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Waiting with interest your works,
Editorial team of **"Arena – Journal of Phisical Activities"**

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EDITORIAL

Considerations Regarding the Role of Attitude and Behaviour in the Development of Motion Thorough Physical Activity

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"Aurel Vlaicu" Arad University,
Faculty of Physical Education and Sports

Motto: "It has been shown that physical education is the best method of education that synergistically contributes to strengthen body and soul and to character building ..." (Iuliu Hatieganu-1935)

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Abstract
This article draws the attention of important considerations regarding the creation, development, promotion and support for the cult of moving exercise in human life, from the earliest age until old age. There are shown here relevant aspects of educational factors in connection with their involvement in the development of the sports movement, contents and forms of exercise, extending it to the mass phenomenon.
There are proposed certain ways of addressing to the physical exercise, training the most important stakeholders in the development of this cult, given the need for individual and social health, performance and Olympic spirit in sports, recognition and appreciation of the nation and the country among civilized world.

Keywords: exercise, movement cult, attitude, behavior, sports.

In the current context of socio-economic development of Romania, when new technology takes over more and more during the existential time of humans , but also in terms of changes into the global and regional climate, education takes on new connotations and its realization in the human from birth to years of old age, supposes some of the most complex strategies, in order to form and define a professional profile and a health status that ensure the safety and security of persons in this unpredictable world full of changes.

Facing this reality, physical education – essential factor in the contemporary educational process - has a key role in training, development and support of worship for movement through exercise, sports and performance in sport - vectors particularly important and sustainable in providing a healthy lifestyle, maintaining the health, vigor and vitality of every person and population capable of effort and efficiency in work, a dynamic, harmonious, efficient and competitive Romania in the economic field among the nations of the civilized world.

But this movement cult cannot emerge into the man's conduct and work for the joy of a healthy and beautiful living, to perform as a social being, professional and civic without strong support from the side of behavioral skill of human personality, activated and cultivated permanently all through education.

Practising movement through exercise is the link that accompanies and helps the human being in all its business, in life and work. In the academic sense, the cult is defined as "a feeling of admiration, respect, deep love towards someone or something". In this article I chose to come with certain considerations and issues about cult movement through exercise, based on the idea that worship is seen in reflections and my beliefs as a passion for movement, through respect, appreciation and joy to practise lifelong exercise as a factor for personal and civic maintenance, integration and affirmation.

In essence, this cult is an attribute, a value of a great man, trained and powerful human being with a healthy lifestyle, prosocial, proactive, empathetic, dynamic, solidary and selfless. He acts following a lengthy educational process and external education factors influence. At the core of development are lots of causes, phenomena, processes and mental activities, an inseparable range

of factors, conscious and unconscious, physiological, intellectual, affective, social, which are in constant mutual interaction.

I can point out the role that have in one way or another, the sensations, perceptions, representations, attention, willingness, reasons, necessities, needs, beliefs, inclinations, aspirations, desires, attitudes and skills in shaping behavior dimension of personality.

Based on this reflection, we can say that it is accepted role of attitude in the development of the whole philosophy of growing concerns for exercise. The concept of attitude means "thinking orientation, deep provisions of our own being, mood before certain new values (...), a set of personal reactions to a specific object: animal, person, idea or thing." Attitude caused by reactions of individuals to environment or other people around, following interaction with them, greatly influences human behavior intended to support or prevent the development of activities to meet some personal needs or social group needs.

Attitude is influenced by the existence of skills in the personality structures. The mere presence of skills is not enough for professional and social affirmation of a person. Sometimes the skills deficit can be offset by a greater degree of development of other qualities or a sustained interest, a strong inclination for exercise, diligence, perseverance and other characteristics of the person depending largely on attitudinal components. There is a determinations relationship between attitudes and skills. Skills for a particular activity can cause favorable attitudes in the same field or similar areas, may direct evolution of the whole conduct of the person to perform some essential aspirations of an ideal life up on these skills imperative.

Attitudes influence in turn skills directing the person energy toward a fundamental direction, driving or inhibiting their skills development, according to the externalization of their fundamental attitudes in consensus or against them. Structurally skills are related to attitudes because, as they express the tendency to select the plurality of objects and situations of reality surrounding a particular category. "In turn attitudes, such as skills ensure performance efficiency for favorite activities."

In our case, it's about passion for movement by practicing an exercise or a favorite sport with ease and pleasure. In practicing physical exercises by cult movement or physical education, but es-

pecially in sport is of great importance to achieve an appropriate relationship between skills and attitudes. Without this requirement it would not be possible to obtain high-level performances.

