
  - other facilitating elements.(1,4)
- Statistics methods.(9)

HYPOTHESIS

We assume that by applying a rigorous exercising program to patients with homonym hemianopsia in which the therapeutic conduct takes into consideration its presence there is an improvement of the functional level of the patients compared to those with the same pathology in which the therapeutic program "omits" the presence of the homonym hemianopsia.

SPATIAL TEMPORAL ASPECTS OF THE RESEARCH

The study comprises a number of patients 57 (n=57) with hemiplegia after stroke. The selection was made in the order patients' hospitalization to the Clinic Hospital of Medical Recovery from Băile Felix, during October 2007 – May 2008.

From the total patients with hemiplegia, we

studied only those who were diagnosed with homonym hemianopsia and spatial hemineglect.

The criteria of including subjects in the study were:

3. - hemiplegia with homonym hemianopsia and spatialneglect;(www.indiana.edu/~pietsch/hemianopsia.html)

The criteria of exclusion were:

- history of ophthalmologic diseases;
- sensorial aphasia;

From the total of the examined patients we have selected 20 patients with homonym hemianopsia (this represents 35% from the total number of patients). Out of 20 patients, 9 are females and 11 males, with the age between 41 and 70.

The 20 de patients were divided into 2 groups:

- the experimental group - 10 patients;
- the control lot group- 10 patients.

The studied patients were in different stages of functional recovery. Both groups followed the same physical therapeutic program based on the Bobath Concept. The kinetic program of the experimental group kept in mind the homonym hemianopsia, so that for each exercise the patients' attention was directed towards the affected side with the indention of educating the use of the damaged visual field towards the direction of spatial hemineglect.

OBJECTIVES OF THE PHYSICAL THERAPY

- Normalize the muscular tonus;
- Increase the awareness of the hemiplegic side and of the motor function: **motor control and motor learning;**
- Increase the body control, the symmetry and balance;
- Increase the level of verticality through the weight center control from lower positions with large base of support to higher positions with raised weight center and small base of support;
- Increase the tolerance to different positions and activities;
- Reduce the risk of secondary dysfunctions and complications (eg. sub-sprained shoulder);
- Maintain the integrity of joint range of motion;
- Increase the functional independence in ADL and functional mobility.

SPECIAL OBJECTIVES OF THE PHYSICAL THERAPY

- Educate the use of visual field for the spatial hemineglect (the affected side is not the same thing as the affected hemibody) in order to make the patients aware of that side;
- Increase the awareness of the hemiplegic side;
- Reduce the syndrome of unilateral neglect.

DATA ANALYSIS AND INTERPRETATION

Using the assessment tests previously presented, we have made an initial testing in the first day of hospitalization and a final testing at the end of the hospitalization.

- **The results of "Rivermead" Test and their interpretation (Antal, A. 1978; Horghidan, V. 2000)**

Using the Rivermead Scale – we have assessed the functional level by selecting only those items that evaluate the function of the upper limb. For Rivermead test the maximum score for the upper limb is 15.

Tabel 1. Initial values- experimental group

Item No.	Initial values									
	C.O.	N.M.	L.M.	G.D.	B.I.	B.B.	P.C.	C.A.	P.T.	F.Gy.
1.	1	1	1	1	1	1	1	1	1	0
2.		1	1	1	1	1	1	1	1	0
3.	1	0	0	1	0	1	1	0	1	0
4.	0	0	0	1	0	0	1	0	1	0
5.	1	0	0	0	0	0	1	0	1	0
6.	0	0	1	0	0	0	0	0	1	0
7.	0	0	0	0	0	0	0	0	0	0
8.	0	0	0	0	0	0	0	0	0	0
9.	0	0	0	0	0	0	0	0	0	0
10.	0	0	1	0	0	0	0	0	0	0
11.	0	0	0	0	0	0	0	0	0	0
12.	0	0	0	0	0	0	0	0	0	0
13.	0	0	0	0	0	0	0	0	0	0
14.	0	0	0	0	0	0	0	0	0	0
15.	0	0	0	0	0	0	0	0	0	0
Total	**4**	**2**	**4**	**4**	**2**	**3**	**5**	**2**	**6**	**0**

Tabel 2. Final values-experimental group

Item No.	Final values									
	C.O.	N.M.	L.M.	G.D.	B.I.	B.B.	P.C.	C.A.	P.T.	F.Gy.
1.	1	1	1	1	1	1	1	1	1	0
2.	1	1	1	1	1	1	1	1	1	0
3.	1	0	1	1	0	1	1	0	1	0
4.	0	0	0	1	0	0	1	0	1	0
5.	1	1	1	1	0	0	1	0	1	0
6.	0	0	1	0	0	0	0	0	1	0
7.	0	0	1	0	0	0	0	0	0	0
8.	0	0	0	0	0	0	0	0	0	0
9.	0	0	0	0	0	0	0	0	0	0
10.	0	0	1	0	0	0	0	0	1	0
11.	0	0	0	0	0	0	0	0	0	0
12.	0	0	0	0	0	0	0	0	0	0
13.	0	0	0	0	0	0	0	0	0	0
14.	0	0	0	0	0	0	0	0	0	0
15.	0	0	0	0	0	0	0	0	0	0
Total	**4**	**3**	**7**	**5**	**2**	**3**	**5**	**2**	**7**	**0**

Score: 0 – unexecuted 1 - executed

After the initial evaluation, as we can notice in table 1, no patient from the experimental group reached 50% form the possible maximum score.

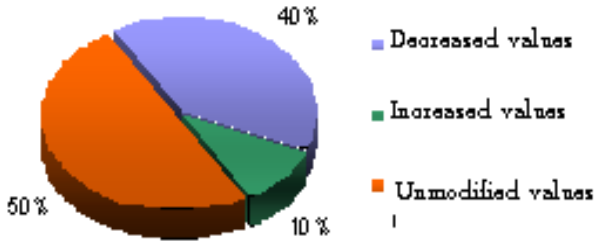
After the final evaluation, as we can notice in table 2, 4 patients registered modification at the functional level of the upper limb, 2 of them scored 7

points out of 15 possible. So 2 of the patients scored more than 50% from the maximum possible score.

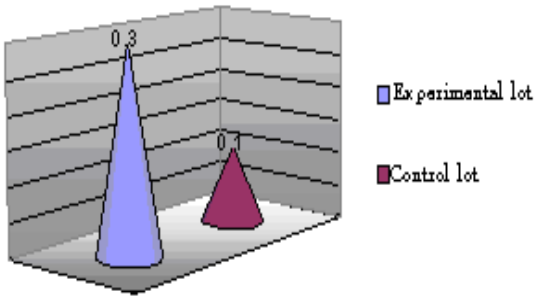
- **Results of Ashword Test and their interpretation**

In 10% of the patients of the experimental group (F. Gy.) the spasticity increased as a consequence of passing through the specific neuro-motric evolution. The patient was at the **initial evaluation** in the stage 1 after Brünngström, and at the **final evaluation** already in stage 2.

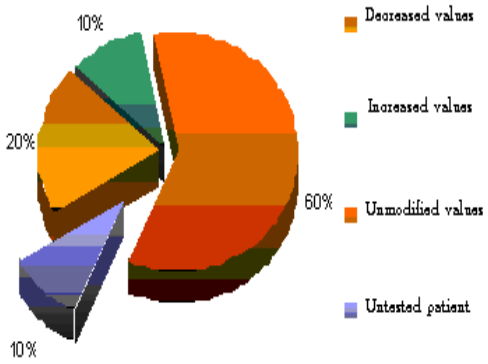
Graphic 4. - Experimental group – spasticity modification



Graphic 5. - Control group – spasticity modification



Graphic 6 - Ashworth – Arithmetic average of the obtained progress



According to our opinion the spasticity increased at P.V. from exteroceptive reasons. The night before the release from the hospital (and of the final evaluation), the hospital lack the heat which caused the increasing of spasticity.

Spasticity at patient J.E. could not be tested because of the dominance of the extrapyramidal syndrome.

These small differences exist because of the application of the same exercising program to both lots, and also because of the use of the same relaxing exercising.

- **Results of "Placing" Test and their analysis**

Table 9. - Experimental group – Initial test

Movement	Initial values									
	C.O.	N.M.	L.M.	G.D.	B.I.	B.B.	P.C.	C.A.	P.T.	F.Gy.
(Relatively) Correct							2		2	
Mimed	1		1			1				
Unfinished		0		0	0			0		0

We can notice that after the initial evaluation, 5 out of 10 patients had serious disturbances of the proprioception, 3 had mild disturbances, and 2 patients had minimum problems.

Table 10. - Experimental group - final test

Movement	Final values									
	C.O.	N.M.	L.M.	G.D.	B.I.	B.B.	P.C.	C.A.	P.T.	F.Gy.
(Relatively) Correct		2	2			2	2		2	
Mimed	1			1				1		1
Unfinished					0					

After the final evaluation of the experimental lot we can notice that only 1 patient has left with serious disturbances, 4 patients had mild disturbances and 5 patients were left with minimum ones.

Table 11. – Control group – Initial test

Movement	Initial values									
	P.V.	M.M.	C.I.	M. T.	B.M.	H.F.	P.M.	H.I.	K.J.	J.E.
(Relatively) Correct		2		2			2		2	
Mimed			1		1			1		1
Unfinished	0					0				

After the initial evaluation of the control group, 2 patients had serious disturbances, 4 of them had mild disturbances and 4 patients had minimum disturbances of proprioceptive sensibility.

Table 12. – Control group – final test

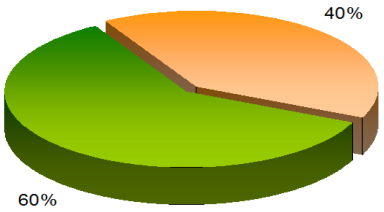
Movement	Final values									
	P.V.	M.M.	C.I.	M. T.	B.M.	H.F.	P.M.	H.I.	K.J.	J.E.
(Relatively) Correct		2		2			2		2	2
Mimed			1		1			1		
Unfinished	0					0				

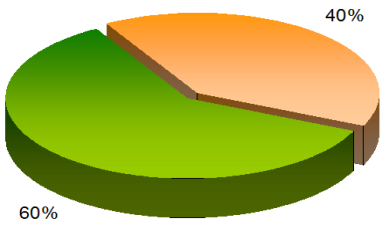
After the final evaluation only 1 patient (J.E.) obtained better results.

Table 13. Experimental group, the progress obtained in Placing test

No.	Name	Initial values	Final values	Difference Between the initial and final values	Arithmetic average of the progress of the lot
1.	C.O.	1	1	0	0.7
2.	N.M.	0	2	2	
3.	L.M.	1	2	1	
4.	G.D.	0	1	1	
5.	B.I.	0	0	0	
6.	B.B.	1	2	1	
7.	P.C.	2	2	0	
8.	C.A.	0	1	1	
9.	P.T.	2	2	0	
10.	F.Gy.	0	1	1	

Results of European Stroke Scale and their analysis





Graphic 10. ESS – Experimental group Graphic 11. ESS – Control group

In both groups 40% of patients obtained progress and 60% obtained the same results.

According to the European Stroke Scale the patient, F.Gy., had by far the best improvement. We can explain the progress by the fact that the therapeutic program could be applied every day, for 2 months, beginning with the acute stage. The control lot had a progress of 0,9 points. This progress was achieved because of the Bobath principles applied. The exercises of establishing the symmetry and the sent information from the affected side had benefic effects.

Conclusions

According to our study and results we can notice that our hypothesis is confirmed by the following:

- Achieving Rivermead test requirements represents a high functional standard for the affected hemibody of the patients, which can be proved by the minimum modifications obtained at the final score compared to the initial one.
- Improving the functional level of the experimental lot after the Rivermead test had a progress of 0.6 points compared to the 0.1 points of control lot.
- The hypertonus installed already at the hospitalization over a period of 2 weeks can be less influenced, but it can be modeled towards a tonus within the functional limits.
- Evaluation of the proprioceptive sensibility and increasing the awareness of the affected hemibody according to the Placing test shows improvement during the study. The experimental lot progressed 0.7 points while the control lot only 0.1

The applied methodology proved its efficacy so that the experimental endeavor had positive results for almost all evaluated parameters.

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BODY MASS INDEX IN CZECH OLDER SCHOOL-AGE CHILDREN WITH AND WITHOUT MOTOR DIFFICULTIES

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Abstract

Introduction

It is generally recognized that overweight and obesity indicated as an unhealthy body weight is associated with health risks. It is known that 5-10 % of the European child population could be suffering from Developmental Coordination Disorder (DCD) whose major symptoms are motor difficulties while performing various habitual and sport movement activities. Some studies of preschool children and younger school-age children suggested these children with DCD could be suffering more often from obesity (D´hondt et al, 2009, Mond et al., 2007, Hands a Larkin, 2006). The study of Cairney et al. (2005) found lower participation of children in organised and non-organised physical activities in comparison to their peers without motor difficulties.

Current studies suggest the hypothesis that the children with motor difficulties may participate less in physical activities due to lower self-confidence and more complicated social position as the result of the stigma of motor non-competency and thus increasing the risk of unhealthy body weight, i.e. overweight and obesity. Therefore the aim of the study was to examine the relation between motor difficulties and unhealthy body weight in the population of Czech older school-age children. At the same time the study examined if the relation between motor difficulties and overweight/obesity is affected by gender and age of children.

Methods

Children aged 12.8±1.1 years (n=422, 219 boys, 203 girls) from ten Czech primary schools selected by the stratified random strategy were tested for motor proficiency using theMovement Assessment Battery for Children-2 (Henderson et al., 2007). The motor difficulties were indicated by the 0.-15. percentile equivalents for total test battery scores.

The body mass index (BMI) of the subjects was calculated from body weight and height measurements performed according to the recommendation for standard anthropometric methods by MacDougall and Wenger (1991). Overweight and obesity in children was indicated from the values of BMI according to the criteria stated by 6th Czech National Anthropological Research of Children and Youth (Vignerová et al, 2001).

Result

The incidence of the motor difficulties in the Czech children tested was 8.8 %, especially 10.6 % in boys and 6.8 % in girls. The incidence of the unhealthy weight, i.e. overweight and obesity in boys and girls with motor difficulties was almost twofold (47% vs. 24 %) and 1.7 fold (39 % vs. 23 %), respectively, in comparison with the children of the given gender without motor difficulties.

The significantly higher BMI was found in boys with motor difficulties in comparison to their peers without motor difficulties when BMI expressed by the absolute values (BMI=22.4±5.1 vs. 19.8±3.4, effect size ES=0.7) and percentile values (69.3±28.8 percentil vs 55.0±27.9 percentil, ES=0.5). In contrast to the boys, the significantly higher BMI of the girls with motor difficulties in comparison to their peers of same gender and age was demonstrated in their younger age (11-12 years) (21.1±4.0 vs 18.8±3.4, ES= 0.7) but was not in the older age group (13-14 years) (19.1±2.6 vs 20.0±3.1, ES= 0.3).

Discussion and conclusions

Results of the study showed the associative relation between the motor difficulties and unhealthy weight (overweight and obesity) in the older prepubertal and pubertal children. The association between DCD and obesity suggested in the current studies (D´hondt et al, 2009, Mond et al., 2007, Hands a Larkin, 2006) was limited to preschool children and youngest school-age children. In this study, gender and age were not demonstrated as factors of the relation between very reduced motor competency and unhealthy weight. Findings of non-significant differences of BMI in girls with and without motor difficulties in the age of 13-14 years could be caused by methodological reasons related to the lower number of girls with motor difficulties identified.

The study supports indirectly the hypothesis that children with motor difficulties participate

less in organised and non-organised movement activities as the result of their lower self-confidence and problems with social integration and thus the risk of unhealthy weight increases with possible negative health consequences at an older age.

Key words: body mass index, children, school.

Introduction

Overweight and obesity are terms which describe a range of weight, that overcome a limit of healthy body weight. Obesity is defined as a presence of surplus of body fat, overweight as a pre-step of obesity, that overcomes a normal weight-height ratio of an subject given age and gender (National Institute of Diabetes and Digestive and Kidney Disease, 2007).

According one of the newest researches occurrence of overweight and obesity in present population of Czech 6-14 years old children is 10 %, resp. 19 % (Bunc, 2008). There are plenty of deseases connected with obesity in childhood and adolescence, particularly cardiovascular desease, diabetes mellitus, but also apoplexy, some types of cancer, degenerative desease of joint and artherosclerosis (Singal, Schwenk, 2007). Disproportion between energy intake and energy expenditure is considered as one of main reasons of unhealthy body weight in child´s population (Bunc, 2008). At present time disproportion between energy intake and expenditure is applied to descreasing physical activity and prevailing sedentary way of children´s live rather than food intake, whose increasing is stopped (Cairney et al., 2005, Katzmarzyk, 2002).

Insufficient physical activity of children can at the meantime be connected with the level of their motor proficiency. There are studies which indicate association between motor difficulties connected with developmental coordination disorder (DCD) and obesity in pre-school age and younger school-age children (D´hondt et al., 2009, Mond et al., 2007, Hands, Larkin, 2006). DCD represents developmental impairment of movement coordination, which is not connected neither with total intellect retardation nor with specific congenital or aquired neutral disorder, but express itself by motor difficulties at various physical activities (Hands, Larkin, 2006, APA, 1994). The basis of DCD is retarded development of fine and gross motorics (Macnab et al., 2001, APA,1994) which is umderlined by the functional problems with the body scheme, spatial awarness of body position, postural stability, bimanual and vison-manual coordination (Volman, Geuze, 1998) and visual memory (Dwyer, McKenzie, 1994).

Review study (Psotta et al., 2006) summarised present knowledge about negative consequences motor difficulties of a child on his psycho-social development. There are mentioned problems with self-confidence and self-concept, social integration, academic achievement (Bowens, Smith, 1999) secondarly with behavior this way desabled children (Sugden, Right, 1998). It can be said this hypothesis that children with motor difficulties as a consequence as their impaired motor efficiency as decreased self-confidence and more complicated social position can less be involved in physical activities and this way risk of unhealthy body weight can be descreased with possible consequences for body health in later age. Therefore the aim of this study was to reveal whether motor difficulties are a risk factor of unhealthy body weight, i.e. overweight and obesity in girls and boys in older school age. At the same time the aim of this research was to find out whether relation between motor difficulties and unhealthy body weight is affected by the age of a child.

Methods

219 boys and 203 girls from ten primary schools from six regions of the Czech Republic participated at the study. Schools located in the separate regions to participate at the study were choosen by the method of random selection. All children from two randomly selected classes of each school randomly chosen participated at assessment of motorics and basic anthropometric measurement.

The level of motorics of children was assessed by the Movement Assessment Battery for Children (MABC-2, Henderson et al., 2007) that enables to identify motor difficulties indicating possible developmental coordination disorder. The MABC-2 concerns three ranges of motor proficiency – fine motorics, especially manual skills, gross motorics associated with vision – motor system, and statistical and dynamic postural stability (balance). The MABC has very good validity (Henderson et al., 2007), reliability of the score of the partial sub-batteries (r=0.73-0.84), reliability of the total score of the all test battery (r=0.80), and objectivity r= 0.95-1.00 (Henderson et al., 2007, Chow et al., 2002). In accordance to the method MABC-2 were included in the group of subjecs with motor difficulties these ones who their total score embodied one of two degrees of motor difficulties – a higher degree indicated by the percentile equivalent $\leq$ 5.percentile and a lower degree indicated by the 6.-15. percentile.

The calculation of the BMI from body weight and height was used to identification of overweight and obesity. The BMI is considered as the reliable indicator of quantity of body fat in average population of children and youth, and without respect to possible limitations the BMI is for its invasivity the most acknowledged screening method for essessment healthy, resp. unhealthy body weight in children´s population (Singal, Schwenk, 2007). To calculate the BMI, body weight was measured with help of electronic scale Soehnle, model TH 0641 (Soehnle, Nassau, Germany) with accuracy 0.1 kg. Body height was measured by the portable anthropometer Seca, model 206 (Seca, Hamburg, Germany) with accuracy 0.5 cm. This measurements were caried out in children without shoes, dressed in sport t-shirt and long or short sport trouses. The same person carried out measurements.

According standards constructed on the basis of results of 2nd Czech National Anthropological Research of Children and Youth in Czech Republic (Vignerová et al., 2001) values of BMI were transformed in percentiles according age and gender. We constructed more detailed transformation tables for more accurate transformation of BMI on percentile values on the basis of linear interpolation between the BMI table values of original percentiles graphs created by Vignerová et al., (2001).

Statistical analysis

The effect size (ES) as the difference between two means related to associated standard deviation from both compared groups was used to evaluate the differences of a given variable between groups of subjects (Cohen, 1977). ES <0.5 was considered as the small difference, ES=0.5-0.8 as the moderate difference and ES>0.8 as the large difference (Cohen, 1977). For statistical essessment the statistical programm NCSS (1998, Kaysville, Utah, USA) was used.

Results

Motor difficulties were found in 10.6 % of all boys and 6.8 % of all girls. Overweight and obesity was found in 48 % of all boys with motor difficulties (19 % obesity, 29 % overweight), while unhealthy body weight of the boys without motor difficulties was remarkably lower (27 % - 11 % obesity and 16 % overweight). Higher occurrence of overweight and obesity in girls with motor difficulties was found in comparison to girls without motor difficulties – 39 % vs. 23 % (8 % obesity and 31 % overweight vs. 11 % obesity and 12 % overweight).

Significantly higher BMI values were found in boys with motor difficulties in comparison to boys without motor difficulties (22.4±5.1 vs. 19.8±3.4, ES=0.7). This significant difference was also confirmed, when BMI values were transfered on the percentiles (69.3±28.8 percentile vs. 55.0±27.9 percentile, ES=0.5) (table 1).

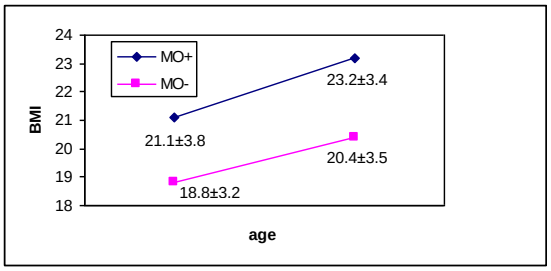
Table 1. Age, body height, body weight, body mass index (BMI) a total score in the MABC-2 as the indicator of motor proficiency in boys

	with motor difficulties	without motor difficulties	ES
n	21	198	
age (years)	12.8±1.1	12.8±1.0	0
body height (cm)	159.7±12.3	158.4±10.5	0.1
body weight (kg)	58.7±22.5	50.2±12.5	0.6*
BMI	22.4±5.1	19.8±3.4	0.7*
BMI (percentile)	69.3±28.8	55±27.9	0.5*
results of MABC-2			
total score (points)	6.2±0.9	11.7±1.9	3.1**
total score (percentile)	11.6±5.1	67.8±19.6	3.1**

Legend: BMI – body mass index, * ES – effect size 0.5-0.8, ** effect size >0.8

Significant differences in BMI in both age bands of boys (11-12 years and 13-14 years) between subje cts with and without motor difficulties were confirmed (20.4 ± 3.8 vs. 18.8±3.2, ES=0.5, resp. 23.2±3.4 vs.20.4±3.5, ES=0.8), (figure 1). As the significant difference in an age between the boys with and without motor difficulties in the 11-12 years age band (12.2±0.1 vs. 11.8 ±0.4 years, ES=1.0), we compared the mean percentile equivalents of the BMI of these two groups of the boys.This comparison confirmed the significanly higher BMI in 11-12 years old boys with motor difficulties (70.5±23.4 percentile vs. 54.9±28.2 percentile, ES=0.7).

Figure 1. Body mass index (BMI) in boys without motor difficulties (MO -) and with motor difficulties (MO +) in the age bands of 11-12 years and 13-14 years.



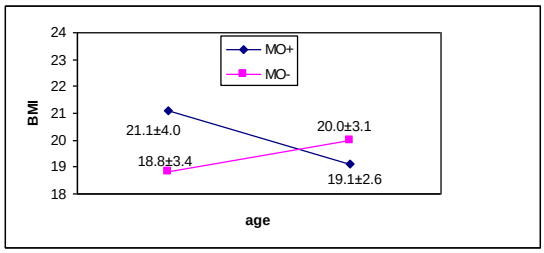
The girls with motor difficulties in comparison to the girls without motor difficulties didn´t significantly differ in total BMI values (20.4±3.7 vs. 20.0±3.5, ES=0.1) as the BMI expressed in percentiles (64.1±31.1 percentile 55.1±37.7 percentile , ES=0.3) (table 2). Although it was proved significantly higher BMI in 11-12 years old girls with motor difficulties in comparison to the same age girls without motor difficulties (21.1±4.0 vs. 18.8±3.4, ES= 0.7) in non-significantly different age of both groups (ES=0.2). In older, 13-14 years old girls, this difference in BMI wasn´t so significant (19.1±2.6 vs. 20.0±3.1, ES=0.3; 65.5±22.6 percentile vs. 61.7±22.5 percentile, ES=0.2) (figure 2).

Table 2. Age, body height, body weight, body mass index (BMI) a total score in the MABC-2 as the indicator of motor proficiency in girls

	with motor difficulties	without motor difficulties	ES
n	13	190	
age (years)	12.7±1.0	12.8±1.2	0.1
body height (cm)	158.2±8.6	157.9±8.3	0
body weight (kg)	51.5±11.6	50.2±11.6	0.1
BMI	20.4±3.7	20.0±3.5	0.1
BMI (percentile)	64.1±31.1	55.1±27.7	0.3
results of MABC-2			
total score (points)	6.2±1.1	11.5±2.1	2.6**
total score (percentile)	11.3±5.0	64.9±21.8	2.6**

Legend: BMI – body mass index, * ES – effect size 0.5-0.8, ** effect size >0.8

Figure 2. Body mass index (BMI) in girls without motor difficulties (MO-) and with difficulties (MO+) in the age bands of 11-12 years and 13-14 years



Discussions

Motor difficulties were found in 8.8 % children participated in the study. This finding is lower than occurrence of motor difficulties in children in other European and Asian countries (Ruiz et al., 2003, Chow et al., 2006, Wright et al., 1994). These studies mention 15-16 % occurrence of motor difficulties in children´s population. The Belgian study of D´hondt et al. (2009) using the same method found motor difficulties even in 21 % of children.

Only seven children from our sample, i.e. not all 2 % reached the lowest level of motorics with the total score in the MABC-2 on the level of 0.-5.percentile, which shows developmental coordination disorder. This finding is again a little bit lower than is mentioned by usually reported prevalence DCD of 5-10 % in children´s population (Cairney et al., 2006, Barnhart et al., 2003, Portwood, 1996).

Occurrence of obesity 10 % and occurrence of overweight 14 % were found in a sample of children. Almost one quarter of these children so overcomes the limit of healthy body weight. This finding corresponds to Bunc´s study (2008), according which found occurrence of obesity and overweight in present Czech children´s population in age 6-14 years 10 % resp. 19 %.

The results of newest studies by D´hondt et al. (2009), Mond et al. (2007), and Hands and Larkin (2006) point out on possible consequence between motor difficulties, respectively DCD and obesity, which made in pre-school children and younger school age children until ten years. This study was focused on relation between motor difficulties and unhealthy body weight in older school age children at the age 11-14 years.

Occurrence of overweight up to obesity in Czech boys and girls with motor difficulties was almost double, resp. 1.7fold higher in comparison to girls of the same age with common level of motorics.

Although averange BMI values were compared between groups of children of the same age, to increase validity of findings, percentile equivalents of values of BMI related to age of a child were compared so that the effect of age was exluded and thus effect of physical growth and biological development on BMI was eliminated. Significantly higher BMI was proved in the group of boys and girls with motor difficulties in comparison to counterparts without motor difficulties, in both age bands - 11-12 years (prepubescents) and 13-14 years (pubescents). Influence of motor proficiency and probably with this connected physical activity in older school age boys shows comparison of the BMI in the boys with motor difficulties, boys without difficulties and boys trained systematically. The mean BMI value in 15-years old boys training soccer was BMI=19.4 (Psotta et al., 2005) BMI while a little bit higher mean value of the BMI=20.4 in 13-14 years old boys without motor difficulties and more significantly higher the mean values of BMI in boys the same age with motor difficulties (BMI=23.4) in this study.

Significant differences of the BMI in girls with different motor proficiency were discovered in younger age (11-12 years) group only. One of posssible explanations why in a sample of girls with motor difficulties significantly higher BMI was found only in their prepubescent age (11-12 years), could be a small number of these girl in the sample. The fact points out this possible cause of methodological character that mean value of BMI in older pubescent girls (13-14 years) with motor difficulties was even lower in comparison to the younger girls as it shows figure 2. This finding doesn´t correspond to natural trend in increasing the BMI with age of a child.

The study supports the hypothesis about motor difficulties as a risk factor of unhealthy body weight in children. The results od the study show that probability of occurrence of overweight up to obesity in older school age children with motor difficulties could be even double in comparison to subjects without motor difficulties. At the same time trend of higher BMI was shown in children with low level of motorics. At the same time, age and gender weren´t proved as the factors of relation between motor proficiency and body weight, resp. BMI.

Descreased physical activity is probably hypothetical explanation for occurrence of unhealthy body weight in children with motor impairment. Although there are no direct evidences for the hypothesis, some previous studies suggested lower engagement in organised and non-organised physical activities of children with lower motor proficiency (Cairney et al., 2005, Kaplan, 2001), and association between reduced physical activity of children and their higher BMI (Wrotniak at al., 2005). Hands and Larkin´s study (2006) then showed on higher BMI and lower level of different components of physical fitness including cardiovascular fitness in children with DCD.

Our study shows on motor difficulties as the risk factor of unhealthy body weight in older school age children. Therefore it is significant in children with motor difficulties to monitor their physical development , body composition and physical activity for prospective timely engagement in a movement intervention.

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RESEARCH ON RECOVERY IN HIP TRAUMATISMS BY MEANS OF PHYSICAL EXERCISES

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Abstract

The subject of this study is the process of recovery for the patients who suffered any hips' traumas. The used means of recovery were kinetic schemes.

The subjects, female gender, age 48 up to 76, have borne some surgical techniques, on femur bone, with osteosinteza screw or rod.

The target of the kinetic schemes applied, was to recovery the ability to move and especially the autonomy of locomotor act. For both the pathologic cases, the recovery process, with physical exercises, induced positive similar effects, for the patients, at the end of their hospitalized recovery, they get an autonomous displacement.

Key words: recovery, hip, mobility, strenght, physical exercises.

INTRODUCERE

The locomotion is the motor activity which ensures the body displacement, thanks to the conjoint action of internal forces (muscular contraction) and external forces (support reaction, inertia, gravitational force) (C. Budică, 2006). The motion and all other displacement forms are achieved by the cyclical and acyclical movements of the two legs which alternate their supporting and propelling functions. The healths as well as the physical and functional integrity of legs condition the motor act of locomotion (Nenciu G., 2008). Further to their singular functions, the legs are more exposed to some affections and traumatisms than the upper limbs. If legs function is reduced or it can not be exercised there is the possibility to intervene through the means of the kinetotherapy for the functional recovery of specific structures. The orthostatic position of the hip requires its extension in no matter positions for abduction-adduction or rotation (Sidenco L., 2003). The hip biomechanics is supported by an enarthrosis articulation.

1. Research methodology

The aim of research was to improve the general motion capacity of patients after a hip traumatism, treated by a surgical operation and recovered through programs of therapeutic physical exercises.

Working hypothesis: using a program of physical exercises having a correct structure, order and dose it's possible to get positive results in the recovering process of the operated hip.

Applied research methods

Study of specialized literature

Caused survey – having the interest to know the subjects' conduct during our intervention.

Anamnesis – allowing us to know the state and level of patients' pain, looking deeply into information.

Case study – we could know the initial level of patients' health and their functional state (dependent variable) and therefore we fixed-up the action system (independent variable)

Evaluation of conduct from a kinetic point of vue: a clinical examination to know, through symptoms and signs the osseous pain, the articular, muscular and functional statement.

Statistical – mathematical analysis – for the collected data and their *graphic representation.*

Subjects

The 5 female subjects were observed and assisted in their recovery, postsurgical process, after the traumatism – fracture of femoral cervix (Table 1).

- The first group of 2 subjects with surgical treatment of osteosynthesis (internal screw fixing) and an average age of 50 years.
- The second group of 3 subjects with surgical treatment for Gamma rod prosthesis and an average age of 65 years.

The subjects have been hospitalized about 45 days with 6 recovery stages, including progressive therapeutic exercises, from some mere every day movements to a twice daily program.

Groups	Subjects	Gender	Age	Etiology
Group 1	G.M.	F	52	Fall
	P.E.	F	48	Slide
Group 2	C.D.	F	71	Fall
	R.I.	F	76	Slide
	R.M.	F	49	Road accident

Table 1 Subjets of research

Aplied tests

There were two kinds of tests, at the beginning of the operation (Ti) and at the end of the hospital recovery (Tf):

- articular mobility at hip level (amplitude);
- muscular tonus (O – 5 strength)

We also calculated the functional coefficient of the segment under recovery process.

Used programs

The acting system started 48 hours after the surgical operation and lasted 45 hospital days.

Aims of program Control of pain, hip stability and mobility, restart walking.

Program stages

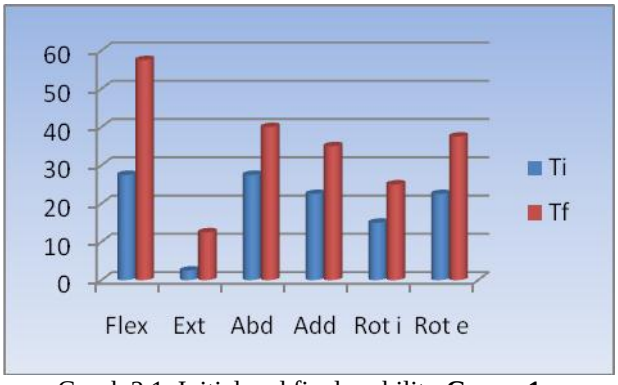
- Stage I – acting the sound leg only;
- Stage II + isometric exercises – passive and active ones – in the bed;
- Stage III + exercises on the bed edge, standing up on the sound leg and walking with crutch, without support, with the operated leg;
- Stage IV + walking, without support, with the operated leg;
- Stage V + resistance exercises in the bed and sitting;
- Stage VI + walking variants, with crutch, with stick, without support.

2. Results

2.1. Articular mobility (hip) Group 1

Motion (°)	Initial test (Ti)			Final test (Tf)		
	G.M.	P.E.	**Aver.**	G.M.	P.E.	**Aver.**
Flexion	30	25	**27,5**	55	60	**57,5**
Extension	5	0	**2,5**	15	10	**12,5**
Abductie	25	30	**27,5**	35	45	**40**
Adductie	25	20	**22,5**	35	35	**35**
Int.rot.	15	15	**15**	25	25	**25**
Ext.rot.	20	25	**22,5**	40	35	**37,5**

Table 2.1. Initial and final mobility **Group 1**



Graph 2.1. Initial and final mobility **Group 1**

The average data calculated for the Group 1 show evident increase of mobility at hip level. There are outstanding differences between the initial test and the final test for the *flexion – extension* motion.

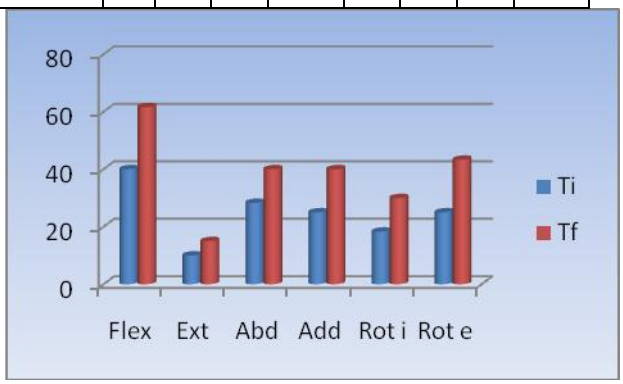
Stands out the possibility to move by flexion with a flexed knee which considerably improved.

We could notice at the end of the physical recovery the specific movements of hip articulation did not reach the normal amplitude.

2.2. Articular mobility (hip) Group 2

Table 2.2. Initial and final mobility **Group 2**

Motion (°)	Initial test (Ti)				Final test (Tf)			
	CD	RI	RM	**Aver.**	CD	RI	RM	**Aver.**
Flexion	40	40	40	**40**	60	55	70	**61,6**
Extension	10	10	10	**10**	15	15	15	**15**
Abductie	25	30	30	**28,3**	35	40	45	**40**
Adductie	20	30	25	**25**	35	40	45	**40**
Int.rot.	20	15	20	**18,3**	35	25	30	**30**
Ext.rot.	20	25	30	**25**	40	45	45	**43,3**



Graph 2.2. Initial and final mobility **Group 2**

The average data calculated for the Group 2 show the hip mobility increased. There are outstanding differences between the initial test and the final test for the flexion movement. We could notice the movements did not get a normal amplitude.

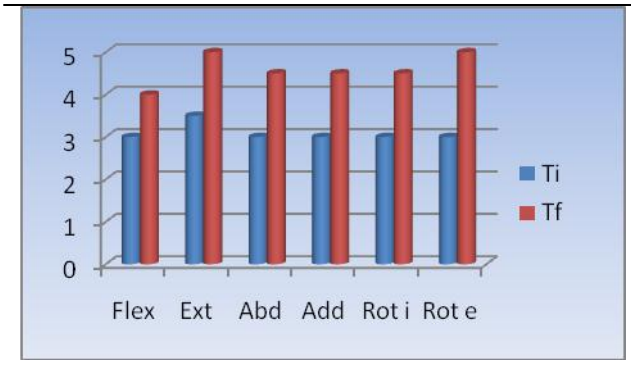
There are differences for mobility and flexion with the flexed knee while the Group 2 had initially a better amplitude than the Group 1.

The Group 2 has a better final test and the amplitude's values were higher at the end of the hospital recovering program.

They have to follow stimulating the movement amplitude, it means involving more the hip articulation, under different kinetic technics.

2.3. Strength motion (hip) Group 1

Table 2.3. Initial and final strenght **Group 1**



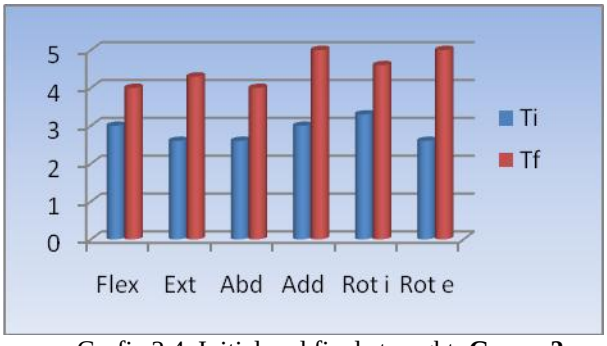
Graph 2.3. Initial and final strenght **Group 1**

The registered data regarding the Group 1 show the strength as well as the hip articulation stability increased. At the beginning the strength values were around 3. For one subject the internal rotation had the lowest value, it means 2. At the final test, all subjects were significantly near to the normal values for strength, 4 -5. The best recovery registered the strength for the extension movement and external rotation. In the Group 1 the stability is almost normal for all hip movements.

2.4. Strength motion (hip) Group 2

Motion	Initial test (Ti)				Final test (Tf)			
	CD	RI	RM	**Aver.**	CD	RI	RM	**Aver.**
Flexion	3	3	3	**3**	4	4	4	**4**
Extension	3	2	3	**2,6**	5	4	4	**4,3**
Abductie	3	2	3	**2,6**	4	4	4	**4**
Adductie	3	3	3	**3**	5	5	5	**5**
Int.rot.	3	3	4	**3,3**	4	4	5	**4,6**
Ext.rot.	3	2	3	**2,6**	5	5	5	**5**

Table 2.4. Initial and final strenght **Group 2**



Grafic 2.4. Initial and final strenght **Group 2**

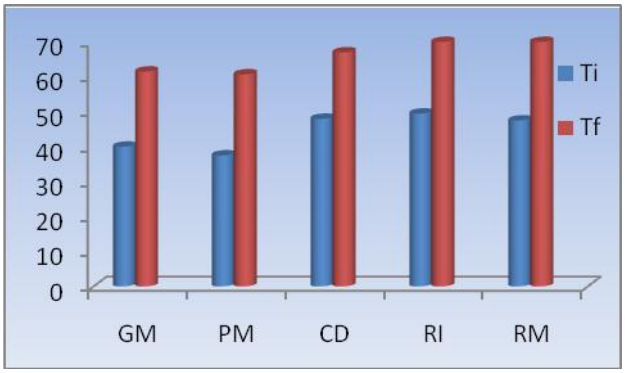
The registered data regarding the Group 2 show the improvement of the strength as well as of the hip articulation stability. From initial average values, between 2.6 – 3.3, the strength level gets, at recuperation end in the hospital, 4 - 5 level and it suggests an almost normal stability for the hip articulation. The best recovery the articulation strength reached in adduction and external rotation movements.

Therefore, we can say the Group 2 had a good recovery, very near to that of the Group 1, both groups having a stability level between 4 – 5. thanks to the articulation strength.

2.5. Functionality coefficient

Group	Subjects	Functionality coefficient (%)		
		Initial test	**Final test**	**Difference**
GROUP 1	G.M.	40	61,5	21,5
	P.E.	37,5	60,7	23,2
	Averange	**38,75**	**60,6**	**23,85**
GROUP 2	C.D.	48	67	19
	R.I.	49,5	70	20,5
	R.M.	47,5	70	22,5
	Averange	**48,33**	**69**	**20,66**

Table 2.5. Functionality coefficient



Graph 2.5. Functionality coefficient

Motion	Initial test (Ti)			Final test (Tf)		
	G.M.	P.E.	**Media**	G.M.	P.E.	**Media**
Flexion	3	3	**3**	4	4	**4**
Extension	3	4	**3,5**	5	5	**5**
Abductie	3	3	**3**	4	5	**4,5**
Adductie	3	3	**3**	4	5	**4,5**
Int.rot.	2	4	**3**	4	5	**4,5**
Ext.rot.	3	3	**3**	5	5	**5**

The functional degree of the articular system was under 50% in the initial stage of the recovery program. After 45 days of recovery including physical exercises,

the functionality level increased giving to the subjects a displacement autonomy.

Conclusions

The initial hypothesis was confirmed, so for both groups the kinetic program induced positive effects in the subjects' motion, which could at the end of their hospitalized recovery to have an autonomous displacement.

- The incidence of the hip traumatisms is higher at femoral cervix and head as well as in the intertrohanter segment.
- The surgical treatment must be followed by a recovery through kinetotherapy programs
- The recovery has as aims to reduce the pain, to regain the mobility, the stability and the muscular tonus.
- The kinetic technics of recovery starts with postures in the anatomical axis of the affected leg.
- The most important gain in the functional recovery of hip is a consolidated autonomy for a free displacement.

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❖ MANAGEMENT

LOGISTIC MANAGEMENT ASSESSMENT OF SPORTS CLUBS

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Abstract

Being involved in the phenomenon of sport performance closely and knowing the strong and especially the weaknesses of these structures recorded in the first time some important issues which have led choosing this theme, namely:

- maintaining the old scheme of structural organization and proceedings of sports clubs (designed after 1990);
-lack of strategic projects for the development of sports structures itself put into question the clear objectives to focus by the management;
- non-production sources of resources;
- duplication of tasks and duties of the job;
- Lack of concern for continuous improvement of quality and human activities performed in the clubs. Here it is:

- Assessment and training of the technicians and Methodist who works in the club.
- Promote research activities to rationalize the selection, training and participation in competitive athletes.
- overlapping duties and tasks positions etc.

Key words: assessment, logistic, management.

❖ The current management and logistics

1. Logistics system is characteristic of military operations but in developed countries such as USA, Germany, France, Italy, have established councils of higher learning phenomenon logistical supporting any activity including sports performance (D. Popescu, 2000).

2. Total lack of information on logistics management in our field of activity.

3. Grant logistics precarious sporting clubs public performance compared to sports clubs performance of a private in the integration of all structures on the EU sport.

4. Research program aimed at finding ways and methods of procurement spending and effective and efficient logistics management specific items.

To assess the logistics management

In general we can say that our research is focused attention to the completion of the following purposes:

- extrapolate the concept of logistics management in our work with strategic projects to institutional development.
- extrapolate the concept of logistics management in our work with strategic projects to institutional development.
- Establishing a model of assessment, implementation in practice at sports clubs.

Procedural and structural changes envisaged by the project

Structural organization consists of grouping items, functions, activities, duties and tasks based on certain criteria and the allocation of their organizational subdivisions, in order to achieve them, groups and individuals, to ensure the best conditions for achieving goals and overcoming organization (I.I. Lador, 2000).

It requires that each club sport performance and to streamline activities and to promote the necessary logistical activity which does not miss the following items (Dumitru, P., 2000).

- Financial support;
- Base material – administrative;
- Maintenance;
- Transport;
- Medical insurance;
- Feeding and providing the equipment representation, training and competitions.

To "popularize" the concept of logistics management assessment and at the same time to make it understood I made a grid for assessing the logistical elements of the basic logistics were evaluated in notes from 0 to 3. Thus, the present content of this scale, which will be completed by each leader separately (see Table 1).

After evaluating the application of logistics in the preliminary stage can be drafted strategic logistics development, after the model:

ESTABLISHING THE ESSENTIAL STRUCTURAL ELEMENTS OF A STRATEGIC DEVELOPMENT PLAN FOR THE SPORTS CLUBS

After having gone through the literature, we have decided the ***strategic development plans for the sports clubs*** should have the following structure:

1. ***Club's (institution's) identification details***:

- name, address, fax number, web page, management team.

2. ***Organizational culture*****:**

- Club's history, its role in the community, traditions.

3. ***Detailed information:***

- population (school, sports);
  - number of athletes per segments (high schools);
  - number of athletes with good and very good results;
  - number of athletes with health, social, etc issues.

- Didactic personnel: coaches, athletes, instructors (full-fledged / substitute, working hours, teaching degrees, categories of coaches);
- Material resources: training facilities (halls, gyms, classrooms, labs, workshops, libraries, cabinet etc., sports grounds)

- non-didactic and sanitary spaces;
- training materials, devices, apparatuses, etc.;
- revenues, financing;
- own revenues provided by additional services.