Closely related to skills and attitudes is the behavior. It is natural to find the possibility of giving a meaning to the behavioral action seeking a new situation or object on which to act and lead eventually to harmonize reality and the installation of the well, to give relaxation to the detriment of anguish, adapting the individual to normal and open to performance and satisfaction through movement and sport. Behavior is defined as "conduct of a subject considered in an environment and in a unit of time." This is why I believe that the relation attitude-behavior as a dimension of human psychology can contribute heavily to the formation, developing and maintaining constancy of worship for exercise.

How can you achieve this? You can do it with a well-structured national project, with a valuable human resource, logistics and an appropriate impeccable organization. The starting point can be ECD, when kindergarten staffed with specialists in physical culture can open the way to detect children with native qualities for professional sports that they will organize and carry out along with movement activities and play for this age. You will continue at elementary and secondary levels of education, trying to recover two hours per week of "whole athlete" for recovery of inclinations and talent of students to sports.

There is a lack of a mass movement sports, the school is the main actor. Each community has the necessary facilities. In rural areas, in addition to existing gyms there is need for new utilities, such as swimming pools, running outdoor tracks, tennis fields, ski slopes and sledding trails for biking, other locations and material resources, the natural resources of the place which once were available to local, human resources can contribute to the development of the movement sports. Do not forget to grasp in this project nonformal education institutions that, through their circles, can be useful for supporting movement cult. To achieve this goal it is good to develop as many opportunities to practice physical exercise and outdoor sports, as close to nature.

Each territorial unit may have at least one specialised center for sports ground, where coaches and teachers in schools can train, there should also be some partnerships in this field between

community, family and school and city halls and county authorities should financially support activities here. One cannot form a favorable mentality for exercise and sports performance without encouraging the practice of individual sports to students and citizens, by creating a socially and organizationally complex and advantageously area supported by the Government in partnership with NGOs, which are expected to stimulating exercise and practice of other sports by all citizens, without discrimination, freely, voluntarily, independently or in an organized manner for maintaining health and socialization between people.

In addition to physical education lessons included in the curriculum, schools can organize refreshing gymnastics, daily gymnastics and "minute move by exercise." During leisure, students can participate in activities of "health and performance through sport", tourism, holiday camps, and excursions.

The cult to practice physical exercise strengthens prospective type of permanent education and implies not only the conditions and needs of present society, but the future too. Training for moving in this context enhances the function of active integration education to every person in society. Rethinking education objectives and their ranking highlights the adaptability of the individual through different techniques.

The temporal dimension of education in the spirit of worship for movement through exercise sets its permanent character and calls the individual engaging in a process of formation, growing in all stages of its ontogenetic evolution. Cult to exercise meets organizational forms specific to the younger generation, the adult generation and the elderly, without any essential differences between groups of individuals related to general features of educational action.

Although physical education curriculum is the best represented subsystem in the crystallization of worship for exercise, it compels to reconsider it as an activity that it becomes a constant concern accompanying individual from early life until old age. From this perspective, there is a lack of activities in complementary systems, compensators education, to meet the needs of social, economic and cultural needs of people of all ages.

Enlarging the school of education to a wider frame of reference, the extracurricular seems to meet these requirements to a

greater extent.

The concern and then the cult of exercise contribute to the transformation of child to adult and its integration into society. In that it empowers him with both the motor skills of order and the biological, functional, psychological, moral skills, these activities have become indispensable in the harmonious development of human personality. With the contribution that the cult of exercise and sport has to develop the capacity of the individual motive, important influences in the plan are induced cognitive, behavioral and emotional area.

The activity that takes place through the cult of exercise and sports is not only likely motive. Through movement, included in a planned and organized activity are yielded progressive modifications in the subjects ability to analyze situations, solve problems, make decisions and act. "Worship for moving positively influence intellectual activity (thinking, attention, memory, imagination, creativity), which is responsible for acquiring the subjects' knowledge of skills (how we should move the body), about activities (in what context body can move), upon which rules these activities are carried out (how can the body move) about fitness (how the human body «works»)."

Exercise and other movement activities find their best space for deployment in the environment or in suitable locations. When talking about practicing physical exercise in a healthy environment does not refer only to the cultivation of sanogenetic factors and the reduction of pathogens, but also the creation of a favorable psychological climate developed on motor principles, a climate of security, safety.