4. ***Quality information:***

- The athletes' background: family, neighborhood, education level;
- The education of the training staff and the auxiliary personnel;
- Graduation ratio;
- Sports debut ratio.

5. ***Presentation of the institution's mission and vision.***

6. ***Presentation of the targets / purposes, the strategic choices and their role in the project's general objectives*** (implemented within the operational plans).

7. Drafting the operational plans

The first segment will be carried out depending on the success of the project stages.

The operational plan – maximum a year on functional segments, represents the solutions for the strategic objectives.

An (annual) operational plan will have the following structure:

- operational objectives and the activities necessary to carry them out;
- educational / training objectives;
- deadlines;
- work stages;
- responsibilities for each individual member;
- targeted performance indicators.

8. Attachments

- results of various analyses – SWOT, PEST (E) on various segments:
- the institution's curriculum;
- HR, financial and material resources;
- relationship with the community.

- Assessment reports; Analysis reports;
- Statistics regarding the population involved in the activity, material and human resources etc.

Project implementation in practice is not an easy operation too. First will encounter very large clubs rethinking and restructuring in line with the concept of logistics.

If some sectors of this selection was made with nuance, eg financial, material basis, maintaining the other ingredients to produce numerous logistical confusion and ambiguities.

These confusions and ambiguities occur where certain functions, roles and specific tasks of logistic elements were overlooked or resolved by other sectors. Of course the latter decision to the party leader and will work will be rethought and reorganized.

Table 1
MODEL GRID QUALITY ASSESSMENT SYSTEM LOGISTIC MANAGAMENT CLUBS SPORTS PERFORMANCE

Nr. Crt.	LOGISTIC COMPONENTS		Club Sports 0	1	2	3	Total Overall
1.	Selection, training, participation in training and competition	1.1. Number of children selected					
		1.2. Children retained for training					
		1.3. Sections					
		1.4. Organization and planning of training					
		1.5. Participation in the competition					
		1.6. Sports results					
	Total Score						
2.	Financial	2.1. Establishing needs					
		2.2. Obtaining funds					
		2.3. Distribution and use of funds					
		2.4. Justify spending					
		2.5. The use					
	Total Score						
3.	Supply Material	3.1. Establishing requirements					
		3.2. Purchase					
		3.3. Storage					
		3.4. Conservation					
		3.5. Evidence					
		3.6. Splitting					
		3.7. Distribution					
		3.8. Control during operation					
	Total Score						
4.	Transportation	4.1. Establishing needs					
		4.2. Planning and organization					
		4.3. Transport Enforcement					
		4.4. Transport Management					
	Total Score						
5.	Maintain	5.1. The technical					
		5.2. Testing					
		5.3. Maintenance					
		5.4. Assessing damages					
		5.5. Recovery					
		5.6. Evacuation					
		5.7. Repair					
	Total Score						
6.	Health care and veterinary	6.1. Prevention					
		6.2. Support					
		6.3. First aid					
		6.4. Evacuation					
		6.5. Assisting specialized					
		6.6. Healthcare and health					
	Total Score						
7.	Feeding equipment and accommodation delegations	7.1. Establishing needs					
		7.2. Identification of resources (space)					
		7.3. Acknowledgments					
		7.4. Providing space					
		7.5. Distribution of products and spaces					
		7.6. Determination of access roads					
		7.7. Ensure functionality of equipment and premises					
	Total Score						
8.	Scientific assistance	8.1. Prospective					
		8.2. Annual					
		8.3. Operational					
	Total score						
score total assessment	**score maximum assessment 138**						
	Percent						

Results

The results recorded in the assessment grid of the elements being assessed by logistic note from 0 to 3. This scale will be completed by the leading part in the preliminary study phase and final phase of evaluation of performance sports clubs on logistics management.

By statistical processing of data relating to the quality of logistic management in sports clubs performance we seek to answer the following questions:

1. Improved the quality of logistic management in club sports performance analysis in the time interval between initial assessment and final?
2. There are significant differences between the quality of logistic management implemented by club sport performance at the global level of all the 8 parts logistics?
3. What is the share of each component in each logistics system as implemented logistics management?
4. What is the share of the quality of logistic management of the club sport?

Valorisation project

1. Promote ideas and proposals of our ***Logistics Management*** in the sports clubs in order to optimize offers and services available locally, nationally and internationally.
2. Involving geographical environment and natural resources of the county to increase the quality and efficiency of activities of sports associations and clubs - with DSJ, Sports Clubs, School Inspectorate and other institutions.

Conclusions

1. In all clubs there is a resistance to change from the old officials who see no radical improvement in the quality and efficiency of work performed but rather an additional load, changing the old concepts, and especially not afraid to face the new requirements of the job.

2. Therefore we believe that our intervention on promoting and improving logistics management is salutary being accepted by all top managers.

SUGESTIONS ON THE IMPROVEMENT OF THE SPORTS CLUBS' LOGISTIC MANAGEMENT

1. The creation of autonomous, self-financed, self-sustained, self-managed, self-organized units, according to the logistic concept.
2. Setting up powerful sports clubs and associations split per type of sports: C.S. Basketball; C.S. Athletics etc.
3. Including technical teams in the organizational structure of the sports clubs who should target and pursue clearly defined development strategies.
4. Promoting a system of target-based approach in terms of logistic structural and process-based development.
5. A well organized sports structure requires a hierarchical decisional structure and the capacity to organize operational teams which should work permanently or temporarily (in crisis situation).
6. Establishing partnerships with unions and other interest groups.
7. Studying and benefiting from EU market.
8. Growing the manager's strategic role to deliver on the needs of the departments and in prioritizing profitable sectors, and mainly the selection, formation, training and participation in sports competitions.
9. Making decisions based on four main criteria: economic, functional (operative), political and social.
10. Perfecting the organizational relationships with institutions and interest groups.

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COACH COMMUNICATION SCALE İN FOOTBALL A STUDY OF VALİDİTY AND RELİABLİTY

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Abstract

The aim of this study is to develop a valid and reliable measuring tool which can measure communication level between coach and footballers in football.

246 footballers who are continuing their active football life took part in this study as a volunteer.When we give an eye to age dispersion of the attendants; 14 of them 19-20 age (%5.7), 24 of them 21-22 age (%9.8), 44 of them 23-24 age (%17.9), 54 of them 25-26 age (%22.0), 70 of them 27-28 age (%28.5), 40 of them 29 age and above(%16.3). Developed scale is 5 Liker type. To test the validity of the scale for the 54 substances which are in the scale in the factor analysis, the scale has been identified as with single factor and from 54 questions from the 26 questions taken out , 28 questions were left.

As a result, "Coach Communication Scale in Football(FAİÖ)'s internal consistency and structure regarding the validity of the data obtained , to measure the level of coaches perception level for the communication skills , FAİÖ been stated as valid and reliable.

Key words: coach, communication, football, validity, reliablity.

Introduction

A trainer is a person who is increasing bodily performance features to interest as correctly and leading to players actively aimed at reaching of goals(Sevim 1995, 233). Trainer is a person who gain to necessary features for being success of player. A player how much skillful and how much working is need of trainer's acknowledge and experience for win and success. Besides trainer a person who over bridge among player and scientists who making research of sport. They are transfer to player interpret after the compared with their test as the most possible on the developed latest informations sport field.

Communication system which is existing in the social life and occuring of organizational structure's core are a fact that constitution of establishing of communucation with individual inter the groups and organizations (E. Kuru 2000, 153).

Communucation is defined as make common to meaning among the people in wide mean (N.Güçlü 1997, 104). We can defined briefly as process of knowledge, transfer and explanation. In this respect many activity can think as communucation (U. Dökmen 2008, 37). Communucation among people is act of a getting answer from another person and feelings and ideas which they want to transmite as consciousness and unconsciousness by using all methods that you imagine.(O. Peker ve N.Aytürk 2000, 17).

Think of a world that not communication is not so possible. Communicate is a essential activity people's daily, personal and organizational life (H.Tutar 2001, 223). In general terms, to occuring of communication necessary two systems. These systems can be two human beings, two animals, two machines or a human and an animal, a human and a machine (for example; computer). Raise of alternatives is possible. Quality of whatever, we can accept information exchange that among the two systems as ''communication'' (U. Dökmen 2008).

A expressive communication is the most powerful ability own one of the tools of trainer, player, sport manager and sport psychologist. And so trainers should set up clear communication forms for player's improving of to assist emotion and to work together common purposes of each player. That is achieve with clear communication systems trainer's attention to team, personality, philosophy of trainering, connecting to his players stoically. Communication is like base of building for all relations. Good communucate provide positive comment and continually transaction. Communication provides to occure several results such give info about performance to player, transaction in the clup, motivation and conciliation. According to player perceptions have been commented trainers' communication skills in made a study by Yılmaz (2008, 181). In this study are concluded that had high level effective trainers of badminton, volleyball and wrestle; effective trainers of handball and football but they have necessary improving communication skills.

Guitting sport of Players' that one of the factor is shown as occuring problems with coahes (B.C.Ogilviet and J. Taylor, 1993). Experienced of disappointment and stress are occuring stuations coashes' with footballers and footballers' established relations between each other because of the not good communication (R.Cengiz 2009). Successful trainering is requiring a good communucation. Who put over their careers are masters about communication and they are effectives in relations. Trainers have been fail in unsuccess when they can not connect with their players (E. Konter 1995).

M.Terekli, 2004, were explain occuring communication problems among the players – trainer in the located the first league of professional football in

Turkey in the study on significance of communication in the sport and its effect on team performance.

In this context, trainer-player communication have importance that effective going on a player's to sport career accomplishedly. Football branch had been choosed for a popular sport branch and trainer – player communication is necessary of developing weighty matter in football. With this study aimed at improving scale that female and male players' of their trainers' communication skills will determine level of perception.

Method

Participants

246 person who have active football life attendanted to the study as voluntary . 46 amateur females, 153 male, 47 professional footballers have been attendanted to the study. Considering of age distribution was determined as to 14 of them in 19–20 age (%5.7), to 24 of them in 21–22 age (%9.8), to 44 of them in 23-24 age (%17.9), to 54 of them in 25-26 age (%22.0), to 70 of them in 27-28 age (%28.5), to 40 of them in 29 age and over (%16.3).

Data Collection Tool

While preparation phase, persons are determined adventitious who going on active sport life in different category and sex have been interviwed (N=34) and later their opinion have been taken as written.

Collected datas with open ended queation forms are developing to articles of scale testing form after the classified and analized. Improving articles are offering to instructure that specialist their field. To scan local and foreign literature concerning to twice told matter analized to use scales in the related studies. By this way scale that including 80 articles testing form have been prepared. Offering to learned opinion have been desired to analyse in terms of content and structure availability. So that after the studies determination relating to availability have been occured quinary likert that is including 54 articles as based on expert opinion. Level of reliability has been determined again to apply twice every other 30 day on result of test to applying of scale sample 46 person.Scale choices include positive items, each expresion is grade as " Always" (5), " Frequently"(4), " Sometimes"(3), "Seldom"(2), " Never"(1).

Scale which including 54 article of testing form is applied to 246 foorballers in the Ankara city center. Using of collected datas from this application are analized validity and reliability of scale.

Validity and Reliability Studies

Factor analysing did to test of scale's structure validity is analized factor. Factor analyse which is a method several dimension that based on among the relations of many variables, more meaningful of variables, apparent and providing interpret as summary (Büyüköztürk 2006, 43, Albayrak 2006, 68).

Scale that its internal coefficient consistency(Cronbach Alpha) have been found as 0,946 (Table I). Reliability value of scale is high in this point. According to the results of first analyse aimed at determine adequateness of included study sample KMO (Kaiser-Meyer-Olkin Measure of Sampling Adequacy) value 0.90, test of Barlett is finding meaningful (3766.858) (Büyüköztürk 2006, 43). Functioning 28 article are appeared as result of analized.

Table I. Reliability Statistics, Kaiser-Meyer-Olkin Measure of Sampling Adequacy and Bartlett's Test

Cronbach's Alpha		N of Items
.946		28
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.908
Bartlett's Test of Sphericity	Approx. Chi-Square	3766.858
	Df	378
	Sig.	.000

In analized factor, scale that is decreasing from 54 articles to 28 article in the using of testing form of internal consistency coefficient (Cronbach Alfa Coefficient) is found as 0.946.

When internal consistency coefficients are analyze made Cronbach Alfa for testing of scale's reliability, coefficient values' changing is understanding between 0.52 and 0.77. In generally, when we accept that very well distinguished to persons of total article correlations 30 and over 28 articles (Büyüköztürk 2006, 43), after when we remove 26 article that has lower from total 30 correlations, 28 articles that very well distinguished have been accepted. This dimension's explained variance as to scale are 59.33% .

Explained of variance 30% in the single factoral scales and more are enough. On the other hand, in the several studies have been found that one evaluated as called factorial pure tests (Hovardaoğlu 2000).

Table II. Component Matrix (a)

	Component				
	1	2	3	4	5
s31- My coach knowledges me what should I suppose to do	.775				
s30- My coach have a good persuasion skill.	.740				
s2- My coach is a good listener, that is encourage talking to him.	.730				
s52- My coach explain why should the idea done and he uses positive and useful knowledges.	.715				
s36- My coach is adequate give his own knowledge.	.697				
s34- My coach instructes us for developments and alterations before they did.	.678				
s29- My coach have skill of eloquence.	.671				
s50- My coach makes effort for learning my interest, tendency, acclaim and desire.	.663				
s53- My coach uses moral and material prizes when I display to his desired act.	.663				
s6- While I am talking with my coach address questions about relevant.	.654				
s4- After I talked my coach ı think that he undertands me.	.653	-.469			
s51- My coach does not ignore our personal necessity.	.651				
s10- When my coach listen to me he feels my experienced and feeling.	.650				
s39- My coach opens the criticism about his ideas	.648				
s27- My coach prefers encourage us above give direction.	.635				-.427
s42- While I am talking to him he looks so trudful keep secret and interested in the topic.	.632		.480		
s35- My coach teaches our team's goal and aims.	.632				
s1- When my coach listens to my problems I leave his around as relaxing.	.623				
s9- My coach tries to understand my message exactly.	.616				
s8- My coach prefers listen at first for get the record straight.	.609				
s48- My coach can see problems and control them before they done.	.605				
s11- While he is listening to me I feel he understands my feeling and excites.	.603			.444	
s3- My coach listens to me without prejudice.	.590			-.440	
s44- When he critises me he explains the reason.	.569				
s5- While we are talking he only focus on me.	.567				
s25- My coach explains his feelings, ideas and thoughts clearly.	.528				
s45- My coach check my understanding approach.	.524				
s28- My coach motives our team to our aims.	.522				

Explained variance value is % 59.33

In the beginning of analyse scale (for 28 items) Analizin başında 28 madde için ölçeğin Cronbach Alpha reliability coefficient is 0.946.

Conclusions

Aimed at testing of scale availability that in testing form as to 54 article in the factor analized; scale has been determined as single factoral. Items which its correlation under 30 except of does not analyse person very well, 26 questions are put way and test reduce to 28 questions. Scale's Cronbach Alpha reliability coefficient is 0.946. When internal consistency coefficients are analyze made Cronbach Alfa for testing of scale's reliability, coefficient values' changing is undertanding between 0.52 and 0.77. Found this values are grade quite trust and high reliable.As a result, " Trainer Communication Scale In The Football (CCSF) " of internal consistency and availability of structure are verifing found datas that a scale of valid and reliable for footballers' traineres' survey communicate skill of perception grade of (CCSF). Because of contining a process availability and reliability is need that studying with different groups and more than attendents for reach of final results.

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❖ PHYSICAL EDUCATION AND SPORT

THE ROLE OF SYMMETRIZATION IN THE GAME OF HANDBAL

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Abstract

The technique's symmetrisation stands for the execution of technical and tactic movements both using the dominant arm and on the dominant side, and using the non-dominant arm and on the non-dominant side, with the purpose of increasing the level of efficiency and technique.

Keeping up with the latest trends in the handball game's evolution we think that handball players, irrespective of a values pattern, must permanently enrich their tactic knowledge and skills, learning new movements and alternatives of already known movements.

We think that teaching the specific ambidexterity for technical and tactic movement's symmetrisation purposes, using a specific strategy (objectives, methods, means of execution, assessment methods, etc.), within the specific instruction process, may have a practical and efficient value for the handball game.

Key words: symmetrical and asymmetrical motive skills, symmetrisation, specific ambidexterity.

General considerations - Lately the interest for research of the competitive and sport games' training activity has considerably increased, due to the analysis and assessment of everything happening during the games and trainings, which allows to reconsider using the action means and the methods, with the purpose to improve the training process, to find out the cause-effect relations and to define the sport games` progressive trends.

Having a most varied technical and tactic knowledge is an advantage for each player and also a surprise element for the adversary, during competitions.

The main techniques' features standing also on the grounds of symmetry possibilities are the following:

- the game's technique is individualized;
- it is subordinated to the game's tactics and rules
- the technique has a progressive trend
- the components are interdependent making up a unitary system.

Theoretical argumentation - The researches related to teaching specific ambidexterity in sport games are very few (up to present researches have been performed in our country for basketball and volleyball), which contradicts the current trends of sport games' development, recommending using both hands and legs for the execution of some specific movements, while the rhythm and speed of the game increase. The techniques' symmetrization by teaching ambidexterity may result, according to the existing research, in an increase of game movements' efficiency and implicitly of the sport art.

When teaching any technical and tactic movement a certain teaching succession shall be respected, depending on the physical training level and it must be subordinated to the specific tactic items.

The phases of teaching and perfecting the symmetrical technique are the following:

- Formation of a mental representation
- Formation of and perfecting the dynamic stereotype
- Formation of the ability to put the aforementioned in practice while playing

In the learning and perfecting process specific to handball games, an important role plays the number of rehearsals and the practice method used. Therefore, it is recommended that practice should be as general as possible, and the number of rehearsals of the technical and tactic movement should be according to the players' training level and their individual features, in order to ensure these movements' automatic character.

The researches have proved that practice at an early age, even at a very early age, of some general motive movements, with a high dynamic character, such as: throwing, jumping, rhythmic activities, may contribute to the formation of the future player's psychomotor equilibrium, because it requires an efficient functional organisation. Some researches have shown that between the dominant arm and the non-dominant one may appear the transfer phenomenon which is generally transmitted from the dominant arm which has a higher performance level towards the non-dominant arm.

It is recommended that learning of technical and tactic movements should be made using the dominant arm or on the dominant side, then begin the

symmetrization process on the non-dominant side and using the non-dominant arm too, which favours a positive bilateral transfer, according to all research carried out up to present day on players.

The symmetrical alternative practice of certain technical and tactic movements determines availability of the central nervous system, as a result of the alternative relaxation of the arms used when playing, increasing therefore the time affected to learning and rehearsal.

We think that the symmetrization of technical and tactic movements has a significant importance and may result in the technical progress of handball players. The symmetrization of technical and tactic executions can have a positive influence on the learning process too, by a bilateral transfer of some new simple and complex specific motive skills, and also in enriching the players' range of motive movements.

General ambidexterity – is predominantly determined by the genetic and biological factors; it can also be improved by the environment factors and especially by the social and cultural ones. The general ambidexterity appears at persons not showing a clearly delineated predominance in executing motive movements.

Specific ambidexterity - is determined by the peculiarity of the executed activities, is not genetically determined and appears at persons showing a clearly delineated predominance for the right or left side. It appears when executing some motive movements or motions specific to some sport activities, branches or contests which require simultaneous or alternative involvement of the arms/legs.

In sport games, implicitly in handball too, it is required that players should execute certain technical and tactic movements using both the dominant arm and the non-dominant one, both on the dominant side and the non-dominant one, which results in teaching the specific ambidexterity.

Teaching the specific ambidexterity is required only in those sport branches or contests which dominantly consist of symmetrical, but also asymmetrical motive skills whose symmetrization is justified from the point of view of the motive and technical and tactic efficiency.

In the process of selection for handball games, we think that an important criteria should be finding the dominant arm, because within a team structure at least two positions (right wing and central right wing) claim players whose dominant arm should be the left one, and the rest of positions claim players with the right arm dominant.

The handball teams formed of players whose dominant part is the left one have an advantage as compared to other teams, because especially when attacking, they have a greater number of expression and practice possibilities.

In the handball game, the pre-finishing procedures differentiate depending on the position held within the team's structure and on the dominant arm – the person playing right wing with the left arm dominant, can use a large range of pre-finishing procedures because the throwing angle is larger as compared to the right wing which is a right-handed player and who can not use all throwing procedures.

The few researches carried out proved that movements requiring a high force level and subject to a symmetrization process are not relevant related to efficiency of movements and of the whole game. In this category are included the final movements (goal throwing movements) which besides speed of execution, reaction, require also a high force level (especially explosive force) that is why we consider that symmetrization of these movements is not relevant for our research and for the game's economy. Still many pre-finishing movements and some of those specific to defensive game could become efficient as a result of a specific process and methodology of symmetrization.

We may appreciate that at handball teams' level (expecially the established ones, seniors – female and male), the players who have a very good ability to handle the ball, also have a high efficiency index, and their game is surprising and dangerous for the adversary.

An important role in the symmetrization process of technical-tactical actions specific to handball plays the variety of selected specific and non-specific acting means, their simplicity and complexity, as well as the impulse of exercice and putting into practice these actions.

We consider that the systematization of motive skills depending on very well known criteria may be completed by the following criteria.

Following the efficient symmetrization possibilities*:*

- *symmetrical skills;*
- *non-symmetrical skills.*

The symmetrical skills – are those actions which when submitted to a symmetrization process record efficiency indexes (examples in handball: simple and alternative multiple dribbling, feints, special passes).

Non-symmetrical skills – are those actions whose efficiency is not conclusive, as a consequence of a symmetrization process (examples in handball: jumped pass, throws at the goal from the extremes).

Another classification criterion might be the way in which the motive skills are executed, which implies simultaneously doing the movements with couple segments, in the same plan or in different plans, or only with one segment.

Following the execution modality:

- *symmetric skills* (e.g.: catching the ball with two hands, passing the ball from the breast with two hands, the volleyball pass);
- *non-symmetric skills* (the pass thrown over the shoulder, special passes, throws at the goal, direction changes, etc).

By analyzing the ammunition of technical-tactical actions specific to the attack, we may realize their systematization depending on the execution type:

- symmetric;
- non-symmetric.

All game actions specific to the attack, whose technique is non-symmetrical may be symmetrised by a specific methodology, but not all of them with increased efficiency indexes.

Due to this fact, selecting the technical-tactical actions which may be symmetrised, with increased efficiency indexes, is dictated by the specific of the handball game (finishing procedures do not justify a symmetrization process).

Table 1.

Systematization of game actions depending on the execution type

Attack actions - with symmetric technique	***Attack actions – with non-symmetric technique***
- catching the ball with two hands, seized; - holding the ball with two hands; - pass with two hands from the breast, direct or with ground; - volleyballed pass; - alternative dribbling or with two hands; - unspecific variants of throwing at the goal with two hands.	- holding the ball with one arm, balanced or seized; - catching the ball with one arm; - thrown passes (over the shoulder, over the head, from hip's level, from knee's level); - pass launched at the shoulder's level; - pushed pass (from the breast's level, shoulder's and hip's); - special passes; - simple and multiple dribbling executed with only one arm; - direction changes, simple and double; - pass feints followed by dribbling; - pass feints followed by another pass; - pass feints followed by throw at the goal; - throw feint followed by pass; - throw feint followed by dribbling; - throw feint followed by another throw procedure; - all variants of goals throws executed only with one arm;

Conclusions – We consider that symmetrization of technical-tactical actions specific to handball, as a consequence of education methods to educate the specific ambidexterity, may constitute an advantage for the increase of efficiency, dynamism and momentousness of the handball game in attack.