To live is to move! To maintain health, to ease physical and mental, in order to achieve a state of good exercise - along with a healthy diet - is strictly necessary! In the absence of movement cult, it may very soon appear "side effects" (weight gain, bad mood, apathy, immobility, various pathologies, dependence on the health system, accelerated aging).

Cult movement through exercise can be a defense of the body against the proliferation of "social convenience". Closing our premises for schools, job sites, housing lead us to a dangerous state of "atrophy" depriving us of the natural sense of movement. Faced with this reality, the only way out would be reintegration in nature,

practicing physical outdoors exercise sports for the sake of sport (in this case, cult movement is at home!), because movement and sport bring joy and good mood guaranteed and remind us about the child in us. No matter if you are teenagers, adults soon, elders over the years, do not forget to practice sports as a child!

What is ultimately the exercise and why it is a great asset for the individual and society. "Exercise is systematic and conscious repetition of an action for training or improvement of skills or abilities" it is motor act repeated in order to increase the biological potential of the human expressed by increasing the driving ability, physical and motor recovery correcting deficiencies.

Exercise is the basic means by which the cult movement, physical education, sports training and physical therapy are carried out. It has the following features:

- is always done with less energy (effort) needed to perform muscle contractions under the control of the nervous system and results in stimulation of body functions;
- specially designed for the purpose (physical training, developing motor skills, attitudes or correct a physical, recovery after injury or illness); intentional element exercise differs from other unorganized driving action (child's play) or organized (or productive activities of daily living);
- are carried out systematically, on methodical precise rules as only cumulative effects of its practice can achieve the proposed objective;
- although it influences the biological sphere of human being, it has also certain effects psychologically speaking(by stimulating fundamental processes such as excitation and inhibition, thinking, memory, imagination, etc.), and intellectual (enlargement fund of knowledge), as in morally and aesthetically.
- Exercise is characterized by content and form. The content is determined by the totality of the physical exercise component, namely:
- movements of body segments or incurred by it in its entirety (flexion, extension, wheelwrights, etc.);
- Built exercise, expressed through its parameters: volume, intensity and complexity;
- mental effort, resulted in the load of different mental processes: memory, attention, imagination, will, etc.

The value of the contents of exercise is given by the quantity and quality elements that compose it and underpinning the selection of exercises based on their effectiveness in achieving objectives. Form of exercise is given of how the items are ordered and executed it and is focused on:

- body position at different times of year and position execution segments from each other or from the body;
- distance from devices or objects that are running;
- direction and meaning of body movements or its segments;
- amplitude of muscle tone, elasticity of muscles and tendons and joint mobility;
- tempo movements frequency (number of executions per unit time);
- pace - how to alternate phases of a movement or movement in its entirety.

It is estimated that in terms of shape, exercise has four types of features:

- space - positions, directions, amplitude etc;
- time - duration, rhythm, tempo, speed of response;
- space-time - acceleration and travel speed;
- dynamic - caused by forces acting within the movement (internal
- muscle strength, muscle elasticity antagonists resistance ligaments) and external (resistance to friction with the air, water or snow, the resistance of objects, support or opponent).

I conclude these brief considerations by identifying the aims that appear in daily life as a cult event for motion effects of the exercise. These beneficial effects are reflected in:

- Progress that is recorded by the subject (individual) in somatic, functional, motor, cognitive, emotional and social development;
- Harmonization of social requirements with the individual;
- Outcomes of the general cult of the exercise are reunited as the ideal, which includes the strategic orientation of the system of physical education in a certain stage of social, economic, cultural and scientific country - enshrined in the model of personality which polarize a society aspirations;
- the model of a physically educated person is designed and realized in the educational institutions of different degrees and kinds; in summary, the ideal arising from exercise aims at the purpose of practicing the cult for this activity as a whole, society as a whole,

while the goals and objectives guide the conduct of determined and concrete educational activities;
- reconsideration of the cult for motion as activity, meaning "extension" to other age groups so that it becomes a continuous phenomenon, accompanying individuals from early life to senescence;
- Setting up of permanent education complementary to respond to the social, economic, cultural population of all ages;
- The extension of school education to a wider frame of reference, extracurricular responding to greater movement of needs;
- A holistic approach to the practice of physical exercise influences acting on man, society and the environment;
- Increase the contribution of physical education in school to compensate for the lack of physical activity of children and its effects;
- Finding new attractive forms of organization of the school day regime (other than the lesson), creating motivation for sport outside school, in cooperation with sports clubs, parents, community;
- Development of affective behaviors regarding: interests, motivations, attitudes, values;
- Developing a sense of belonging to a group, by valuing personal ideas and actions, recognizing the value of the individual, capacity assessment and self-esteem, self-image structure;
- Achieving acceptance and promotion of ethical behavior consistent expressed in concepts such as fair play, cooperation;
- Creating a favorable environment to find subjects skills for a branch of sport or another, outside of that environment the skills remain untapped;
- Realization process of socialization through activities with recreational or competitive features, extremely important for the individual to acquire social competence.