The specific ambidexterity is the resultant of a learning process, being determined by the specific of the activities that are being carried out, it manifests in the execution of some motive acts specific to some sports activities, branches or tests which need the simultaneous or alternative implication of superior or inferior segments.

It considers that the approach of ambidexterity training shall be easier at the beginning of the sports education, better results being obtained by symmetrizing the motive skills from the beginning than by transforming the non-symmetrical movements into symmetrical ones.

Learning actions with the non-dominant segment or side is a way to increase the technical-tactical ammunition of handball players and implicitly it contributes to the development of special motive ability and this is the reason for which we suggest the specialty teachers, especially those involved in training children and juniors, to consider it an important concern in the future in the training process.

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TRAINING AND SYSTEMIC LOGIC IN ADAPTED PHYSICAL ACTIVITIES

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Abstract

Every adaptive participation, whether intended for a transitory or permanent difficulty, requires professional training to the maximum level from the theoretical and concrete point of view. For this reason, therefore, it is not possible to think of a training method that does not contemplate to a practical experience in a specific *training*. *The*

didactic training, has always featured the internal training programs in the Italian Exercise and Sport Science Degree, and with the last transformation in L-22 Bachelor (Exercise and Sport Science and Health), it is further "Extended" to a commitment that exceeds two hundred and fifty hours of activity, born, from the requirement that every training individual has to learn, besides the assumed theory also the ecological information which can only be experienced "on site". Didactic knowledge about a motor control problem is entirely different from interacting in the classroom or in the gym with a person who has this type of disorder. In other words, only through a direct experience it is possible to understand how the different conceptuality of the moment, can play direct or against an adequate education and, above all, for how much exhaustive a theory can be, it will never be in the position to supply the changing details that can only be found in that type of environmental report, first of all, the different objective of each individual respect to another's.

Under this light, the need of a specific experience that can provide the operational expertise that will, over time, make the difference between an able educator and a superficial one.

The making of a good training experience depends, of course, in addition to the personal attitude, ability and willingness to participate, even by the "quality" of the structure where the experience is conducted.

In fact, besides, institutes of high-value are often others that unfortunately do not always have all the requirements of organization and activities managements which they should offer. The places, whether physical or psychological, which accommodate individuals with difficulties (or structures, such as schools), must have intrinsic features which must not be disregarded.

From the adapted architectonic conformations to the professional competences of the operators, the structure that receives this *sensitive* type of user must have the maximum logistic or operating functionality.

Obviously and unfortunately, it is aware that regarding, as an example, the school structures, the problem is not trivial. And although if law foresees it, we live in an unthinkable era, with bureaucracy and general financial difficulties, we don't even hope in an adjustment of all structures which concerns the architectural barriers! However, we expect that where there is at least a disabled person he/she has its classroom on an accessible site, both for the toilets or any educational workshops. Passed experience has shown us many paradoxical situations in which some subjects with motor control difficulties had their classroom on one floor of the school, the laboratories in an other and the toilets still in another!

Key words: training, systemic logic physical activities.

The systemic participation

The direct training will be, therefore, an occasion that, besides supplying competences on the cognitive and didactic plan - educational, will be useful also to refine knowledge on logistics and environmental situations in which the same is implemented. All this, obviously, will be designed in advance, in the natural conjugation of the basic concept that is the systemic participation. In other words, we cannot "only" know, or recognize, a specific disability, study an intervention for them, choose a suitable method, instruments and the necessary time, these are not interconnected with all the rest of life, and the time that the subject lives without us!

The systemic logic that move the adaptive operation demands this, the concrete knowledge disconnected participations places don't exists. This does not exist in the system "rooms" of speech therapist or psycho motion therapist rather than the physiotherapist or of the Psychologist, but also Teacher's or educators, each shall adapt and proposes its own methodological, affective and relational language: there is one "room" in which all the operators speak the same language and aiming for the same goal, which is the achievement of a maximum value of autonomy in the subject. And there is still more: the systemic logic, replying to its intrinsic necessity of total participation, cannot ignore from the collected information concerning the various contexts and circumstances that rotate around the real therapeutic subject, like family, school or free time. More exactly, the "Commission on the paediatrics rehabilitation of the Italian Ministry of Health", in the third part dedicated to the procedures that would have to be activated in order to guarantee an effective strategy of participation indicates, as an example, for the *family*: *the information collected on the composition of the familiar nucleus, cohabiting, covering life in the familiar context, associate-economic information, rehabilitative truths and cultural characteristics and associate, working occupation, level of intra-relative communication, support from the increased family, relationship with. friends, the institutions and "the social life" broadly speaking;* for the ***school***: *it is important to collect information regarding the type of school and degree, if it is public or private, characteristic and entity of the support relationship, presence of the teacher of support teacher inside or outside the class or in mixed situation, information regarding the didactic activities if associated to the curricular activities*.

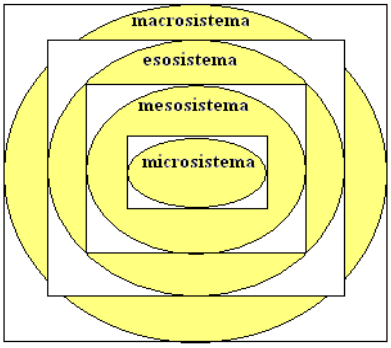
With reference to the above, the reflections of Bronfenbrenner (1977, 1986) on the environmental organizations that influence the development processes, seems very significant. He introduces to such aims and in a very structured way, the categories of microsystem, mesosystem, exosystem and macrosystem like a realty that revolves around the subject and which you must be part of.

The microsystem represents the next context in which a child is included in, like house, asylum or school. In this environmental situation it is confronted with the implicit rules of the same context, with activity and models that, enclosed within and often not opened to external relational experiences, transmit, for better or for worse, subjective values and formative contents that not always, and necessarily, are those ideals. And the reference in the first instance is turned

to the family and particularly the parents who, most times, reproduce an educational outline intentionally closed and unconsciously projected to reshape their own personal maturated experiences.

<<As the cultural codes governs the relationship between individuals and the social system, so the family codes governs the individuals within the family system. The family codes allow a group of individuals to form a unit collective report all of the society. As the cultural code regulates the development so that a person can take a role in society, the family code regulates the development to produce family members that can fulfil a role and participate in the system shared by the family. The families have rituals that require the roles, stories that transmits guidelines to each member of the family so as to the rest of the world, shared myths that affects the individual interactions and paradigms amending the behaviour of the individual in the presence of the other members of the family.>>
From "T*he disturbances of the relations in the first infancy*," by A. J Sameroff. and R. N.Emde, Bollati Boringhieri, 1996

From this "Environment" also depends, in consequence, most of the future psychological construction of the child, his collaborator, willingness



to educational dialogues and non and, above all, its intentional preservative in respect to surrounding reality. This last aspect, in particular, is essential for the purpose of personal growth from multiple points of view. The child that disturbs, in fact, that changes and modifies the environment is a curious child, prepared play, to try different experiences without fear of failure, to give to receive, and make, in fact, many motor sensory experiences that will be the basis of all its growth both conceptual and, more explicitly, bodily. And with regard to this, some familiar attitudes sometimes hyper protective or, conversely, tending "affective abandonment" affects negatively this paradigm of development, limiting their potentialities above all when in presence of some unevenness evolution. The parental behaviour, especially that of the first person of care and the relationship with them, is crucial in the development of normal or abnormal adaption of the child.

It is a known fact that disabled may live a long period, often lasting as their whole existence, It is known that some children with disabilities live a long time, often lasting their whole existence, of renunciation, dropout and false alternatives as a result of a generalised hyper control or, sometimes, even of "refusal and dedication", from the parents and a dangerous prejudice on the part of the whole world, considering them always a defect, limiting their already difficult path to personal autonomy.

[1] The reference is to ' "Rosenthal effect" or "Pygmalion" in which we are all, in part, at the same time victims and executioners. " All of us have developed bias on others who are the direct result of personal evaluation parameters, and often unconscious criteria for the award of defects or virtues. It happens, that a disabled child, whatever its difficulties, when going to school, already suffers preconception from his classmates and too often from teachers who think that a disable child has limitations, weaknesses and difficulties, although not necessarily exist limits for its cognitive engagement. It was found that from these children, teachers expect results and reduced performance compared to normal children, and always as a result of this predisposition, require less, give less deliveries and even tend to reduce considerably the times of direct explanation. The result of this whole dynamic is that the person with disabilities is to be doubly disadvantaged: first, because he has "his disability, second because others have a low consideration of the disable as a person, in fact, biased, piety and, overall, little qualitative consideration.

The mesosystem represents, instead, the relationship that exists in those situations in a precise moment of development. Classic is the relationship between the house and the school. Often divergent the educational systems, the relative problems to school integration and recently mutual cultural integration, are a comprehensible example.

An extension of the mesosystem is the *exosystem*. This represents all those situations of which the child does not necessarily takes part but are conditioned by these situations, in which they do not interact directly but in which significant decisions are made affecting the individuals who do interact directly with the child , like the parent's job, neighbours or generally social relationships which they bear. After all the neighbours cannot be chosen, just as the family and often these have a great influence on our childhood!

Lastly the *macrosystem*, representing all the institutional patterns of implicit and dominant culture of belonging, such as economic systems, political, social, religious, etc.. and such microsystems, and ecosystems are mesosystem takes various concrete. The multicultural society in which we live more and more often reminds us of difficult considerations on this aspect now incontrovertible of our daily life. And if in a weak analyse, this new and different existence is complicated for us all, for those coming from afar, from another culture, religion, education or whatever this is really difficult.

In conclusion, the opportunity to "visit", the host structures and special participation, will, thus, be a first impact with this reality that is at times quite different from that theorized and recommended. But paradoxically, this kind of knowledge gained will be useful for the purpose of their own training staff, as will stimulate their critical sense and the ability to ask, obvious indications and applicable remedies of the

case. By contrast, the "luck" of being in a well organized centre can now permit the recruitment of specialized methods of intervention, together with the organizational and managerial practices of the structure in its complex. In addition, a well-organized structure will provide the opportunity for retraining and continuing training that will be difficult to find in little organized structures.

The hope, then, is to create more educational training courses, which are common to many educational agencies, which can propose and implement a scientific and professional process at the highest level of quality. Of course, if this project was a fitting expression not only of "local institutions, but also an expression of collaboration between universities in different nations it would be even more significant.

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SKILL DEVELOPMENT BY PRACTICING THE GAME OF HANDBALL IN THE GYMNASIUM AT THE VII GRADE

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Abstract

This paper shows how the identification of new methodical, specific enrichment of handball game helps develop motor skills, especially skill.

The motivation of this choice of themes derived from the fact that handball is considered by specialists of the field, a happy synthesis of the basic driving skills of the human race that, lift, catching and throwing, (I. Kunst – Ghermănescu, 1983), is a means of physical education, but also an instrument through which the physical education teacher can provide the dynamism and attractiveness of the lesson, the need to stimulate interest of students to practice sports activities.

Key words: skill, handball game, students

Introducing

This paper aims to contribute through the study and experiments conducted in growth indicators using means skills characteristic game of handball, which is a way of ensuring the training of learning.

Through applications, the paper presents the physical education teachers involved in teaching handball methodically appropriate material content of the national curriculum in secondary education cycle, necessary activities to class VII was in the process of educating the driving qualities attractive and creative.

The research hypotheses

In the class VII is a development-intensive functions driving analyzer (whose training is natural during this period), which allows elements to refine technical and tactical practice model interim handball game.

The study is to determine whether acting through specific techniques and tactics handball allows skills education, its forms of manifestation.

Research tasks

Making anthropometric measurements and application of tests motricity and skill specific to the game of handball, the classes involved in the experiment.

Analysis and interpretation of results of initial testing.

Development and implementation cycles of the lessons from handball to the specific means of developing skill game.

Applying the final test, using the same parameters as the initial testing.

Recorded data processing and analysis of effectiveness used in the experiment.

Drafting of conclusions and proposals.

Research methods and procedures

Period of experimental implementation of the strategy was about 6 months, divided into two phases: September 2007 - November 2008 and March-May 2008, effective work in 25 weeks, 54 hours of physical education. Experimental class, the average time affected experimental work every hour is 15 minutes.

All experimental class students have received the same training as the driving tests and are applied within hours of physical education. School holidays and material conditions as those imposed on sharing air activity in two experimental phases and structure of lessons in different periods of atmospheric uncertainty.

The research was conducted within the School with classes I-VIII nr.21 Constanta, Constanta county, Class VII-B is the experimental class, and class VII-A of class witness.

School sports are a modest, consisting of a handball court size 40/20m and a sand pit for the lift. In the absence of gyms in the winter and unstable atmospheric conditions, hours of physical education is conducted in the classroom.

Sports materials used in the experiment are the specific game of handball (handball balls, vest) and others are used as auxiliary materials: rubber balls, balls of oina, milestones, mattresses, stopwatch, tape etc.

To throw in a practice we used two gates drawn on the wall, which we marked sixteen rectangular areas with different scores, each student making every throw and 4 in a final cumulative score.

Experimental Class (VII-a B) is composed of 19 subjects, 9 girls and 10 boys, with an average age of $\bar{x} + Ds = 13{,}8 \pm 0{,}89$ years. In this class to use particular operating system designed in the experiment.

Witness class (VII-a A) consists of all 19 subjects, 10 girls and 9 boys, with an average age of $\bar{x} + Ds = 13{,}6 \pm 1{,}02$ years. In this class used a normal operation, the appropriate methodology for conducting physical education lessons in class VII-a.

The tests applied in the context of research aimed at both knowledge of subjects and demonstrate the effectiveness of systems used to drive development through specific of handball game skills. For this purpose, we used the following battery of tests: anthropometric measurements, specific of handball game tests (G. Carstea , 2000).

We selected anthropometric measurements and tests applied for the following anthropometric characteristics: height (height), weight, size, Adrian Ionescu index, because the particular development anatomic-functional at this age require careful tracking of these indicators, to maintain their optimum parameters (D. Colibaba – Evuleț, 1998).

In the battery of tests specific handball game we included both tests concerning the performance of a technical process isolation (passing movement in fundamental position, throwing distance / bearing to a ball handball, dribling) and evidence concerning the execution of a technical and tactical (A. Dragnea, 1974).

Continuation of general physical preparation and the specific skills development concern:

a) Developing general skills components: mobility, flexibility, coordination,

b) Development of forms of expressed specific skills - in particular the "sense of the ball. "

To achieve these objectives we used the specific physical preparation of the previous stage gradually introducing some elements necessary for correct execution of tactical and technical procedures to be adopted in this phase.

a)Development of general skills(mobility, flexibility, coordination) :

- Mainly through a combination of elements from handball using borrowed from gymnastics, athletics
- jump over obstacles, with the impetus and approach different obstacles from different angles - jump followed by rolling;
- exercises (bending, twisting) ball with sticks of gymnastics

– Circular motion of the trunk, upper and lower states.

- Travel in the triangle, zigzag, tortuous - the fundamental position (I.Bota, 1984);

b) Training and development of specific skills- through various processes with the balls :

- throwing and catching the ball (on the wall, soil, air)
- Dribling ball in different positions, with one hand and the other
- Trickery ball exercises
- passing in different positions (sitting, lying, etc..)
- exercises passing and catching the tennis ball, rubber, for rugby (P. Cercel , 1975).

c) Development of speed of execution (skill as speed) by:

- passing the location of the race, run with maximum speed
- dribling multiple alternatively among obstacles
- in the form of competitions, who makes it many passing in a minute
- throwing the gate drawn on the wall, with the shorter running time
- throw in a (of all known processes) which emphasize the need to increase speed of execution (M. Epuran, 1976).

Improving technical process was endorsed by reinforcing elements in the previous stage, and learning new elements was accompanied by an explanation and demonstration of their practice, with references and their performance closer to implementation in the game.

Improving tactical actions and endorsed in the previous stage was based on known technical elements, aiming at raising awareness by students on the necessity of compliance with the principles and tactics to initiate their tactical application of complex schemes, which encourage motor skill development, particularly forms a specific skill.

Discussions

For students in the process of transformation anatomic - physiological, age-specific to 10-14years p that passes, the specific training conducted within the research was a way to exploit the capacity of their general motive, but also highlighting the level of skill development their motive.

Increases in height and weight recorded by pupils between the two anthropometric tests are normal, fall in average values reported in literature for

this stage of the evolution to maturity. The size and Adrian Ionescu index show yet persistent imbalance in age between the developments of body segments.

Differences observed between initial and final testing of samples of general skills, and the differences recorded in this chapter between subjects and experimental class of the class can witness confirms improvement this age parameters driving skills, both in their general forms of manifestation, as and the specific combination (skill as speed, force the regime of skill).
The investigation carried out on developing students skill showed progress in this direction, both in the individual performance records as well as the homogeneity group.

Improving students' class preparation confirms the experimental means used in the experiment, which contributed, on the one hand to develop the skills of practicing the game of handball, and on the other hand, have exploited the potential of students in terms of driving skills, especially of skill, favoring the development of complex forms of it.

An important role in achieving these results it has applied the methodology, which has pursued an effective dosage of the ability to exercise choice forms the best place of business, to ensure an attractive and dynamic lessons, selecting appropriate resources for maximum efficiency in learning.

Differences between the coefficient of variance obtained from specific handball evidence indicates that the evidence that was requested and strength, combined with skill and speed, the dispersion of results was higher, as explained by the peculiarities of the physical at this age. In the explosive development of height, in some subjects to balance the musculature in a slower rate, which influences the development and strength.

Conclusions

Results of experimental class students in the final samples of batteries of tests used in the experiment have confirmed the value of research in order to identify ways and means to address the learning content in a modern complex, expressed by the dynamism and attractiveness of physical education lessons. Progress in this class development of skills in general has shown that the game of handball is a significant contribution to achieving the objectives of physical education in school because the structure is its top of practice driving acts

This new approach involved students in contact forms of global movement and physical effort, with beneficial influences on the development process anatomic - working on it through the body at this age.
Alternation of forms of organization of work and various types of exercises, games, relay race, and competitions tested in the research contributed to the optimization lessons, grading and complexity of the request body as factors favoring learning fast and accurate processing of technical and tactical actions for designed themes.

Due to its complex structure, the game of handball is a favored driving skills development, field work involving movement and speed of execution, skill in handling the ball, force projection, detention, etc. resistance effort.

Through the study we demonstrated that the lessons into the themes of which have a share handball significant contribution to the development of motor skills in general. One of the hypotheses of experimental research aimed handball specific means to determine their contribution to the development skill. Analysis of test results specific handball validated this hypothesis, significant differences between the results of research subjects - experimental class students - and the class of witnesses confirming the operational structures experienced handball practice and the role in the development of specific forms, complex skill, and transferable to other areas activity daily.

Recommendations

During such research we found the need to achieve, along with physical training and tactical and technical, a good preparation of students from the psychological point of view because at the onset of puberty occurring multiple transformations in the behavior, attitude, emotional. Any action involving driving specific handball, with different weight in making its driving qualities and skills mental processes and cognitive, volitional, emotional.

Practicing handball, students develop their ability of self, is used to work as a team, are in solidarity, learn to know and to match its capacity to work, live the joy and satisfaction of success when their actions are successful, they will manifest when struggling to obtain performance.

Given that research carried out aimed specifically at the influence of specific handball skills development, I propose extending the research to determine the role that it has handball in the development of specific forms other driving skills. Methodological aspects, I believe that learning technical and tactical structures of the game of handball must be conducted on the basis of a rigorous design and a favored investment of operational structures, in terms of their link with the previous ownership. Also, to ensure an appropriate pace of development capacity of each learner drivers should be grading the difficulty of exercises and exercise groups value.

For this it is necessary to generalize the application of batteries of tests in all classes with a teacher who works as a comparative analysis of these samples give important information concerning the preparation and homogeneity of each group, but also on the evolution of individual subjects required in determining work priorities future.

Deepen the study on the determinants of psycho-emotional behavior of students in the practice games and sports industries in the school physical education will lead to a better knowledge of their personality and will facilitate the selection and targeting those gifted with special skills to the practice of sports in the experienced of sports clubs.

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Table 1. Physical characteristics of the subjects

	FIRST TEST				SECOND TEST	
	Witness Class (n=19)		Experimental Class (n=19)		Witness Class (n=19)	Experimental Class (n=19)
Variables	M±DS	CV (%)	M±DS	CV (%)	M±DS	CV (%) M±DS CV (%)
Body height (cm)	146,73±6,87	4,68	147,10± 7,60	5,16	150,26±6	4,45 151,73± 7,06 4,65
Body weight (kg)	36,84±3,51	9,52	38,47± 4,33	11,25	38,05±3,51	9,22 40,73± 4,20 10,31
Scale (cm)	142,21±7,12	5,01	148,36 ±5,08	3,54	144,15±7,01	4,86 143,42 ±4,63 3,12
A. Ionescu index	1,26±0,1	7,93	1,22 ±0,17	13,93	1,31±0,14	10,06 1,26 ±0,16 12,59

Established significance level at p<0,05.

M, average; DS, standard deviation; CV, variability coefficient; n, number of subjects.

Table 2. Specific tests handball

	FIRST TEST				SECOND TEST	
	Witness Class (n=19)		Experimental Class (n=19)		Witness Class (n=19)	Experimental Class (n=19)
Variables	M±DS	CV (%)	M±DS	CV (%)	M±DS	CV (%) M±DS CV (%)
Passing the wall	19,15±2,03	10,6	19,21± 2,12	11,03	20,42±2,36	11,55 23,73± 2,8 11,79
Trips triangle(s)	26,36±1,56	5,91	25,89± 1,69	6,52	24,31±1,6	6,58 20,73±1,93 9,31
Throwing ball(m)	14,21±1,58	11,11	14,47±1,77	12,23	15,36±1,57	10,22 17,05 ±2,04 11,96
Dribling 20m(s)	7,94±0,59	7,43	7,8 ±0,6	7,69	7,67±0,58	7,56 7,32 ±0,59 8,06
Throwing the gate	9,31± 1,97	21,16	9,94± 1,92	19,31	10,78±2,04	18,92 12,47± 2,03 16,27
Techn. and tact. route(s)	38,78± 2,95	7,6	38,10± 2,74	7,19	36,15± 2,83	7,82 32,84± 3,23 9,83

Established significance level at p<0,05.

M, average; DS, standard deviation; CV, variability coefficient; n, number of subjects.

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SECOND TEST						
	Witness Class (n=19)		Experimental Class (n=19)		Witness Class (n=19)	Experimental Class (n=19)
Variables	M±DS	CV (%)	M±DS	CV (%)	M±DS	CV (%) M±DS CV (%)
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M, average; DS, standard deviation; CV, variability coefficient; n, number of subjects.