As a generator of these finalities, the movement cult through exercise remains a beneficial phenomenon to human society and the environment, a fountain and a promoter of the Olympic spirit in sport, for the prestige of human affirmation of the values of sport in the country.

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Prevalence of Eating Disorders And Menstrual Irregularities Among Female Football Players

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Abstract
Purpose: In the present study the occurrence of eating disorders (EDs) and menstrual dysfunctions (MDs) was examined among physically inactive women (C) and elite female football players (FP).
Methods: ED was investigated by EDI and SCOFF-test. MD was measured by questions on menstrual history.
Results: Although there were a few participants in both groups who reached the cut-off scores in 'Drive for Thinness' and 'Body Dissatisfaction' subscales of EDI, there were no significant differences between the rates. None of the participants passed the critical limit in the 'Bulimia' subscale. There was no significant difference between the average scores of the first three subscales of EDI in the two groups. The next five subscales of EDI measure psychopathology commonly associated with, but not unique to, ED. We could observe significant difference only between the average score of 'Interpersonal Distrust' subscale. Depending on the SCOFF-test we could not observe any significant difference between the incidences of EDs in the groups. In the FP group the age of menarche was significantly older. Less FPs had oligomenorrhea, but there was no significant difference between the rates of secondary amenorrhea. The common incidence of EDs and MDs was the same in both groups.

Conclusions: Our results suggest that the prevalence of EDs was similar in the investigated groups, only the feeling of 'Interpersonal Distrust' was stronger among female football players. Physically inactive women are more endangered by oligomenorrhea. There is no significant difference between the common incidences of EDs and MDs among the groups.

Keywords

eating disorder, menstrual dysfunction, female football

Introduction

Numerous publications suggest the connection between eating disorders (EDs) and sport (Johnson et al., 1999; Sundgot-Borgen & Torstveit, 2005). Disordered eating can be seen in athletes participating in all sports. Sports that may place athletes at higher risk for the development of EDs include those in which leanness is emphasized (eg, gymnastics, ballet dancing, diving, and figure skating) or perceived to optimize performance (eg, long-distance running and cross-country skiing) and those that use weight classification (eg, martial arts and rowing) (Johnson, 1994). Risk factors of EDs include frequent weight cycling, early sport-specific training, psychological factors (eg, poor coping skills, unhealthy family dynamics, and low self-esteem) and personality traits (eg, perfectionism, compulsiveness, and high achievement expectations), pressure to optimize performance or meet inappropriate weight or body fat goals, social factors (eg, idealization of thinness) or a sudden increase in training volume (Johnson, 1994). Disordered eating behaviours may impair athletic performance and increase risk of injury. The prevalence of EDs has been reported to be higher in young female athletes than in nonathletes (Benson et al., 1985; Loosli et al., 1986). EDs can result not only in menstrual dysfunction (MD) but also in psychological and other medical complications, including potentially irreversible bone loss, depression, fluid and electrolyte imbalance, and changes in the cardiovascular, endocrine, gastrointestinal, and thermoregulatory systems. Some of these complications are potentially fatal (Palla & Litt, 1988).

It has been reported that menstrual irregularities are more prevalent in the athletic population than in the general female population (Otis, 1992). A number of factors, such as energy balance, EDs, exercise intensity and training practices, body weight and body composition, and physical and emotional stress may contribute to the development of athletic menstrual dysfunction (Cannavo et al., 2001; Sundgot-Borgen & Torstveit, 2007).

In the present study our purpose was to investigate the prevalence of EDs and MDs and their common occurrence among female football players.

Methods

Participants

The subjects consisted of 130 women in two groups. The group of elite female football players (FP) included footballers from the 1st and 2nd league of the Hungarian National Championship [n=65]. The average age of FP group was 23.27±5.13 years. They had been certified players averagely for 7.85 years. They had at least 4 trainings and 1 match per week. The control group contained physically inactive women (C) who did not do any regular physical activity [n=65]. They were selected from the undergraduates of University of Szeged, Hungary. Their average age was 22.11±2.04 years.

Questionnaires

The possible occurrence of EDs was investigated by Eating Disorder Inventory (EDI) (Garner, 1983) and SCOFF (Morgat, 1999) questionnaires.

The EDI is a 64 item, self-report, multiscale measure designed for the assessment of psychological and behavioural traits common in anorexia nervosa and bulimia. The EDI consists of eight subscales measuring: 1) Drive for Thinness, 2) Bulimia, 3) Body Dissatisfaction, 4) Ineffectiveness, 5) Perfectionism, 6) Interpersonal Distrust, 7) Interoceptive Awareness and 8) Maturity Fears. The first three subscales of EDI are capable to detect EDs, the cut-off scores of 'Drive for Thinness' and 'Bulimia' subscales were ≥14 points and ≥21 points for 'Body Dissatisfaction'. The next five subscales, without critical limits, measure psychopathology commonly associated with, but not unique to, EDs (Garner, 1983). The Hungarian version of EDI was translated and validated by Túry et al (1997).

The SCOFF-test is a highly effective screening instrument for detecting eating disorders including five simple yes-no questions:

- Do you make yourself **S**ick because you feel uncomfortably full?
- Do you worry you have lost **C**ontrol over how much you eat?
- Have you recently lost more than **O**ne stone in a 3 month period?

- Do you believe yourself to be **F**at when others say you are too thin?
- Would you say that **F**ood dominates your life?

The evaluation of SCOFF-test is one point for every "yes" and a score of ≥ 2 indicates a likely case of anorexia nervosa or bulimia (Morgat, 1999). The Hungarian version of SCOFF-test was translated and validated by Babusa (2013).

MD was measured by questions on menstrual history. We investigated the age of the first menstruation (menarche), primary amenorrhea which is defined as the absence of menses by age 16 years, secondary amenorrhea which is typically defined as the absence of menses at least 3 consecutive menstrual cycles in a female who has begun menstruating. Oligomenorrhea refers to menstrual periods that occur at intervals longer than every 35 days (Loucks & Horvath, 1985; Loucks, 1990).

Statistical analysis

Statistical analysis of ED or MD prevalence was performed by the Bonferroni-test and data were reported as %. Statistical analysis of EDI subscales' average points and menarche ages was performed by the Mann-Whitney U-test and data were reported as means ± S.E.M. In both cases probability level of $p^* < 0.05$ was accepted as a significant difference vs. control values.

Results

The prevalence of EDs depending on the first three subscales of EDI and SCOFF-test is demonstrated in Table 1. Although there were a few participants in both groups who reached the cut-off scores in 'Drive for Thinness' (C: 4.61%; FP: 6.15%) and 'Body Dissatisfaction' (C: 3.08%; FP: 4.61%) subscales, there were no significant differences between the rates of incidence. None of the participants of both groups reached the cut-off score in the 'Bulimia' subscale. Depending on the SCOFF-test we could not observe any significant difference between the incidence of EDs in the groups (C: 16.92%; FP: 12.31%).

Table 1. Prevalence of EDs depending on EDI subscales and SCOFF-test

	Control group (n=65)	**Female football players (n=65)**
'Drive for Thinness' subscale of EDI (cut-off score ≥ 14points)	6.15 %	4.61 %
'Bulimia' subscale of EDI (cut-off score ≥ 14points)	0.00 %	0.00 %
' Body Dissatisfaction' subscale of EDI (cut-off score ≥ 14points)	3.07 %	4.61 %
SCOFF-test	16.92 %	12.31 %

The average scores of EDI subscales illustrates the participant's tendency for EDs and psychopathology commonly associated with, but not unique to, EDs (Table 2).

There was no significant difference between the average scores of 'Drive for Thinness' (C: 4.36±0.6; FP: 3.42±0.47), 'Bulimia' (C: 1.25±0.27; FP: 1.29±0.26) and 'Body Dissatisfaction' (C: 6.86±0.77; FP: 7.15±0.76) in the two groups. We could observe significant difference only between the average score of 'Interpersonal Distrust' (C: 2.4±0.39; FP: 3.75±0.46*).