Table 2. Specific tests handball

	FIRST TEST					
SECOND TEST						
	Witness Class (n=19)		Experimental Class (n=19)		Witness Class (n=19)	Experimental Class (n=19)
Variables	M±DS	CV (%)	M±DS	CV (%)	M±DS	CV (%) M±DS CV (%)
Passing the wall	19,15±2,03	10,6	19,21± 2,12	11,03	20,42±2,36	11,55 23,73± 2,8 11,79
Trips triangle(s)	26,36±1,56	5,91	25,89± 1,69	6,52	24,31±1,6	6,58 20,73±1,93 9,31
Throwing ball(m)	14,21±1,58	11,11	14,47±1,77	12,23	15,36±1,57	10,22 17,05 ±2,04 11,96
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Established significance level at p<0,05.
M, average; DS, standard deviation; CV, variability coefficient; n, number of subjects.

COMPARING THE LEADERSHIP CHARACTERS OF THE STUDENTS STUDYING IN THE SCHOOLS OF PHYSICAL EDUCATION AND SPORTS (Sample of Gazi University)

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Abstract
The aim of this study is to make a comparison between the leadership characters of the students studying in the Schools of Physical Education and Sports.The sampling group of this study consists of 606 students constituted of 328 male and 278 female students studying in the Sport management, Physical Education and Sports Teaching and Caoch Training Departments in School of Physical Education and Spots of Gazi University.

The Leadership measurement that was used in this study was the measurement developed by Lee G. Bolman and Terence E. Deal (1991) and adapted to Turkish by Dereli (2002). The data analysis was made by means of SPSS (Statistical Package For Social Scientists for Windows Release 10.0), the significance was determined to be about $p<0.05$ and the results were presented in tables in accordance with the purpose of the study.

Considering the Leadership characters of the students studying in the School of physical education and sports, although there is a significant difference ($p<0.05$), in the sex and department variables of the leadership measurement,(structural frame, human relations frame, political frame and symbolic frame) there is not a significant difference between the grade, father's education level and mother's education level variables ($p<0.05$).

Key Words: Leadership, School of physical Education and Spots, Student.

1. INTRODUCTION

Term of leadership are occured that beginning from people have been live together and it is carried on its effect and existence on different approaching and dimension until today, may be existing leader that without number and they were trail crawds (Y.K.Kaya, 1999).

People who live in the social paradox is in need of a leader both to maintain order between each other and to maintain order between the other societies. This person has to be one of them. Leaders who have to be override all of them, to establising of authority over the all of them with knowledge and skill. These leaders who are given direction to societies (M. Farland, J. Lynne, E.Larry, R.Childress John, 1994).

One of the most important mannerism of leaders is that can convert dreamed with a vision oriented valuable purpose and to activate of people's picturing powers. As attitude leaders are display common a set of act eve though keep up with changing conditions in each circumstances. They act for applying of good ideas, they follow for certain by applied; they are forming instead of accept the changing, they take away from working in limited are by focusing on results, they think positive and believe changes live in difficulties, they check to reach aims and applications are true or not, they shows tolerance to mistaken people, they connect with eachother, they effect on them, encouraged them listen and critise them (A. Decrane,).

Although leadership term in academic attend in world literature in the 14th century last two century it is used commonly. Reserachers gave explanations for leadership by using their personal perspective and important fact. Many explanations were started to done with searching leadership which did common in 1950s (Zel, U. 2006).

There are many explanations for leadership. Some concepts of leadership are in the below:

Leadership is a process to provide group continuous as come together all member of the group, check the group's activity lead them and effect on person or group's actions in any kind of situation (S.A Tevrüz, , 1999).

Leadership requires to understand problem, show to group members' solution choices and to get benefit group's power. Leaders common features are decisive, fit in the situations, sensetive for social lide, mental, persistant, regular, colloborative, informed, effective, trustful , energetic, patient and self-reliance (N.Sungur, 1997).

Leadership is not a genre, authority, charisma and capacity. These all things can be helpful however first of all leadership means understand people, listen to themw take care of their expectations and problems and to show you are going to answer all of them. This capacity make close people each other and lend to aims and to get unexpected results (www.eylem.com/lider/wlidernit.htm).

2. Method

In this part study's method was determined. Model which used in the study, population and sample, works for data collection and statistical techniques are explained.

2.1. Types of Study

Scanning model was used in this study. Scanning model is approaches of study aimed at analyse in the past or stil exist a condition with the form of existing on the making sampling group that was choosen in all groups. Matter, person or object were trying in their own conditions and without any changes. It does not show any effort to change them (N.Karasar, 1999).

2.2. Population and Sampling

Study population includes 800 boys and 462 girls totaly 1262 students who study in sports managers, trainer education and sports teachers Gazi University School of Physical Education and Sport in 2007-2008 education year.

Study Sampling is 328 boys and 278 girls totaly 606 students who study in Gazi University School of Physical Education and Sport are selected via random method.

2.3. Data collection

Datas which are needed to reach the aims; Leadership tendency survey was developed by Lee G. Bolman and Terence E. Deal (1991) (Bolman, L. And T., 1991) and translated into Turkish by Dereli (2002) (Dereli, M. A, 2002) used to determine leadership tendency level of students.

2.3.1. Leadership Tendency Survey

Leadership survey is a kind of tendency survey which developed by Lee G. Bolman and Terence E. Deal (1991) (L. Bolman, T.And, 1991) . Survey was got from Lee G. Bolman by internet and it was translated to Turkish by using his own work by Mahçe Dereli in 2002. Besides to provide translation's validity and reliability it checked by two experts about leadership and after that another translator did its

reduction thus necessary arrangements were done (M. A. Dereli, 2002).

Leadership survey has 3 chapters to determine their leadership frame. In first chapter quinary Likert scale suppose to use and it has questions which helps to get point in four leadership frame:

Structural frame: It focuses on rationalness, efficiency and structure, **Human resources frame:** It directed personal and organizational needs, **Politic frame:** It predicts different group conflicts and fighting for scarce sources. **Symbolic frame:** It focuses on mits, stories, seramonies, meanings and the other symbolic structures.

In this chapter structural frame was determined by number of 1-5-9-13-17-21-25-29 questions; human resources frame was determined by number of 2-6-10-14-18-22-26-30 questions; politic frame was determined by number of 3-7-11-15-19-23-27-31 questions; symbolic frame was determined by number of 4-8-12-16-20-24-28-32 questions.

Scale's reliability coefficient found structural frame as Cronbach Alfa; 0,76; human resources frame as Cronbach Alfa; 0,81; politic frame as Cronbach Alfa; 0,77; symbolic frame as Cronbach Alfa; 0,78 bulunmuştur.

Data Analyzing

In data examine and interpretation; *t* test, One Way Anova test were used and to identify differences between groups Tukey test used and perception was based on P<0,05. Statistical package for social sciences packet program (SPSS) was used to find calculated datas and evaluate criterias.

3. FINDINGS

Table 1 According to sex variant; distrubition which shows leadership level of study group by T test.

		N	Avarage	Standart deviation	t	P
Structuralist frame	Boy	328	31,6860	4,4607	0,453	0,651
	Girl	278	31,5108	4,9734		
Human resources frame	Boy	328	32,6280	4,5971	0,501	0,617
	Girl	278	32,4245	5,2894		
Politic Frame	Boy	328	30,7770	5,0292	1,977	0,048*
	Girl	278	29,9848	4,8162		
Symbolic Frame	Boy	328	30,3628	5,0271	-2,131	0,034*
	Girl	278	31,2338	4,9988		

***p<0,05**

In **table 1,** When we analysed t test results which shows leadership level of study group according to sex variant; there is no meaningful difference between structuralist frame levels that is sub-dimension of leadership [t value =0,453 p(0,651)>0,05]. However; when we look at the avarages; boy students' structuralist frame levels avarage is $\overline{X}$ =31,6860, girl student's structuralist frame levels avarage is $\overline{X}$ =31,5108.

According to sex variant; there is no meaningful difference between human resources frame levels that is sub-dimension of leadership [t value =0,501 p(0,617)>0,05]. However; when we look at the avarages; boy students' human resources frame avarage is $\overline{X}$ =32,6280, girl students' human resources frame avarage is $\overline{X}$ =32,4245.

According to sex variant; there is a meaningful difference between politic frame levels that is sub-dimension of leadership [t value =-1,977 p(0,048)<0,05]. When we look at the avarages; boy students' politic frame levels avarage is $\overline{X}$ =30,7770 girl students' politic frame frame avarage is $\overline{X}$ =29,9848.

According to sex variant; there is a meaningful difference between symbolic frame levels that is sub-dimension of leadership [t value =-2,131 p(0,034)<0,05]. When we look at the avarages; boy students' symbolic frame levels avarage is ($\overline{X}$ =30,3628), girl students' symbolic frame levels avarage avarage is ($\overline{X}$ =31,328).

Table 2. According to class variant; distrubition which shows comparison Structuralist Frame levels in leadership sub-dimension of study group by One-Way Anova test.

Variance Sources	KT	Sd	KO	F	P
Between groups	92,376	3	30,792	1,397	0,243
In the group	13270,365	602	22,044		

In **table 2,** when we analysed One-way Anova test comparison results which shows leadership level of study group according to class variant; there is no meaningful difference between structuralist frame levels that is sub-dimension of leadership [F value =1,397 p(0,243)> 0,05].

Table 3. According to class variant; distrubition which shows comparison Human Resources Frame levels in leadership sub-dimension of study group by One-Way Anova test.

Variance Sources	KT	Sd	KO	F	P
Between groups	102,289	3	34,096	1,409	0,239
In the group	14564,483	602	24,193		

In **table 3**, when we analysed One-way Anova test comparison results concerning human resources frame that is sub-dimension of leadership according to class variant; there is no meaningful difference between human resources frame levels [F value =1,409 p(0,239)> 0,05].

Table 4. According to class variant; distrubition which shows comparison Politic Frame levels in leadership sub-dimension of study group by One-Way Anova test.

Variance Sources	KT	Sd	KO	F	P
Between groups	60,717	3	20,239	0,833	0,476
In the group	14624,816	602	24,294		

In **table 4**, when we analysed One-way Anova test comparison results concerning politic frame that is sub-dimension of leadership according to class variant; there is no meaningful difference between politic frame levels [F value =0,833 p(0,476)> 0,05].

Table 5. According to class variant; distrubition which shows comparison Symbolic Frame levels in leadership sub-dimension of study group by One-Way Anova test.

Variance Sources	KT	Sd	KO	F	P
Between groups	140,833	3	46,944	1,864	0,134
In the group	15158,949	602	25,181		

In **table 5,** when we analysed One-way Anova test comparison results concerning symbolic frame that is sub-dimension of leadership according to class variant; there is no meaningful difference between symbolic frame levels [F value=1,864 p(0,134)> 0,05].

Table 6. According to department variant; distrubition which shows comparison Structuralist Frame levels in leadership sub-dimension of study group by One-Way Anova test.

Variance Sources	KT	Sd	KO	F	P
Between groups	111,014	2	55,507	2,526	0,081
In the group	13251,727	603	21,976		

In **table 6**, when we analysed One-way Anova test comparison results concerning structuralist frame levels that is sub-dimension of leadership according to class variant; there is no meaningful difference between structuralist frame levels [F value =2,526 p(0,081)> 0,05].

Table 6. According to department variant; distrubition which shows comparison Human Resources Frame levels in leadership sub-dimension of study group by One-Way Anova test.

Variance Sources	KT	Sd	KO	F	P
Between groups	309,400	2	154,700	6,497	0,002
In the group	14357,372	603	23,810		

In table 6, when we analysed One-way Anova test comparison results concerning structuralist frame levels that is sub-dimension of leadership according to class variant; there is a meaningful difference between human resources frame levels [F value =6,497 p(0,002)< 0,05].

Table 7. According to department variant; Analysis results which shows comparison Human Resources Frame levels in leadership sub-dimension of study group by Tukey test.

	Department Variance	**Avarages Difference**	**P**
Sports Teachers	Sports Management	0,1196	0,968
	Trainer Education	1,5552	0,004*
Sports Management	Sports Teachers	-0,1196	0,968
	Trainer Education	1,4356	0,009*
Trainer Education	Sports Teachers	-1,5552	0,004*
	Sports Management	-1,4356	0,009*

***p<0,05**

In **table 7,** According to department variant; when we analysed analyse results which shows comparison Human Resources Frame levels in leadership sub-dimension of study group by Tukey test; Students who study in sports manangement program have less human resources frame level than sports teacher program and trainer education program students' level.

Table 8. According to department variant; distrubition which shows comparison Politic Frame levels in leadership sub-dimension of study group by One-Way Anova test.

Varience Source	**KT**	**Sd**	**KO**	**F**	**P**
Between groups	222,273	2	111,136	4,633	0,010
In the group	14463,260	603	23,986		

In **table 8**, when we analysed One-way Anova test comparison results concerning politic frame levels that is sub-dimension of leadership according to class variant; there is a meaningful difference between politic frame levels [F value =4,633 p(0,010)< 0,05].

Table 9. According to department variant; Analysis results which shows comparison Politic Frame levels in leadership sub-dimension of study group by Tukey test.

	Department Variance	**Avarages Difference**	**P**
Sports Teachers	Sports Management	-1,1769	0,045*
	Trainer Education	0,2107	0,900
Sports Management	Sports Teachers	1,1769	0,045*
	Trainer Education	1,3875	0,012*
Trainer Education	Sports Teachers	-0,2107	0,900
	Sports Management	-1,3875	0,012*

***p<0,05**

In **table 9**, According to department variant; when we analysed analyse results which shows comparison Politic Frame levels in leadership sub-dimension of study group by Tukey test; Students who study in sports manangement program have higher politic frame level than sports teacher program and trainer education program students' level.

Table 10. According to department variant; distrubition which shows comparison Symbolic Frame levels in leadership sub-dimension of study group by One-Way Anova test.

Varience Source	**KT**	**Sd**	**KO**	**F**	**P**
Between groups	150,484	2	75,242	2,995	0,051
In the group	15149,298	603	25,123		

In **table 10,** when we analysed One-way Anova test comparison results concerning symbolic frame that is sub-dimension of leadership according to class variant; there is no meaningful difference between symbolic frame levels [F value =2,995 p(0,051)> 0,05].

4. Discuss and results

According to sex variant; there is no meaningful difference between structuralist frame levels that is sub-dimension of leadership (p>0,05). However; when we look at the avarages; boy students' structuralist frame levels avarage is ($\overline{X}$ =31,6860), girl öğrencilerin students' structuralist frame levels avarage is ($\overline{X}$ =31,5108). These results show that boy students have higher structuralist frame then girl students. As a parallel with this; hypothesis of structural frame reflect belief of rationalness. If Official arrangaments done correctly it reduces problem probability to minimum and it increase performance and quality. This finding is parallel with Taylak (2004) (Taylak Ö., 2004) work called analyse of fourth grade of military college students' leadership behaviours. According to sex variant; there is no meaningful difference between human resources frame levels that is sub-dimension of leadership (p>0,05). However when we look at the avarages; boy students' human resources frame avarage is $\overline{X}$ =32,6280, girl students' human resources frame avarage is $\overline{X}$ =32,4245. These results show that boy students have higher communication talenty than girl students. Our finding is parallel with study of determining teacher's leadership style by Dereli (2002) (L. Bolman, T. And, 1991)study of determining leadership tendency of air force academy and İstanbul University Manangement Faculty graduate students by Acar (1997) (A.C.Acar, 1997) and study of determining naval academy graduate students' leadership style by Sadullah (1997) (Ö. Sadullah, 1997).

Study which shows badminton trainers' leadership features is done by Taşğın and et al (2007) (Ö. Taşğin Bozdam, A., M. Tekin, 2007) does not parallel with our study. This can be happen beacuse of sample group's social and personal needs are different.

According to sex variant; **;** there is a meaningful difference between politic frame levels that is sub-dimension of leadership (p<0,05). When we look at the avarages; boy students' politic frame levels avarage is $\overline{X}$ =30,7770 girl students' politic frame frame avarage is $\overline{X}$ =29,9848. These results show that boy students' have important differences in terms of values, believes, benefits and perceptons in the group members.

According to sex variant; there is a meaningful difference between symbolic frame levels that is sub-dimension of leadership (p<0,05). When we look at the avarages; boy students' symbolic frame levels avarage is ($\overline{X}$ =30,3628), girl students' symbolic frame levels avarage avarage is ($\overline{X}$ =31,328). These results show that girl students have more trust themself when we compare boys and they believe importance of what they did.

At the end of this study; When we look at students' leadership features who study in the school of physical education and sport**;** in the sub-dimension of leadership scale there is a meaningful difference between sex and department variables; there is no meaningful difference between class, mother's variant standart of learning; father's variant standart of learning.

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THE STUDY OF AGGRESSION LEVEL OF SECONDARY STUDENTS WHO PLAY SPORTS AND DO NOT PLAY SPORTS

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Abstract

Objective: This study has been carried out in order to determine the aggression level of secondary students who play sports and do not play sports and to examine the effect of sports over aggression phenomenon.

Method: The research sample is consisted of 300 students playing sports and 300 sedentary students, 600 in all; who receive education in secondary schools in Kastamonu city center during 2007-2008 school year.As data collecting medium, the aggression inventory developed by İpek İlter Kiper (1984) was used. In the analysis of data's test and One –Way ANOVA, Mann-Whitney U and Kruskal Wallis H tests from nonparametric tests for the data that doesn't show normal distribution were used.

Results: A meaningful relation has been found between the aggression level of secondary students participating in the research and their playing sports situation. Students who play sports and do not play sports were examined in terms of gender variable and the hardiness and passive aggression scores of female students have been found to be higher than the males'. The students who play sports and do not play sports were examined in terms of their participation in social activities and the destructive aggression scores of students participating in social activities have been found to be higher than the scores of students who don't participate in social activities .A meaningful relation has been determined between destructive aggression, passive aggression of the students participating in the research and playing sports variable. Whereas the destructive aggression scores of secondary students playing sports have been found to be high, the passive aggression scores of secondary students who don't play sports have been found to be high.

Key words: Aggression, Destructive-Passive, Hardiness, Playing Sports, Not Playing Sports.

Introduction

When anyone's effort to attain any objectives is prevented, an aggression impulse stimulating the behaviour of harming the obstacle(person or object) occurs. One reason of aggression is the frustration existing, other one is aggression's being a basic impulse. It is a kind of energy lasting until one reaches the target such as (hunger, sex and other impulses having these features.) (B.B. Smuth, 1986). The data reported here suffer from a number of limitations. Firstly, the measure of aggression is rather crude and provides no insight into the relationship between rumination and the type of aggressive behaviour expressed by the athlete. Two types of aggression have been identified within sport, namely, hostile (reactive) aggression and instrumental aggression (R.G. Geen, 2001; Husman & Silva, 1984). Parents become a model for aggression behaviours' being learned (Eron, 1987).The relation between the level of children's being exposed to violence on Tv programmes and the degree of their showing aggressive behaviour is highly strong. (Singer and Singer 1981). Psychiatric conditions associated with aggression that may be identified in childhood are conduct disorder not otherwise specified, and attention-deficit/hyperactivity disorder (ADHD). In the light of these data, this study aims to determine the level of aggression of secondary students who play sports and do not play sports depending on playing sports variable.

Material and Method

The research sample is consisted of 600 students in all,; 150 (% 25) males and 150 (%25)females playing sports, 150 (%25) males and 150 (%25)females who not playing sports; who receive education in 6 different secondary schools in Kastamonu city center. As data collecting medium, the aggression inventory consisted of 30 items and developed by Kiper (1984) to measure aggression was used. The aggression inventory is consisted of 3 sub-sections, each including 10 questions about destructive aggression, hardiness and passive aggression. Despite not existing in the inventory itself, a general aggression score has been gotten for each subject considering total scores of every 3 sub –scales .In the statistical analysis of data,t test and One – Way ANOVA , Mann-Whitney U and Kruskal Wallis H tests for the data that doesn't show normal distribution were used.

Results

Table 1: The examination of the destructive aggression level of the subjects participating in the research in terms of gender, participating in social activities and playing sports variables.

		N	rank average	Mann -Whitney U	Z	p
gender	male	300	301.43	44721,000	-0.132	0.895
	female	300	299.57			
Participating in social activities	yes	376	324.22	33195.000	-4.345	0.000*
	no	224	260.69			
Playing sports situation	athlete	300	315.83	40402.000	-2.168	0.030*
	sedentary	300	285.17			

When the table 1 is examined, in the examination of destructive aggression level in terms of gender, participating in social activities and playing sports variable, a meaningful relation has been found between destructive aggression and gender, participating in social activities and playing sports variable.($p<0,05$).It has been found that the destructive aggression averages of male subjects are higher than the females' and the destructive aggression scores of students participating in social activities are significantly higher than the scores of students who don't participate in social activities.Also,the destructive aggression average of students playing sports has been found to be high.

Table 2- The examination of relation between the aggression level of students participating in research and gender variable.

variables	gender	N	average	standard deviation	difference between the averages	t	p
Hardiness	male	300	62.13	9.87	-2.57	-3.159	0.002*
	female	300	64.71	10.09			
passive aggression	male	300	55.96	11.91	-2.62	-2.724	0.007*
	female	300	58.57	11.62			
general aggression	male	300	64.91	23.12	-2.53	-1.292	0.197
	female	300	67.44	24.83			

When the table 2 is examined; in the examination of aggression level in terms of gender variable, although no meaningful relation has been found between general aggression and gender ($p>0.05$), a meaningful difference has been determined in hardiness and passive aggression sub-dimensions in terms of gender variable. ($p<0.05$)The hardiness and passive aggression scores of females have been found to be higher than males'.

Table 3: The examination of the relation between the aggression level of subjects participating in research and participating in social activities.

variables	Participating in social avtivity	N	average	standard deviation	difference between the averages	t	P
hardiness	yes	376	63.64	9.97	0.58	0.681	0.496
	no	224	63.06	10.20			
passive aggression	yes	376	56.72	11.74	-1.45	-1.455	0.146
	no	224	58.17	11.94			
general aggression	yes	376	66.85	23.61	1.80	0.889	0.374
	no	224	65.05	24.66			

When the table 3 is examined, a meaningful relation has been found between the hardiness, passive aggression and general aggression sub-dimensions of the subjects participating in research and the variable of participating in social activities.

Table 4. The examination of the relation between the aggression level of the subjects participating in research and playing sports variable.

variables		N	averages	standard deviation	difference between the averages	*t*	P
hardiness	athlete	300	63.78	9.31	0.72	0.877	0.381
	sedentary	300	63.06	10.75			
passive aggression	athlete	300	55.97	11.04	-2.59	-2.696	0.007*
	sedentary	300	58.56	12.45			
general aggression	athlete	300	64.66	21,97	-3.04	-1.555	0.121
	sedentary	300	67.70	25.82			

When the table 4 is examined, it has been detemined that the hardiness and general aggression sub-dimensions of the subjects participating in research don't differ in terms of playing sports variable (p>0.05),but a meaningful relation has been found between passive aggression and playing sports variable(p<0,05)The passive aggression average of the students not playing sports has been found to be higher than the athletes.

Discussions and Conclusions

A meaningful relation has been determined between the destructive aggression level of subjects who play sports and do not play sports and gender, participating in social activities and playing sports variable. It has been found that the destructive aggression averages of male subjects are higher than females'and the destructive aggression scores of students participating in social activities are significantly higher than the scores of students who don't participate in social activities. Also, the destructive aggression average of students playing sports has been found to be high. (Table 1)

In the examination of aggression level of the students who play sports and do not play sports in terms of gender variable, a meaningful difference has been determined in hardiness and passive aggression sub-dimensions in terms of gender variable. The hardiness and passive aggression scores of females have been found to be higher than males'. (table 2)The reason why the hardiness and passive aggression scores of female students are high is that the females are more comfortable in expressing themselves than males and we may say that females get through the puberty developments in more easily way. Harris and Knight-Bohnhoff (1996) declared that positive correlations among different aspects of aggressiveness were found for both men and women. In addition, increasing getting old and education were associated with lower aggressiveness in both genders, suggesting that aggressiveness may be susceptible to modification over the course of one's" life. The gender roles of females were examined considering the sports branch they play and it has been detemined that masculine scores of female athletes are higher than the non-athletes'. (Koca and Aşçı, 2000). No meaningful relation has been found between the hardiness,passive aggression and general aggression sub-dimensions of the subjects participating in research and the variable of participating in social activities(p>0.05)The reason why the hardiness average of students participating in social activities is high is thought that these subjects have social backgrounds and have gained experience in expressing themselves. The researches have proved that an active life and participating in recreation activities cause an active adulthood in the coming ages.(Gray and Judy 2003). Krahe ve Moller (2004) point out that significant relationship were found between attraction to violent electronic games and the acceptance of norms condoning physical aggression. Violent electronic games were linked indirectly to hostile attributional style through aggressive norms. It is a remote possibility that women find aggression models to imitate since most aggressive roles on TV programmes belong to males. (Wood, Wang and Chachere, 1991). When the aggression levels of the subjects are examined in terms of playing sports variable, a meaningful relation has been found between passive aggression sub-dimensions and playing sports variable. The average of students not playing sports has been found to be higher than the average of students playing sports in passive aggression sub-dimension. The active lives of athletic subjects and their being in different social environments may have affected their passive aggression levels. In a study of present, overall, case characteristics explain three times more variation in the acceptability of dating violence than respondent characteristics (30% vs. 10%)(Merten, 2008). Maxwell (2004) found that provocation and anger rumination were significant predictors of subsequent aggression and suggestions for preventing rumination, such as thought stopping and thought switching, were made. Susser and Caroline F. Keating (1990) noted that adult reactions to aggression may be altered by expectations surrounding the child's gender.

To conclude; a meaningful relation has been determined between the aggression level of secondary students ,participating in the research ,who play sports and do not play sports and gender, participating in social activities and playing sports variable. It is thought that sports are important for children's developing physically and mentally in a healthy way and preventing the negative impulses such as fear, shyness, depression, aggression.

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EVOLUTION AND TRENDS OF THE WORLD UNIVERSITY TRACK AND FIELD

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Abstract

Previous researches had showed that the value of the World University Record represents over 90 % from the value of the World Record in seniors' events. Based on that, the aim of this research was to identify the actual stage and the trends that are present all over the world in the university track and field, and to elaborate some objective premises in the selection of the components of the national team in order to participate to the 2009 edition of the Universidad, in order to achieve during the competition some results that will allow the qualification in the finals and getting the medals.

Methods: During the research we used a system of documentation, analysis and interpretation of the research results methods: the documentation method from internet sources: I.A.A.F. site, I.F.U.S., W.U.C. Bangkok, W.U.C., Osaka; the statistical and mathematical method; the analogy method.

Results: The phenomenon that comes out from the running and jumps events is similar in the throws event too. So, the best position of the medalists in the 24th edition of the W.U.G is the 3rd place, obtained in discuss throw, in women case, and the 4th place in the javelin, in men case. These are the events were the two world university champions improve their performances.

Conclusions: The fact that from all the medalists of the last edition of the Summer Universidad, only two concurred medals in the edition from the same year of the seniors W.C., urges to profound discussions concerning the participation of the good athletes to this competition, the value of the student results on the world plan and the trends to the world performances of the of the seniors track and field.

Key words: track and field, evolution, trend

Introduction and research objective

Research premises

From the point of view the track and field point, previous researches had emphasized the fact that, the absolute performance value (university world record – U.W.M.) in university competitions, represents, at male, 95, 34 % from the seniors W.R. value. In 99 % from the events, the U.W.R. represents 91 % from the W.R. value, in 43, 4 % from the events represents 95 % and in 34, 4 % from the events represents 97 % (L. Mihailescu, 2003, p. 127, 129).

In the female category, the same researches emphasizes, in 2003, that over 99 % (99, 2%) from the events, the U.W.R. represents 98,2 % from the W.R. value, in 21,7% from the events, respectively 5 from 23, the U.W.R. represents 95,8 % from the value of the absolute world performances.

According to some previous studies (E., Plocon, 2002 L., Mihăilescu, 2003, 2005), the balance sheet of the Romanian track and field performing to the W.U.G./Summer Universidad, from the first edition where Romania participated – 1959 - the second edition of the W.U.G. until now, puts this sportive discipline at the maximum efficiency rank: 126 medals / 44 gold, 41 silver and 41 bronze.

Research purpose

In the context of the formulated premises, the research was realized in order to identify the actual stage and the trends that are present all over the world in the university track and field, and also to elaborate some objective premises in the selection of the components of the national team for the participation at the 2009 edition of the Universidad, in order to achieve during the competition some results that will allow the qualification in the finals and getting the medals.

Research hypothesis

We considered that analyzing the results of the W.U.G. medalists, 2007 Bangkok edition from the truck and field World Championship, Osaka, 2007, competition that took place two weeks after the student competitions, we will have an objective diagnosis of the sportive performance at this level, and identify the evolution and trends of this sport at world university level and we will offer the performance model for the university competition podium, on events

Research methods and procedures

During the research we used a system of documentation, analysis and interpretation of the research results methods:

- the documentation method from internet sources: I.A.A.F. site, I.F.U.S., W.U.C. Bangkok, W.U.C. Osaka;
- the statistical and mathematical method;
- the analogy method.

Content

The research was focused the study of the athletes' performances on all groups of events that took place at the last edition of the W. U.C., 2007, and the study of the track and field W.C. outdoor, 2007. We analyzed and interpreted only the results from the events where the medalists of the 24th edition of the W.U.C. participated to the seniors W.C., programmed in the same year, two weeks after the student competition.

Research objective

In order to achieve the established purpose we set the following objectives of the operational approach of the research:

- the documentation concerning the performances of the W.U.G. medalists, 2007, edition;
- the documentation concerning the participation of the W.U.G. Bangkok to the W. C. Osaka;
- the analysis of the medalists results from the Bangkok edition, 2007 that participated to the W. C., 2007, on events categories and events, comparing to their performance to the Track and field World Championships, Osaka, 2007, in order to determinate the trends of the world student track and field.

The content of the research was focused on the proposed objectives in order to achieve the established purpose.

Results and discussions

In the tables 1 – 6 there are presented the performances of the W.U.C. medalists, 2007, in running and march, jumps and throws events (www.fisu.org/.bangkok2007) that participated to the W.C. Osaka, 2007 and their prediction to this edition of the competition (www.iaaf.org/osaka2007).

Table1. The evolution of the medalists of the 24th edition of the W.U.C., Bangkok 2007, to the W.C., OSAKA 2007 in running and march events – men -

Event	The performance of the Bangkok medalists	The performance achieved in Osaka				Osaka Rank
		qualifications	quarters	semifinals	final	
200 m	SEOWD AMR (EGY) **20.74**	20.65	20.72	-	-	-
	JULIUS LEIGH (RSA) **20.96**	-	-	-	-	-
	KAMIYAMA TOMOYA (JPN)	20.78	20.89			
800 m	MOHAJERHOJOEI EHSAN (IRI)1.**46.04**					
	PACANHA FABIANO (BRA)1.**46.11**	1.45.77		1.45.95		
	SAONDRA LIVIO (ITA)1.46.19					
400 m. h	KOEKEMOER PETRUS (RSA) **49.06**					
	COUTO KURT (MOZ) **49.12**	50.06	-	-	-	-
	CULSON JAVIER (PUR) **49.35**	49.06	-	49.64	-	-
3000	AKKAS HALIL (TUR) **8.20.83**	8.22.37	-	-	8.22.51	6

m stp.	KIRUI BARNABAS (KEN) **8.22.67**	-	-	-	-	-
	LUCHIANOV ION (MDA) **8.23.83**	-	-	-	-	-
4x100	THAILAND **39.15**	-	-	-	-	-
	SIUTH AFRICA **39.20**	39.05	-	-	-	-
	CHINA **39.30**					
4x400	POLAND **3.02.05**	3.02.39	-	-	3.00.05	3 (cu alta echipa)
	AUSTRALIA **3.02.59**		-	-	-	-
	RUSIA **3.05.04**	3.01.07	-	-	3.01.62	5 (cu alta echipa)
20 km march	CHU YAFEI (CHN) **1.24.37**	-	-	-	-	-
	PARK CHIL KOR (KOR**)** **1.24.42**	-	-	-	1.26.08	15
	MARIOKA KOICHIRO (JPN) **1.25.10**	-	-	-	1.24.46	11
110 m. h	DEMIDIUK SERGII (UKR) **13.33**	13.53	-	-	13.22	6
	JI WEI (CHN)	13.58	-	-	-	
	DA SILVA ANSELMO GOMEZ (BRA) **13.58**	13.53	-	-	-	-

Table 2. The evolution of the medalists of the 24th edition of the W.U.C., Bangkok 2007, to the W.C., OSAKA 2007 in running and march events – women –

Event	**The performance of the Bangkok medalists**	**The performance achieved in Osaka**				**Osaka Rank**
		qualifications	**quarters**	**semifinals**	**final**	
100 m	MANNINEN JOHANA.(fin) **11.46**	11.52	DQ			
	CHEBANU OKENA (UKR) **11.56**					
	DAGELYTE AUDRA (LTU) **11.65**					
200 m	SHTANGYEYEVA IRYNA(UKR) **22.95**	23.23	23.27			
	THOMAS KADI- AMN (GBR) **23.28**					
	MARIEN HANNA (BEL) **23.48**					
400 m	TERESHKOVA OLGA (KAZ) **51.62**		54.09			
	GRGIK DANIJELA (CRO) **51.88**					
	ZADORIKA KNESIA (RUS) **51,89**					
800 m	KREYSUN YULIA (UKR) **1.57.67**		2.02.45			
	KOSTETSKAYAIA EKATERINA (RUS) **1.59.52**					
	BEST CHARLOTTE (GBR) **2.01.50**					
1500 m	CHUMAKOVA OLESYA (RUS) **4.09.32**					
	HOLOVCHENKO TETYANA (UKR) **.10.46**	4.10.98		4.17.97		
	EJDYS SYLVIA (POL) **4.11.51**					
100 mh	VALADZKO YAUHENIYA (BLR) **13.03**					
	YANIT NEVIN (TUR) **13.07**	12.73		12.85		
	SHIGUR YEVGENYA (UKR) **13.08**	13.01				
400 mh	AZAROVA TATYANA (KAZ) **55.52**	55.93		55.74		
	RABCHENYUC ANASTASIYA (UKR) **55.98**	57.31				
	TILGNER JONNA (GER) **56.27**					
	TILGNER JONNA (GER) **56.27**					

5000 m	AUGUSTO JESSICA (POR)**15.28.78**	15.21.23			15.24.93	15
	HOLOVCHENKO TETYANA (UKR) **15.40.56**					
	GRECHISHNIKOVA ELIZAVETA (RUS) **15.50.58**					
3000. mstp.	SHALAMONOVA DOBRINKA (BUL) **9.45.04**	9.58.76				
	GORPYNYCH VALENTYNA (UKR) **9.45.55**	10.13.87				
	ERISMIS TURKAN (TUR) **9.46.12**	9.54.77				
4x100 m	FINLAND **43.48**	43.41				
	THAILAND 43.92					
	UKRAINA **43.99**	DQ				
4x400 m	UKRAINA **3.29.59**	3.30.76				
	RUSSIA **3.30.49**	3.23.49			3.20.25	4 (cu alta echipa)
	GREAT BRITAIN **3.33.70**	3.25.45			3.20.04	3 (cu alta echipa)

From tables 1 and 2 we can see that, in the senior's contests at the W.C. level not all the medalists of the W.U.G. participated: in men events only 53,80 % in 7 events from the 13 that were programmed; in women events 84,6% in 11 from the 13 events.

The best position of the W.U.G. belongs to the champion of this edition in the 3000 m steeplechase, Akkas Halil (Turkey) 8.20.83, which ran in the W.C. final. He gets the 6th place, with a performance that is superior to the one from Bangkok, 8.22.51., in the qualifications he gets a better result (8.22.37), which facilitated the access to the final.

In the women events, the best position of the medalists that participated to the W.C. is in the 5 000 m event. Here, Augusto Jessica (Portugal), 15.28.78, went in the event final with a time that is superior to the one from the W.U.C. (15.21.23) and come on the 15 place, with a smaller performance then in the qualification (15.24.93) but superior to the one who brought her the gold medal in Bangkok.

The men and women medalists from the running events have a better "performance behavior", getting medals, in the relay events, but developed component: the Poland team in the 4 x 400 m and the Great Britain, in the same event, on women.

Table 3. The medalists evolution of the 24th edition of the W.U.C. from Bangkok to the W.C., Osaka in jumps events – men -

Event	**The performance of the Bangkok medalists**	**The performance achieved in Osaka**		**Osaka Rank**
		qualifications	**final**	
High jump	SHUSTOV ALEXANDR (RUS) **2.31**	-	-	-
	IOANNOU KYRIACOS (CYP) **2.26**	2.29	2.35	3
	NARTON OLEKSANDR 9UKR) **2.26**	-	-	-
Triple jump	KIM DEOK HYEON (KOR) **17.02**	16.78	16.71	9
	KUZNYETSOV VIKTOR (UKR) **16.94**	-	-	-
	WU BO(CHN) **16.64**	-	-	-

Table 4. The medalists evolution of the 24th edition of the W.U.C. from Bangkok to the W.C., Osaka in jumps events – women -

Event	The performance of the Bangkok medalists	The performance achieved in Osaka		Osaka Rank
		qualifications	final	
High jump	AYTOVA MARINA (KAZ) **1.92**	1.94	1.94	7
	FRIEDRYCH ARIANE (GER) **1.90**	-	-	-
	USTINOVA ANNA (KAZ) **1.90**	1.88	-	-
Triple jump	SALADUKHA OLGA (UKR) **14.79**	14.43	14.39	10
	VELDAKOVA DANA (SVK) **14.41**	-	-	-
	MARTINEZ I. Y (CUB) **14.25**	-	-	-

Concerning to the jumps events, we consider that, in men and women cases, only in 50 % from jumps events, the medalists from W.U.C. in triple jump and high lump participated to the W.C.

The best place to the W.C. is realized by the silver medalist, Ioannou Kzriakos (Cyprus) 2, 26 m, who gets the bronze medal to the W.C. with a 2, 35 m performance after he obtained in the qualification a 2, 29 m jump. In the triple jump event, the university championships champion doesn't obtain the same performance and with a result of 16, 71 m (- 0, 31 m less than the W.U.G) gets the 9th place in the event final.

In the women event, the winner of the Universidad improves her performance from Bnagkok, but she obtains only the 7th place (1, 94 m).

Also, we see that the medalists from the pole vault and long lump were not part of their countries for the senior's competition. That gives us the right to say that in the 2007 edition, the quality of the competitor's performances obtained a regress.

Table 5. The medalists' evolution of the 24th edition of the W.U.C. from Bangkok to the W.C., Osaka in throw events – men -

Event	The performance of the Bangkok medalists	The performance achieved in Osaka		Osaka Rank
		qualifications	final	
Shot put	SIDOROV MAXIM (RUS) **20.01**	-	-	-
	URTANS MARIS (LAT) **19.38**	19.17	-	-
	CHANG MUNG-HUANG (TPE) **19.36**	18.53	-	-
Discuss	MAYER GERHARD (AUT) **61.55**	-	-	-
	ELGHAILAZY OMAR (EGY) **60.89**	63.56	64.58	6
	ISRAEL MART (EST) **60.32**	60.23	-	-
Javelin	VASILEVSKIS VADIMS (LAT) **83.92**	87.37	85.19	4
	JANIK IGOR (POL) **82.28**	80.83	83.38	7
	KOVALS AINARS (LAT) **82.23**	79.42	-	-

Table 6. The medalists' evolution of the 24th edition of the W.U.C. from Bangkok to the W.C., Osaka in throw events – women -

Event	The performance of the Bangkok medalists	The performance achieved in Osaka		Osaka Rank
		qualifications	final	
Shot put	BARIOS C.Y. (CUB) **61.33**	63.44	63.90	3
	SAMUELS DANI (AUS) **60.47**	-	-	-
	TOMASEVIC DRAGANA (SRB) **56.82**	57.96	-	-
Discuss	PCHELNIK DARYA (BLR) **68.74**			

	O`KEEFFE EILEEN (IRL) **68.46**	71.07	70.93	6
	LEDVINOVA LENKA (CZE) **66.41**	66.57	-	-
Javelin	PANANG BUOBAN (THA) **61.40**	56.28	-	-
	MONICA STOIAN (ROM) **61.19**	56.84	-	-
	JASINKA URSZULA (POL) **60.63**	56.20	-	-

Analyzing the last two tables (5, 6) we can see that, in the men case, the medalists from the hammer event did not participated to the W.C. from Osaka, and in the women, none of the shot put event medalists from the W.U.C. participated to the seniors W.C. This fact represents a regress concerning the performance of the students on the world plan, where the world university record is 92, 87 % from the value of the W.R. in men case, and 93, 38 %, in women case (Mihailescu, L., 2004, p. 130).

The phenomenon that comes out from the running and jumps events is similar in the throws event too. So, the best position of the medalists in the 24th edition of the W.U.G is the 3rd place, obtained in discuss throw, in women case, and the 4th place in the javelin, in men case. These are the events were the two world university champions improve their performances.

The fact that from all the medalists of the last edition of the Summer Universidad, only two concurred medals in the edition from the same year of the seniors W.C., urges to profound discussions concerning the participation of the good athletes to this competition, the value of the student results on the world plan and the trends to the world performances of the of the seniors track and field. All these aspects must be analyzed based on two very important premises: the fact that between the two competitions there were only two weeks and for most of the athletes that means a new change of time schedule and the absence of the U.S.A. team from this university competition edition, a unprecedented fact in track and field.

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THE STUDY OF ANXIETY AND INITIATIVE LEVELS OF STUDENTS WHO STUDY AT AT THE PHYSICAL EDUCATION ACADEMY

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Abstract

The aim of this study is to search the anxiety and initiative levels of students who study at at the physical education academy.

The surveying group consists of 151 boy and 104 girl, totally 255 students from 1th 2th 3th and 4th classes, students who study at Gazi Universtiy, Selçuk University and Karamanoğlu Mehmetbey University at the department of physical education academy.

Firstly, the existent data related to the aim of the search was given by scanning the literature. Thus a theoretic frame was formed about the issue. Secondly, to reach the aim of the search , constant anxiety inventory, which was developed by C. Spielberger (1970) and adapted to Turkish by Öner and LeCompte (1983), which was developed by Rathus (1973),Rathus initaitive inventory adapted to Turkish by Voltar-Acar (1980) were carried out to the searching group.

On the analysing and commenting, pearson moments multiplication correlation factor, t test, one Way Anova (one way variance analyse) were used and to determine the difference between the groups tukey test was used and

P<0,05 signifance was received. SPSS (Statistical package for social sciences) was used to assess the data assessment and findnig the calculated the values.

At he end of the the study, it can be said that while the anxiety level of students, who study at physical edecation academy, increases, the level of initiative decreases. Besides, when there is a meaningful diffrence between anxiety level and class level, there is no meaningful difference in gender level. When there is a meaningful diffrence between the level of initiative and gender level, there is no meaningful difference in class level. It can be thought that students, who can't convey their senses freely and directly and who have high level of anxiety, are inadequate in thier initiative features. İndividuals can interfix effectively in relation with conveying themselves and have healthy physchological organism. While individuals' initiative levels rise, their interlelation level go up, it is possible to come out hte behavior of inhibiton that effects initiative level negatively or behaviors that described as agressiveness

Key words: physical education, student, anxiety, initiative.

Introduction

Anxiety: It is a subjective emotion such as fear, worry and stress and it appears in any threatment situation (Kısa, 1996).

Trait Anxiety: Anxiety is one of the emotions and it felt in dangerous situaitons. Some groups of people feel anxiety all the time. This type of anxiety comes from inside and it does not depend on external dangerous. To think threat characteristic value and comment the situaton in pressure and this type of anxiety is called trait anxiety by C.D. Spielberger 1966; (N. Öner, Le Compte, 1983).

Person's tendency to anxiety is important. We can say that a person realise his situation in pressure and give comment like this. According to objective criterias trait anxiety is a kind of feeling which occured in dangerous treatment period and to think himself dangerous. Person who has high this type of anxiety level can be hurt easily and they feel this emotion more common and extensive (N. Öner, 1983). As a result of trait anxiety unhappiness, displeasure, pessimism and offended can be showed. This kind of person have anxiety busier and often than the others. Trait anxiety's time and steam can be changable in accordance with personality. People have different chornic anxiety level and this situation can come from different interpretations (O. Köknel, 1989).

İnitiative can be recognized as a kind of social skills which needs to continue effectively and support each other (C. Day and et al, 1993, s.65). It is a kind of behaviour which makes possible support equalty in people's relation and took away from unnecessary worry, help to go on in terms of our benefits and help to try exlplain our situation easily and honesty. (R. Alberti and M. Emmons, 1998, s.42).

To increase university students's initiative level can be helpful to fight hard situations and to excess desperate situation and this is going to give power to them. People who will be leader in the society must have initiative behaviours. Because the features of initiative behaviour are to provide himself easily, explain himself directly, make relation strong, to prevent the others rights, and accepted attitude (P. Burnard, 1992; C.G.Deering, 1996).

To evaluate boldness as a harony element make importance in social skill especially to arrange persons relations (B.Teğin, 1990; D. İnceoğlu ve G. Aytar, 1987).

People has a potential to think and their thoughts to the others and understand his feelings and ideas therefore this potential based on social life. People can get many things via this potential especially they form their personalities. Person's feeling sometimes cause dangerous and unhappy situation but otherwise they feel comfortable, calm, happy and satisfied emotions. That is relations in the people threat their existance.

The aim of this study is to search the anxiety and initiative levels of students who study at at the physical education academy.

Method

Study Group

The Study group consists of 151 boy and 104 girl, totally 255 students from 1^{th} 2^{th} 3^{th} and 4^{th} classes, students who study at Gazi Universtiy, Selçuk University and Karamanoğlu Mehmetbey University at the department of physical education academy.

Data Collection

Firstly, the existent data related to the aim of the search was given by scanning the literature. Thus a theoretic frame was formed about the issue. Secondly, to reach the aim of the search , constant anxiety inventory, which was developed by C. Spielberger, 1970, and adapted to Turkish by Öner and LeCompte 1983, which was developed by Rathus (1973),Rathus initaitive inventory adapted to Turkish by Voltar-Acar 1980 were carried out to the searching group. There are features of data gathering process in the below.

Rathus Initiative Inventory:

Rathus initaitive Inventory was used to determine personal differences in initaitive reflects of different attitudes in daily situation (S.A.Rathus, 1973). Rathus initaitive Inventory is a 30 items scale. Gathering points are changeable between -90 and +90. Person evaluates himself for each item from + 3 to -3 total 6 items scale. Person's total point is between +90 and -90 and -90 shows that the highest shyness and +90 shows the highest initaitive. ±10 points and up points determine initaitive. Choices are changeable between -3 and +3 and there is no zero point. Some answers can do opposite and it makes giving true answers difficulties.

These items are:1, 2, 4, 5, 9, 11, 12, 13, 14, 15, 16, 17, 19, 23, 24, 26, 30. When we give -3 one of this item in evaluation we accept +3. Also +1 is evaluated as -1.

Trait Anxiety Inventory:

Trait Anxiety inventory (scale) is determine

how feel himself without any condition and situation.It is 20 item scale. Each question has 4 answers. Also each answer has point. Answers are pointed in the form. Never 1, Sometimes 2, Often 3, Always 4 point. Trait anxiety inventory consist of 7 positive ans 13 unnecessary questions. 1, 6, 7, 10, 13, 16, 19th questions are positive questions. Total points are change between 20-80. Higher points show high anxiety level and lower points show low anxiety level. Negative points – postive points = X trait anxiety scors = X + 35

Data Analyzing

On the analysing and commenting, pearson moments multiplication correlation factor, t test, one Way Anova (one way variance analyse) were used and to determine the difference between the groups tukey test was used and P<0,05 signifance was received. SPSS (Statistical package for social sciences) was used to assess the data assessment and finding the calculated the values.

Findings

Table 1 According To Sex Variant; Distrubition Which Shows Comparison Of Anxiety Level Of Students Who Study İn The School Of Physical Education And Sport By t Test

	N	Mean	Standart Deviation	t	P
Boy	151	78,0331	7,9552	-1,138	0,256
Girl	104	79,1635	7,5583		

As you see in table 1; according to sex variant; there is no meaningful difference between anxiety level of students who study in the school of physical education and sport [t value =-1,138 P=0,256>0,05].

Table 2 According To Class Variant; Distrubition Which Shows Comparison Of Anxiety Level Of Students Who Study İn The School Of Physical Education And Sport By One-Way Anova Test

Varience Source	Sum of Squares	sd	Mean of Square	F	P
Between groups	477,336	3	159,112	2,666	0,048
In the group	14978,405	251	59,675		

As you see in table 2; according to class variant; there is a meaningful difference between anxiety level of students who study in the school of physical education and sport [F value =2,666 P=0,048< 0,05].

Table 3 According To Class Variant; Distrubition Which Shows Comparison Of Anxiety Level Of Students Who Study İn The School Of Physical Education And Sport By Tukey Test

	Class Variant	Mean Difference	P
First Grade	2. grade	1,8357	0,531
	3. grade	3,8894	0,025
	4. grade	1,9246	0,525
Second Grade	1. grade	-1,8357	0,531
	3. grade	2,0537	0,408
	4. grade	8,8862	1,000
Third Grade	1. grade	-3,8894	0,025
	2. grade	-2,0537	0,408
	4. grade	-1,9648	0,487
Fourth Grade	1. grade	-1,9246	0,525
	2. grade	-8,8862	1,000
	3. grade	-2,8485	0,853

As you see in table 3; according to class variant anxiety level of students who study in the school of physical education and sport had analyzed by Tukey test and as a result of this analyse 3rd grade students have more desperate than 1st grade students.

Table 4 According To Sex Variant; Distrubition Which Shows Comparison Of Initaitive Level Of Students Who Study İn The School Of Physical Education And Sport By T Test

	N	Mean	Standart Deviation	t	P
Boy	151	11,8940	21,4638	-1,325	0,046
Girl	104	15,0865	16,9219		

As you see in table 4; according to sex variant; there is a meaningful difference between initaitive level of students who study in the school of physical education and sport [t value =-1,325 P=0,046<0,05]. When we look at the avarages; boy students' initaitive level is ($\overline{X}$ =11,8940) and girl students' initaitive level is ($\overline{X}$ =15,0865).

Table 5 According To Class Variant; Distrubition Which Shows Comparison Of Initaitive Level Of Students Who Study İn The School Of Physical Education And Sport By One-Way Anova Test

Varience source	Sum of Squares	sd	Mean of Square	F	P
Between groups	678,006	3	226,002	0,576	0,632
In the group	98548,190	251	392,622		

As you see in table 5; according to class variant; there is no meaningful difference between initaitive level of students who study in the school of physical education and sport [F value =0,576 P=0,632>0,05].

Table 6 Correlation Analyze Among Anxiety And Initaitive Of Students Who Study İn The School Of Physical Education And Sport

		Anxiety	Iinitaitive
Anxiety	r	1,000	-,061
	p	,	0,033

	N	255	255
Initaitive	r	-0,061	1,000
	p	0,033	,
	N	255	255

As you see in table 6; there is a negative meaningful relation between social comparison and initaitive level of students who study in the school of physical education and sport (r=0,61 p<0,05).

Discuss and results

In this study we determined social comparison and anxiety and initiative level of students who study in the School of Physical Education and Sport. Results of the study and their explanations are in the below.

According to sex variant; there is no meaningful difference between anxiety level of students who study in the school of physical education and sport (p<0,05). This finding is parallel with M.F., Adalı, 2006, E Gençtan, 1983, N. Öner, 1985, R. Tümerdem, 2007, G. Erdul, 2005, E. Develi, 2006, A. Zekioğlu and et al 2002, M. Tekin and et al 2007, S. Çatalbaş, 1999, E. Bozkurt, 2004; D.O. Ergür, 2004; A. Erözkan, 2003; F. Alisinaoğlu and I. Ulutaş, 2000; B. Rosenthal and A. Schreiner, 2000; Surtees and et al (2002)'s works. It is tendency of person's anxiety. We can say that people can feel anxiety and interpret this feelings. According to objective criterias trait anxiety is a feeling which unhappiness, displeasure occured by threatment and dangerous.

According to class variant; there is a meaningful difference between anxiety level of students who study in the school of physical education and sport (P<0,05). As a result of this difference 3rd grade students have more anxiety level than 1st grade students. This finding is parallel with K. Bayar and al 2009, works's. Anxieties in the class cause to prevent students reach their aims completely.

According to sex variant; there is a meaningful difference between initiative level of students who study in the school of physical education and sport (P<0,05). When we look at the avarages; boy students' initiative level is ($\overline{X}$ =11, 8940) girl student's initiative level is ($\overline{X}$ =15,0865). This finding is parallel with B. Aydın, 1991, A. Atlas, 1984, K. Becet, 1989, E. Bozkurt, 1989, Y.Görüş, 1999, R. Arı, 1989, C.E.Kımble and et al, 1984, J.A.Goldman and P.V. Olzcak (1990), M. Akandere and et al (2006)'s works. İnitiative is a kind of attitude which makes use our rights, explain our emotions easily and honesty, to take away unnecessary worries, and the best thing is keep equal people relations possible.

According to class variant; there is no meaningful difference between İnitiative level of students who study in the school of physical education and sport (P>0,05). This finding is parallel with B. Aydın N. Aksakal, 1987, M.E. Deniz, 1997, N. Onur, 2006, Erşan and Doğan (2002) M. Tekin and et al, 2006. s works. İnitiative people recognise equal themselves and the others in communication.Without a fear of dismiss they can give a desire and they can say no. İnitiative person trust in himself. İnitiative behaviour can be divided into 4 reactions it was anticipated.

There is a negative meaningful relation between anxiety and hopelessness level of students who study in the school of physical education and sport (p<0,05). This finding is parallel with Turner and et al (1990)'s works. As a result of trait anxiety unhappiness, displeasure, pessimism and offended can be showed. This kind of person have anxiety busier and often than the others. Trait anxiety's time and steam can be changable in accordance with personality. People have different chronic anxiety level and this situation can comes from different interpretations.

At he end of the study, it can be said that while the anxiety level of students, who study at physical education academy, increases, the level of initiative decreases. Besides, when there is a meaningful difference between anxiety level and class level, there is no meaningful difference in gender level. When there is a meaningful difference between the level of initiative and gender level, there is no meaningful difference in class level. It can be thought that students, who can't convey their senses freely and directly and who have high level of anxiety, are inadequate in their initiative features. Individuals can interfix effectively in relation with conveying themselves and have healthy psychological organism. While individuals' initiative levels rise, their interlelation level go up, it is possible to come out the behavior of inhibiton that effects initiative level negatively or behaviors that described as agressiveness

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THE SURVEYING OF THE SOCIAL COMPARISON AND HOPELESSNESS LEVELS OF STUDENTS WHO STUDY AT THE PHYSICAL EDUCATION ACADEMY

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ABSTRACT

The aim of this study is to search the social comparison and hopelessness levels of students who study at at the physical education academy.

The surveying group consists of 218 boy and 164 girl, totally 255 students from 1th 2th 3th and 4th class students who study at Gazi Universtiy , Selçuk University and Karamanoğlu Mehmetbey University at the department of physical education academy.

Firstly, the existent data related to the aim of the search was given by scanning the literature. Thus a theoretic frame was formed about the issue. Secondly, Beck hopelessness scale, which was developed by Beck and his friends (1974) and adapted to Turkish by Seber (1991) and Durak (1994), and social comparison scale, which was developed by Allan and Gilbert (1995) and adapted to Turkish by Şahin, Durak and Şahin (1993) were carried out to the students to evaluate the perceptions that are related to how an individual sees himself / herself in different dimention while comparing with others.

On the analysing and commenting, pearson moments multiplication correlation factor, t test, one Way Anova (one way variance analyse) were used and to determine the difference between the groups tukey test was used and P<0,05 signifance was received. SPSS (Statistical package for social sciences) was used to assess the data assessment and finding the calculated the values.

At he end of the study, it can be said that while the hopelessness level of students, who study at physical education academy, increases, the level of social comparison decreases. Besides, when there is a meaningful difference between hopelessness level and sex and class level, there is no meaningful difference in social comparison and sex and class level. . Individuals' emotional, physiological and social need counteraction obligation forms behaviors base. While fronting individuals' emotional, physiological and social need, naturally they are in interaction between others and sometimes some of them compare themselves with others. While some people feel unsuccess in the consistency of actualization an aim, some feel hopelessness in refusal interpersonal or loss.

Key words: Physical Education, Student, Hopelessness, Social Comparison.

Introduction

Person has to meet emotional, psychological and social requirements underlie their behaviours. While person is underlying this emotional, physiological and social requirements they have to social interaction to the others. These comparisons-social comparison-have important role on person's mood (E. Atılgan, 2004).

People have tendency to divide groups and percept their own group are beter than the others. As a reason of this, it shows that social motivation among

the positive evaluation of people (S.Brehm and S.M.Kassin, 1993; M.A.Hogg and D. Abrams, 1988).

Social comparisons can be cause the other mental and emotinal results by depression. For example; a person who compare himself to the others who has higher criterias occured something wrong in his mood and mental. Whereas a person's psychologic situation who compare himself to the other who has lower criterias are increased and his moral will be high. Social comparison can be effect on depressed person's hopefulness, motivation and optimism. Briefly; from our studies we know that social comparisons have important effects on dysphoria.

In nowadays social, cultural and economical conditions are change sof ast and it makes puberty is a fluctuant term in psychosocial development live more harder. Social and economical problems, unemployment, attending university and education problems make effect on adolescents' psychologic development and mental health badly. One of the important problem in that period is hopelessness. Factors are such as difficulties in the education, unemployment, deficiency and poverty make hopelessness level high.

This study aims that to determine social comparison and hopelessness level of students who study in the School of Physical Education and Sport.

Method

Study Group

The surveying group consists of 218 boy and 164 girl, totally 255 students from 1^{th} 2^{th} 3^{th} and 4^{th} class students who study at Gazi Universtiy , Selçuk University and Karamanoğlu Mehmetbey University at the department of physical education academy.

Data Collection

Firstly, the existent data related to the aim of the search was given by scanning the literature. Thus a theoretic frame was formed about the issue. Secondly, Beck hopelessness scale, which was developed by A.T. Beck and his friends,1974, and adapted to Turkish by G. Seber (1991) and A. Durak,1994, and social comparison scale, which was developed by S. Allan and P. Gilbert,1995, and adapted to Turkish by Şahin, A. Durak and C.Şahin,1993, were carried out to the students to evaluate the perceptions that are related to how an individual sees himself / herself in different dimention while comparing with others. There are features of data gathering process in the below.

Beck Hopelessness Scale:

This scale which can apply on adults and adolescents was developed by Beck and et al (1974) to determine person's negative expectations about the future. This scale give a chance to evaluate yourself and it has 20 items and give point among 0-1. 11 of items "yes" chose takes 1 point, 9 of it "no" takes 1 point. When gathering point are high it is expected that hopelessness level are high too (Akt; Savaşır and şahin, 1997). Translation of scale was done by G.Seber (1991). Validation and confidence test was done by G. Seber, 1991, and A.Durak,1994. Dilbaz ve Seber (1993) found internal consistency coefficient is as 0.86, item-total correlation is as 0.07-0.72 and test-repetition confidence coefficent is 0.74. Durak who is doing similar works had found internal consistency coefficient is as 0.85, item-total correlation is as among 0.31-0.67 and split half consistency is as 0.85.

Social Comparison Scale (SCS):

It is a 18 items and 2 poles scale which was improved by Durak and Şahin (1993) to see and measure of perception how can realise himself in several dimension, when a person compare to another. Its points are doing by use 1-6 point likert scale. High points point out positive self-schema and low points point out negative self-schema. To evaluate himself its validation and confidence are high. When we look at in terms of confidence; Scale's Cronbach Alfa value was found as 0.87

In the context of criteria validity scale's orginal two poles at five point with Beck Depression inventory's correlation was found as-.66; two poles with Beck Depression Inventory correlation is for Ineligible-superior -0.77; for Ineffective-effective -0.74; for does not like-likes -0.64; for introverted-extraverted -0.60; for derelict- accepted -0.57

Data Analyzing

On the analysing and commenting, pearson moments multiplication correlation factor, t test, one Way Anova (one way variance analyse) were used and to determine the difference between the groups tukey test was used and $P<0,05$ signifance was received. SPSS (Statistical package for social sciences) was used to assess the data assessment and finding the calculated the values.

Findings

Table 1 According To Sex Variant; Distrubition Which Shows Comparison Of Hopelessness Level Of Students Who Study In The School Of Physical Education And Sport By t Test

	N	Mean	Standart Deviation	t	P
Boy	165	10,1879	2,3363	2,083	0,038
Girl	218	9,7202	2,0455		

As you see in table 1; according to sex variant; there is a meaningful difference between hopelessness level of students who study in the school of physical education and sport (t value =2,083 P=0,038<0,05). When we look at the avarages; boy students' hopelessness level is ($\overline{X}$ =10,1879) and girl students' hopelessness level is ($\overline{X}$ =9,7202).

Table 2 According To Class Variant; Distrubition Which Shows Comparison Of Hopelessness Level Of Students Who Study In The School Of Physical Education And Sport By One-Way Anova Test

Varience Source	Sum of Squares	sd	Mean of Square	F	P
Between groups	24,192	3	8,064	1,698	0,047
In the group	1799,458	379	4,748		

As you see in table 2; according to class variant; there is a meaningful difference between hopelessness level of students who study in the school of physical education and sport (F value =1,698 P=0,047<0,05).

Table 3 According To Class Variant; Distrubition Which Shows Comparison Of Hopelessness Level Of Students Who Study In The School Of Physical Education And Sport By Tukey Test

	Class Variant	***Mean Differences***	***P***
First Grade	2. grade	-0,1234	0,962
	3. grade	0,7255	0,208
	4. grade	-1,560	1,000
Second Grade	1. grade	0,1234	0,962
	3. grade	0,8489	0,016
	4. grade	0,1078	0,993
Third Grade	1. grade	-0,7255	0,208
	2. grade	-0,8489	0,016
	4. grade	-0,7411	0,421
Fourth Grade	1. grade	1,560	1,000
	2. grade	-0,1078	0,993
	3. grade	0,7411	0,421

As you see in table 3; according to class variant hopelessness level of students who study in the school of physical education and sport had analyzed by Tukey test and as a result of this analyses 3rd grade students have more desperate than 2nd grade students.

Table 4 According To Sex Variant; Distrubition Which Shows Comparison Of Social Comparison Level Of Students Who Study In The School Of Physical Education And Sport By t Test

		Hopelessness	Social Comparison
Hopelessness	r	1,000	-0,088
	p	,	0,045
	N	383	383
Social Comparison	r	-0,088	1,000
	p	0,045	,
	N	383	383

As you see in table 6; there is a negative meaningful relation between social comparison and hopelessness level of students who study in the school of physical education and sport (r=-0,88 p<0,05).

Discuss and result

In this study we determined social comparison and hopelessness level of students who study in the School of Physical Education and Sport. Results of the study and their explanations are in the below.

According to sex variant; there is a meaningful difference between hopelessness level of students who study in the school of physical education and sport (P<0,05). When we look at the avarages; boy students' hopelessness level is ($\overline{X}$=10,1879) and girl students' hopelessness level is ($\overline{X}$=9,7202). This finding is parallel with A.A. Ceyhan (2004), Gençay (2009), Derebaşı (1996), Şahin (2009), Holden and Fekken (1988), Bayazıt and et al (2004), Tekin and Taşğın (2007), Ceylan and Şahin (2008), Hankin, and et al (2007), Derebaşı (1996)'s works. According to these results we can say that boy students have more negative ideas than girls because of social influence we mean social believes and values are changeable according to sex and parallel with to find a job quickly.

According to class variant; there is a meaningful difference between hopelessness level of students who study in the school of physical education and sport (P<0,05). As a result of this difference 3rd grade students have more desperate than 2nd grade students. This finding is parallel with Gençay (2009), Tümkaya and et al (2007), Tekin and Taşğın (2008), Ehtiyar and Üngüren (2008)'s works. These results show that 3rd grade students have different ideas about finding a job

and economical life, university life, social and leisure time criterias and leading to their futures in accordance to 2nd grade students.

According to sex variant; there is no meaningful difference between social comparison level of students who study in the school of physical education and sport (P>0,05). This finding is pararlel with A. Yörükoğlu (1988), M. Ayverdi (1999), N. Hisli (1989), B. Gençdoğan(1995), A. Erözkan (2004), N. Ören and B. Gençdoğan (2007), T. Doğan (2008), B. Teğin (1990), A. Erözkan (2009), E. Çakır (2006)'s works. These results show that both girl and boy students have positive personality to show enough and initiavite aspect for themselves.

According to class variant; there is a meaningful difference between social comparison level of students who study in the school of physical education and sport (P<0,05). These results show that all grades give more clear and coherent on personal, emotinal and school and family relations.

There is a negative meaningful relation between social comparison and hopelessness level of students who study in the school of physical education and sport (p<0,05). This finding is pararlel with E.A.Kazdin and et al (1983), J.Kashani and et al (1991), H. Çetintürk (2001)'s works. These results show that when student's hopelessness level getting higher, based on communication theory, giving reaction, exception of oral implication, poor social relations and getting foreigner to their partners are getting high.

At he end of the study, it can be said that while the hopelessness level of students, who study at physical education academy, increases, the level of social comparison decreases. Besides, when there is a meaningful difference between hopelessness level and sex and class level, there is no meaningful difference in social comparison and sex and class level. . Individuals' emotional, physiological and social need counteraction obligation forms behaviors base. While fronting individuals' emotional, physiological and social need, naturally they are in interaction between others and sometimes some of them compare themselves with others. While some people feel unsuccess in the consistency of actualization an aim, some feel hopelessness in refusal interpersonal or loss.

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❖ VARIA

CHILD RIGHTS AND THE ELITE SPORT

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Abstract

On the international scheme, a large number of those who participate at sportive competitions are children, persons under the age of 18. Some of them practice sports because they want to obtain high performances in the international official competitions (the Olympic Games, world championships, etc.), and for that they take part to a systematic and intense training in the conditions of a stringency specific to the elite sport.

A long period of time sport among children has evolved into a legal inanity because not always the regulations and statutes of the sportive federations and clubs were harmonized with the regulations regarding the human rights, generally, and children's rights especially. Until 1989, when in the General Assembly of the Uniting Nations the "Convention on the Rights of the Child" was adopted, they were considered as simple protection objects, passive subjects of the human rights, both in the legal and political plan.

This paper presents the historic and legal context, in which the writs regarding the children's rights were elaborated and implemented, the actions of integration of these purviews in the national legislations, in regulations of the national and international organizations, sportive clubs and in the trainer's guidance code. The paper introduces and highlights through examples, situations in which the children's rights in the elite sport were injured in time pursuant to the ignorance of the physical and psychical risks at which the children are exposed in these activities, encroaching the right to education and the right to choose and to affiliate, the influence of the financial pressure in the professional sport, the excessive marketing of the spot image, the use of banned substances in order to ameliorate sportive performances etc.

Key words: children, human rights, sport, high performance.

Introduction

Even if child rights preoccupations date for more than two centuries (John Locke, Jean Jacques Rousseau, Johann Heinrich Pestalozzi, Ellen Karolina Key and others), if the first measures about child rights were initiated even from the end of the XIX century (Congress of Berlin, 1896, The Statesman of Child Rights, Geneva, 1924, Institution of Montessori International Association, 1929, Oxford Congress, 1936, Copenhagen Congress, 1936 etc.), only in the last 50 years the international community elaborated and exercised an measures system which can ensure political and juridical environment to protect children rights (Child Rights Statement, 1959, Social and Political Principles about Child Security and Protection, 1975. Child's International Year, 1979, International Convention about Child Rights, 1989 etc.).

In modern era sport has known a special dynamism, passing from a modest role, unimportant, as a way for recreation and fun, to one of the most important phenomenon of the XX century. In this period, but especially in the last fifty years, it has been maneuvered in order to be placed in the service of the individual, to contribute to the harmonious development, to exploit its potential etc. Today sport it is practiced by hundreds of millions of people, young and elders, women and men, healthy and persons with disabilities, with different levels of culture and different professions etc.

Children and sport

In many countries an important part of those who take part to sport activities is represented by persons under 18. Junior sportsmen don't form a uniform group; they have different ages, from 4-5 years old up to 18 years old, different levels of training, from beginners to Olympic and world champions. Children that practice sport have different reference to it. Some see sports as a way of lousier in which game, useful spend of free time are more important than sport performance. Another category practice sport for the fun of movement, for the pleasure to be with other children with their proximate age and same preoccupations, in the specific group's sport atmosphere. There are talented children who want to obtain high performance in sport, willing to obey the rules and hardships called by elite sport and who make sacrifices and take part to a systematic and intense preparation in order to become champions.

In modern society the entire activity is settled through laws, statuses, regulations, ordains, decisions etc. In general, sport activity is obeyed to existing national and international juridical environment. Therefore, the fact that sport clubs and federations have specific administrative and disciplinary organizations witch are lead by own rules, that these just in last few years have been harmonized with

international and national human right stipulation, generally, and child rights, specially, have made the sport, but mostly juvenile sport to evolve for a long period of time in to an juridical inanity.

With the adoption in the UN General Assembly, of the International Convention for child rights, in 1989, the perception of role of child in daily life has been changed [Convenţia cu privire la drepturile copilului, 2001]. This swift of thinking and action had also effects in sporting area of child's rights. Until this date minors were considered as simple objects of protection, passive subjects of right in juridical and political areas. Based on stipulations of the Convention, the political, administrative and sport organisms, took most of the responsibility and they had harmonized the legislation and actions of practice of children's rights in sport. Beside the Convention, were adopted and applied an number of declarations, agreements, laws, regulations (cooperation between IOC, UN, Council of Europe, UNICEF treaties, International Labor Organization etc.) through which it is trying the cover all the problematic aspects of child's rights, adopting a new leading position towards children. In this spirit, are recognized, among other, child rights, same as for any other individual, to practice physical exercises.

Child rights in the elite sport

Counting on the role of sport in child formation, in its health maintenance, on its physical and intellectual harmonious development, on obtaining success and social positions in other conditions inaccessible, international organizations, governments, and other political and social factors recognized that took action for the sport to be part of child rights. Hereby "practice of physical education and sport represents for each individual a fundamental right" [Carta internaţională privind educaţia fizică şi sportul, 1978]. "Sport is a human right and each individualshould have the possibility to practice sport based on its needs [J. A. Samaranch, 1998].

Even if from there, governments, together with IOC, sportive federations and other sport structures, assumes the responsibility to apply the national and international justice special norms, integrates specific programs in their legislation and politics, which could lead to understanding of the peculiarities of high performance practice by children and teenagers, to respect their rights, there are still situations of miscarriage.

One of the basic conditions for sport to achieve its objectives of physical and psychical harmonies development of the young generation, individual's health straighten is the correct practice, respecting the age particularities. Sport discipline's practice, especially gymnastics, swimming, water jumping, figure skating and tennis, feminine probes especially, induced lowering the age of selection and implicit the age of high sport performance. This way, children, sometimes from the age of 4-5, are complied to an intensive and long program of training with many privations. In the process of training and competition practice it is not counting the fact that these sportsmen are living creatures in full process of mental and physical development and that they have a high grade of vulnerability, of body limitations, of psychical traumas that they are subjected to, of disorders that can occur.

It is not new the fact that some sportsman trained and competed in great international and official competitions on tender age. The Greek Dimitrios Lourdas was 10 years and 218 days old when he participated on Olympic Games gymnastics in Athens, 1896, Luigiana Giovata, a gymnastics team component, silver medaled at Olympic Games, Amsterdam 1928, was at the time 11 years and 302 days old [J.A. Samaranch, 1998]. Even if international federations, IOC tried to regulate children's competing minimum age at big international competitions, on feminine gymnastics, for example, the age of competitors lowered significant. So, in 1965 the average age of the firs three competitors on World Championship from Antwerp was 25 years old, in Warsaw 1969, was 20 years old, in Grenoble 1973 lowed at 18 years old and at Olympic Games in Atlanta 1996; most competitors were 15-16 years old [Chronicle of the olympics. All the stars, events and results of the last 100 years, 1998].

International Skating Union regulations provide that for official international competitions, the minimum age is 15, but at national level this age is much lower. Tara Lipinski became champion of the United States of America at 12 years old, and at 15 won the gold medal in 1998 Nagano Olympic Games. In tennis, there are numerous examples. Jennifer Capriati participated in professional tournaments starting at the age of 13, in 1984 Steffi Graf, won her first professional tournament when she was 15 years old, and Martina Hingis already won Grand Shlem tournaments when she was 17 years old.

Even if IOC, international and national sport federations took measures to control the aspects of the minimum age to compete in Olympic Games, world competitions, continental and national championships, from the late 1970's, the problem of children in high performance sport went through a difficult period, once they entered massively in the professional sport. In this way, by increasing the demands for sportsman, by excessive marketing of sport generally and the image of sportsman especially, by rising desire of wining and financial stake, has exercised a high pressure on children and teenagers.

Today, children 10-12 year old sign well paid contracts with professional clubs, making millions of euros by selling their imagines to some advertising companies. For example, at the age of 17, Martina Hingis had in her account 7 million dollars, won only from tennis tournaments, to which are added some more millions from commercial contracts.

Even if the best agents represents their interests, in most cases junior sportsmen don't have benefit form their parents and manager advices, their position in these transactions is insignificant, and they are not the ones that really decide. So, there are many situations of child's right broken, to be oriented and advised in a

right manner, to be noticed and to have its opinions respected, for each situations that they are directly interested in (Convention's 5th art. and 12th art.).

The 19th art. of the Convention mention that the child has the right to be protected from abuses, brutalities and all kinds of violence. In general, in all situations where adults perform an activity among children, as in sport, abuses can occur. In elite sport children are in care of other adults than parents, in many cases, trainers, sport leaders etc. In training and competition process the position of the coach regarding sportsman, especially children involved, is one of power. Starting from this aspect, some authors showed situations in performance sport where children were physical and psychical abused. Some times during training or competitions, trainers used insults and other forms of humiliation, even punishments, considering being something natural in relation with children, their opinion this constitutes "powerful stimulants for sportsman".

To avoid these situations and also to protect junior sportsman, and the coaches, many international and national sport federations established drastic rules, framed behavioral handbooks for coaches in order to promote best practice in the profession. In this direction we point out The Ethic and Behavioral Code for sport coaches and trainers framed by British Swimming Federation [V. Kreton, 2004].

In majority of the countries labor legislation and other normative acts forbid child and teenage work before minimum age. The article 32 from International Labor Organization forbids labor among children under 13 years old. Teenagers' work is subjected to very severe laws. If the use of child work is forbidden and if working teenagers' activity is subjected to very sever legal stipulations, many considers that for a child of 10 – 12 years old, 6 – 8 hours intensive training per day, 6 days a week, which in many cases claim a great effort and have an high risk of injury, could be considered work compulsion, an harmful factor of physical, moral and social development, which can compromise his education and future.

One of the principles of the Convention is related to child right to live inside his family and not to be separated from his parents (9th art.).

In the elite sport is a practice wide spread, so that at young age talented children coming from poor families to be contacted in order to accept training at professional clubs in foreign countries, far away from their parents. For them sport is a domain through which they can remove the shortcomings.

Beside sport preparation the majority of the professional clubs have no consideration for the junior sportsmen's education and social integration; they have transferred by paying derisory sum of money to needing parents. For sport impresarios they are considered merchandise. Even if this practice is proscribed, contravening the Convention's principles and the majority of the international laws, it is in full spring and considered a form of modern slavery.

Integration on these training centers, the child's asserting is very tough and the true winners are the managers and agents. After few years many children from these centers are declared limited and there are excluded from the training program, in many cases with poor school education and without money to return home. It is known the case of the Cote d'Ivoire's young football player, Marc-Herve Cisse, who in 1990 was recruited by Club Paris Saint Germain and in 1993, was excluded without a residence permit in France, without any payment for time spent in the club, so, with no future.

Regarding Convention stipulations, education is a fundamental right of each child and the state has the duty to ensure primary and obligatory education for all children (28th art.). Especially in last years when the number of training hours, competitions and expectations towards sportsman grew it is been proved that it is not easy for high performance sportsman to harmoniously combine sport and school. In many countries special school programs for elite sportsman were adopted, especially for those who participate to centered training for long time. In other cases children try to complete their school education through correspondence. In the majority of cases these solutions were proved to be illusory, results being mediocre. School abandonment is frequent and those that finish a preparation cycle have summary knowledge.

Considering the role of education for each individual's future, no matter of sportive results and the successes in life through sport, each junior sportsman, his parents, trainers, sport leaders have to give the correct consideration to education, professional preparation; with the majority of high performance children, in spite of all efforts and sacrifices made, will not be able to obtain bonuses and labor commercial contracts, earns that can ensure a decent living for a long period of time and, after sport carrier ends, are forced, because of the lack of adequate training, to accept low paid jobs, sometimes to thicken the unemployed area.

Conclusions

The role of the sport in contemporaneous society determined international organizations, governments, and all other decisional factors at national level to act in order that the sport to be included in the individual fundamental rights. Domain legislation has as an objective the fastening of minimal norms to facilitate the acknowledgment and respecting imposed from all factors and at all levels of child right.

For junior sportsmen to enjoy all his fundamental rights along his high sport performance activity and statuses, sportive regulations has to be harmonized with international and national child right legislation.

Numerous child rights from Child Rights Convention have a direct correspondent in the practical activity which regards minors involved in the sport practice activity.

Performance sport, especially elite sport, can constitute an instrument of promoting the Convention's principles and stipulations.

Elite sport, conducted and practiced in a correct way, in the limits of the norms regulated by the domain's specific legislation, by sport statuses and regalements, proved to be an efficient attainment element of some theoretical knowledge and practical skills of recognition and respect of child rights generally and those of sportsman specially.

Political factors, state institutes, sport organizations, adults have the moral and juridical duty to act for high sport performance child rights to be respected.

Even if the activity and legislation of those in charge of child rights compliance improved, they assumes responsibility of initiation, adoption and application of the international and national right norms in the domain, integrates into their policy specific programs witch can lead to child fundamental rights obedience in sport activity, there are still some situations of their defiance.

To prevent trainer's bad practices witch can lead to high sport performance child right violation, at sport leading organism's initiation, sportive federations has been elaborated ethic and behavioral codes for coaches. Also has been fostered child active participation in decisional act in all important aspects of their life, so, in elite sport.

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THE EVOLUTION OF BODY SEGMENTATION METHODS FOR THE DETERMINATION OF THE GENERAL MASS CENTRE

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Summary: The present thesis shows a historical systematization of the evolution of body segmentation methods by choosing the body segments and by determining/calculating the size, mass and mass centre of each segment.

Introduction: At present the interest for characterizing a segmental body structure is justified (beyond academic reasons) by the need to use it in several domains like: the cinematic analysis of the locomotive system (in sport, recovery, etc), the examination and improvement of working environments, motrical diagnosis, strictly individualized survey and recovery of people with motrical deficiency.

The aim of the work: The present contribution to that literature consecrated to such a complex and difficult subject is firstly destined to the young researcher about to engage in research work. I hope it will be of interest to a larger audience, concerning the general overview on the history of human body parameters estimation. The purpose proposed is to analyze the methods of segmental determination by means of which discoveries were made and to synthesize the opinions of some consecrated authors. The present communication is part of the systematization efforts previous both for the CAMONAL project („Integrated system of Characterization, Survey and Assisted Practice of human Locomotion" *",* project director, univ. prof. PhD Pierre Joseph de Hillerin) and of my own PhD thesis (about to be finalized) with the title: „Making a biochemical testing and practice system specific for water sports".

Keywords: history, methods for segmental determination, general center of gravity.

Methods, results and debates: One of the purposes of the above mentioned projects is to determine the effort ability at the main joints level involved in the rowing effort in a simulator or in the habitual locomotive behavior of sportsmen and patients suffering of affections involving recovery at this level l. **„**This issue includes targets like: determining the individual body structure by calculating the body segments sizes, the segmental masses and the mass segments of each segments, implies choosing the body segmentation model, the equipment of acquisition of the segmental position, the equipment to determine the general mass centre, the method to determine the segmental masses and the positions of segmental mass centers related to the proximal end of each segment, the description of the procedure to determine the unknown measures", [Hillerin, 2009, CAMONAL project, 2009] like in fig. no 1.

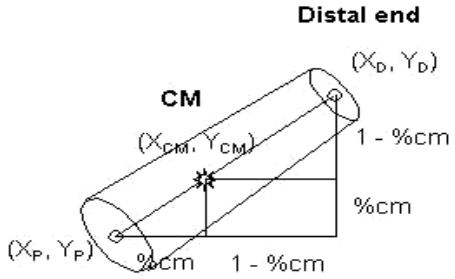

Fig. no 1 Represents a "sector" for the GMC (general mass centre).

[http://oregonstate.edu, 2009]

At this stage of the research I stopped at a review, from a chronological perspective, of the methods used to estimate the human body segments parameters. Obviously, I cannot show a complete and detailed approach of the previous studies, I can only stop to those authors who had results that were the closest to the „truth", in my opinion. I try to resume to an overview on the domain and estimation methods of the parameters for the human body segments; Mass is defined as "the quantity of matter composing an organism". In each object there is a unique point called "mass centre (MC)", and where around the mass object it is equally distributed in all directions. But the human body represents a system of segments tied to one another through joints. In other words, the distribution mass suffers continuous changes, which are generated by those postures changed by the organism. Therefore, it is not an easy target to find the GMC of the human body segments.

Table no. 1 History of the previous researches on the parameters of human body segments; main methods used to estimate the parameters of human body segments. [www.vrmedialab.dk]

Study	**Main Method(s)**	**Estimated Parameters**
1955 — Dempster	Balance plate, hydrostatic weighing and period of oscillation	Volume, mass, density, center of mass and mass moments of inertia
1964 — Hanavan	Mathematical model	Center of mass and mass moments of inertia of entire body
1966 — Drillis and Contini	(Incremental) hydrostatic weighing and balance plate	Volume, mass, center of mass and mass moments of inertia of the segments.
1969 — Clauser	Balance plate, hydrostatic weighing and immersion	Volume, mass and center of mass
1978 — Jensen	Photogrammetry and mathematical model	Volume, mass, center of mass and principal mass moments of inertia
1980 — Hatze	Mathematical model and anthropometrie measurements	Volume, mass, center of mass and principal mass moments of inertia
1983 — Zatsiorsky and Seluyanov	Gamma-scanning and regression equations	Mass, center of mass, principal mass moments of inertia and radius of gyration
1989 — Martin et ah	MRI scanning	Volume, mass, density, center of mass and mass moment of inertia
1990 — Mungiole and Martin	MRI scanning	Volume, mass, center of mass and mass moment of inertia
1995 — Wei and Jensen	CT scanning and regression equations	Mass, density profiles, center of mass and mass moment of inertia

As one can notice, researchers Dempster (1955), Causer(1969), Chandler(1975) etc., were based on dead bodies researches to determine the body segmental patterns by calculating: the body segments

size, the segments masses and the mass centre for each segment; nevertheless, researchers started to develop alternative for living subjects instead of dead bodies. The new technologies, including those of magnetic resonance imaging (MRI) method approached by Martin (1989), and afterwards by Mungiolie and Martin (1990), computerized tomography (CT) based on Ackland's method (1988), Huag and Suarez (1983), Huang and Wu (1976), Rodrigue and Gagnon (1983), a major representation was marked by the mathematical simulation method realized by Hanavan (1964), and all these methods were used to go beyond the limits of dead bodies.

Researches on this followed, based on measuring those implying low costs, a good availability, easy to experiment, applying to a simple calculus regarding the human body density and mass. The study from Japan took place and was realized by Se Jin P, Cahe and Chan(1999) for a number of 65 men, respectively 69 women, all volunteers, aiming at the size, volume, density, mass, general mass centre of the segments (for 8 segments of the body), applying methods which did not prove to be expensive, consequently one compared the results with those of Dempster (1955) and Shandler (1975), the method to calculate density used Drillis and Contini's equations (1966). Afterwards, experiments made at a large scale, in different specializations show that: to make a cinematic analysis of going over a fence, by an adequate system, the author showing that the movements have certain special features because important forces and accelerations operate on the human body." The study of going over the fence cinematics starts with a cinegram in 9 positions where the angular positions of the body and of the 9 segments model members, the extended body and hips plus 2x4 segments of the members, made up of 9 articulated bars. [Burca,I., and col., 2007, p.22].

The purpose of the next method is to introduce a procedure called „sectors method", to find the GMC of the human body segments.

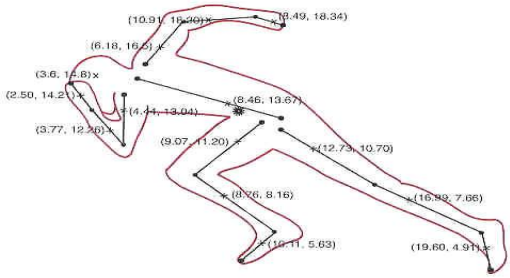

Fig. no. 2 The segmentation method [**oregonstate.edu/]**

Other ways of determining the GMC are presented in literature defined as estimation methods. These methods elaborated by Kwon(1993) in collaboration with Zatsiorsky and associates *(*Zatsiorsky and Seluyanov, 1983, respectively 1985; Zatsiorsky, Seluyanov and Chugunova, 1990: Ratio method, simple regression method, regression method through stages, scaling method, geometrical method; all methods listed need a set of anthropometrical parameters. Taking into consideration the errors implied in the estimation mass, the masses and moments of inertness in the segments must be corrected based on measuring the body mass ensemble.

Conclusions:

1.it often happens for scientists from different parts of the world to get contradictory results though they have worked with similar biologic material

2.the method of determining the segmental masses and the positions of the segmental mass centers related to the proximal end of each segment must be individualized, because when realizing an individualized diagnosis of fatigue occurrence and installation at the joints level and of the technical consequences of energetic efficiency segmental changes, this implies an efficient increase of practice processes by applying the individualization processes at an objective knowledge rate;

3. regarding the PhD thesis finalization, concerning the realization of a biochemical testing and practice system which would emphasize the segmental behavior can generate a positive influence of the technique and the efficiency of using energetic resources;

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Content

❖ SPORT AND PERFORMANCE

❖ KINETOTHERAPY

❖ MANAGEMENT

❖ PHYSICAL EDUCATION AND SPORT

❖ VARIA

❖ Alphabetical author index

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Structure of the experiment type paper:

- the title of the paper will be written with Majuscules, Times New Roman, Size 12, Bold, Align Left;

-the names of the author or authors of the research will be written with Times New Roman, Size 10, Bold, Majuscules, Align Left, one line under the title of the paper;

-under the author's name, the department /departments and institution / institutions it is e-mail address for the corresponding author;

-the source of the material support in the form of the GRANTS not more than 40 characters including spaces if need be, with Times New Roman, Size 10, Align Left;

-the Department name, institution name, contact address email *can be* as footnote;

-Abstract, Key words, Introduction, Methods, Results, Discussion, Conclusions, References.

Abstract

The structured abstract and 3-5 key words will be written with Times New Roman, Size 10, Justified.

The abstract must not contain more than 150 words for unstructured abstracts essay type and 200-400 words for structured abstracts experiment type. The abstract must be elaborated in English language. In the abstract there will be no abbreviations used.

The structured abstract for **the experiment type paper** must contain:

- the aim / purpose / object of the research;
- the procedures and methods of research subjects, applied tests;
- the results / main results;

-discussions and conclusions;

- key words between 3 and 5 key words, which punctuates the interest areas of the article;

The aim, purpose, object, methods, results, discussions, conclusions and key words have to be written bold and minuscule.

I**ntroduction**
Procedures and methods of research (subjects, applied tests)
Results
Discussion
Conclusions
All of its will be written Times New Roman, Size 10, Justified, two columns;
Bibliography
It will be written with Times New Roman, Size 10, two columns, First Line Indent 0 cm, Hanging Indent 1cm, Left Indent 1cm. The names of the articles / book will be written in italics.
Author's name has to be written with bold and majuscule (eg.**SMITHOSCKY, M.,2011**)

Structure of the essay type paper:

- the title of the paper will be written with Majuscules, Times New Roman, Size 12, Bold, Align Left;

-the names of the author or authors of the research will be written with Times New Roman, Size 10, Bold, Majuscules, Align Left, one line under the title of the paper.

-under the author's name, the department /departments) and institution / institutions) it is e-mail address for the corresponding author.

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- **the unstructured abstract and 3-5 key words** will be written with Times New Roman, Size 10, Justified;
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For the abstract - essay type paper

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- the content of the research hort summary);
- conclusions main conclusion);
- key words between 3 and 5 key words, which punctuates the interest areas of the article);

Details:

Introduction

The introduction will only contain strict and pertinent references pro and cons) on the studies that have as a common subject the object of the research.

Research methods and procedures

Subjects

The subjects involved in the experiment are described, their distribution in groups, identifying the age, the sex and other important characteristics. The experiments on human subjects are produced in accordance with the national legislation for the human protection and the Helsinki Declaration of 1975, revised in 2004. The names and the surnames of the subjects are not used, especially in the illustrative materials.

The work methods are identified, the apparatus on which the experiment takes place presenting the name of the producer and the address between parentheses) and the statistic methods in detail. The new or considerably modified methods are described, motivating their choice and evaluating their limits. The hypotheses of the paper must be clear and concise.

Statistical analysis

The statistical methods are described with sufficient details, in order to understand and to check the results obtained. The names of the computer programs used for the statistical processing of the data are specified.

Results

The results are presented in a logical sequence, through tables and diagrams. The results expressed through text should not be found in the tables and/or diagrams and the other way around.

Tables

The tables cannot be introduced in the text as photographs. The tables must be numbered in the upper part, in succession in the order of the first text quoting, followed by a conclusive and succinct title.

Table 1. Physical characteristics of the subjects

	Feminine subjects n=21	
Variables	M±DS	CV %
Body height cm)	166,143±5,597	3,369
Body weight kg)	61,524±8,364	13,595
IMC kg/m^2)	22,338±3,282	14,692
Body fat percentage %)	25,329±3,074	12,136
Fat mass kg)	15,182±4,066	25,715

*significant correlated with IMC, r=0,875.
Established significance level at p<0,05.
IMC, body mass index; M, average; DS, standard deviation; CV, variability coefficient; n, number of subjects.

In the lower part of the table the following symbols will be used, in order to emphasize the differences or the significant correlations statistically, in the following order: *, †,‡,§,□□,¶**, ††, ‡‡, etc. Also in the lower part of the tables the significance level established by the researcher will be presented and the unusual abbreviations used in the table will be explained.

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Discussions
In the chapter Discussions the new and important aspects are emphasized, which result from the data processing. The data of other similar studies presented in the introduction chapter cannot repeat in detail. Also, the implications of the results found must be discussed, their limitations and the implications of these results, for the future studies. The observations found must be reported to other similar studies.

Conclusions
The conclusions must be reported directly to the hypotheses of the paper and derive directly from the chapter Discussions. The conclusions that are not fully backed-up by the data found or that are based on unjustified affirmations must be avoided. New hypotheses can be concluded or attach some recommendations, if the case be.

Thanks
In the section Thanks when the case appears) there can appear:
- the contribution of the people that are not co-authors;
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In the text, the quotations will have the following structure:
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- at the end of the phrase T.S. Keller, and A.L. Roy, 2002);
- in the phrase T.S. Keller and A.L. Roy 2002), T.T. Gomez, 2003 found significant differences of isometric force...
b) up to including) 6 authors
- at the end of the phrase T.S. Keller, A.L. Roy, Carpenter G, 2002)
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DEURENBERG, P., WESTSTRATE, J.A., SEIDELL, J.C., 1991, *Body mass index as a measure of body fatness: age- and sex-specific prediction formulas.* British Journal of Nutrition. 65(2):105-114.

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1	The originality of the research theme	15 points
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The article deposited for publishing must be accompanied by a short personal presentation and a professional CV, no more than 120 words, that must contain the detailed contact address, including phone number, fax number if it exists) and the e-mail.
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At least two members of the Editorial Collective and of the Scientific Board will initially analyze the article and will nominate at least two reviewers to analyze the article in detail.
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The article will be officially analyzed by at least two reviewers with expertise in the thematics of the article deposited for publication. The article will receive a number of points from the reviewers' board.

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The articles that follow over 90 points) the scientific and technical standards for elaboration will be included into the waiting list for publication. The articles that need certain modifications between 60 and 90 points) will be returned with the reviewers' observations, for their modification by the author s). The articles that do not accomplish the minimum scientific and technical requests for elaboration 60 points) will be rejected by the reviewers' board.

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