Table 2. Average points of EDI subscales

EDI subscales	Control group (n=65)	Female football players (n=65)
Drive for Thinness	4.36±0.6	3.42±0.47
Bulimia	1.25±0.27	1.29±0.26
Body Dissatisfaction	6.86±0.77	7.15±0.76
Ineffectiveness	3.67±0.51	3.49±0.4
Interpersonal Distrust	2.4±0.39	**3.75±0.48***
Interoceptive Awareness	3.32±0.44	3.47±0.48
Perfectionism	5.51±0.58	5.9±0.48
Maturity Fears	5.12±0.52	6.4±0.5

Measuring menstrual history (Table 3) all the participants underwent their first menses before the age of 16, so we could not detect primary amenorrhea in the investigated groups. But in the FP group the menarche age was significantly older (C: 12.9±0.17 years; FP: 13.81±0.2*). Significantly less FPs had oligomenorrhea (C: 36.92%; FP: 13.85%*), but there was no difference between the rate of secondary amenorrhea (C: 10.77%; FP: 3.08%).

Table 3. Menstrual history and rate of menstrual irregularities

	Control group (n=65)	**Female football players (n=65)**
Age of menarche	12.9±0.17 years	**13.81±0.2 years***
Primary amenorrhea	0.00 %	0.00 %
Secondary amenorrhea	10.77 %	3.08 %
Oligomenorrhea	36.92 %	**13.85 %***

The common incidence of any kind of EDs and MDs together was the same in both groups (C: 7.69%; FP: 7.69 %).

Discussion

The prevalence of EDs detected by SCOFF-test was higher in both groups than observed by EDI. This can be explained by the simplicity of SCOFF-test which contains fewer questions and does not use 6-point Likert-scale.

A number of studies have reported a higher frequency of EDs in athletes competing in leanness or low body weight emphasizing sports (Hausenblas & Carron, 1999; Holm-Denoma et al., 2009). In contrast, our results suggest the same conclusion that some studies on high-school athletes report no greater risk for the development of an ED than controls (Fulkerson et al., 1999; Smolak et al., 2000; Rosendahl et al., 2009). In our study we observed that the feeling of 'Interpersonal Distrust' as a psychopathology commonly associated with EDs was significantly stronger in the FP group. The explanation of this phenomenon needs further psychological investigations.

Our results are in contrast to the data suggesting that menstrual irregularities are more prevalent in the athletic population than in the general female population (Otis, 1992). We observed similar prevalence of primary and secondary amenorrhea, moreover oligomenorrhea was more prevalent in the C group. This contradiction is due to methodological differences among the studies.

Our study reveals that the menarche age of FPs is significantly older, and this result matches to data of numerous publications (Fujii & Demura, 2003; Malina, 1983; Stager & Hatler, 1988).

There is hardly any publication in the relevant literature which is concerned with the specific topic of ED and MD among female football players. Sundgot-Borgen & Torstveit (2007) detected a significantly lower percentage of football players compared to handball and endurance athletes and control women reported EDs. In contrast, we could not observe significant difference between the FP and C groups. In Sundgot-Borgen & Torstveit's study (2007) a similar percentage of footballers (9.3%) and controls (15.2%) reported current menstrual dysfunction. In contrast, we detected significantly lower prevalence of oligomenorrhea in the FP group than among physically inactive women.

The differences in ED and MD prevalence between different studies can be attributed to different methodological issues, such as different sports, different competitive level, different screening methods, different periods (on-off-season), and different age groups.

Conclusion

Although EDs and MDs are less common among female football players than in many other sports, it is important to be aware of the problem as EDs in female athletes can easily be missed. Therefore, individuals, who are involved in competitive football, including the players themselves, coaches, administrators and family members, should be educated about these problems and strategies

should be developed to prevent, recognise and treat EDs and MDs, which may impair athletic performance and increase risk of injury.

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How to increase the performance in Special Olimpics (SO) table tennis players

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Abstract
Purpose of Study: the present study sought to discover the ways and extent by which a special training program affects the improvement of table tennis skills of SO (Special Olympics) participants. The aims of this study was: 1. to develop an integrative Physical activity program for athletes who participate in table tennis games in SO; 2. To explore the influence of an applicable training program on the balance, hand-eye coordination, power regulation and Movement integration among athletes who participate in table tennis games in SO; 3. To develop skills tests for intellectually disabled athletes who participate in table tennis games in SO, in four aspects: balance, eye-hand coordination, power regulation and coordination.
Methods and Research tools: The samples of subjects tested are aged 30±5 and 32±5**,** 10 participants in experimental group and 10 participants in control group. 4 Skills tests administered before and after the training program.
Findings and Results was performed using SPSS 15.0. For the comparison of means between groups of subjects we applied Cronbach's Alpha**.** Participating in training improved significantly in all four skills tested: balance, hand-eye coordination, power regulation of power and coordination. Compared to the control group which did not show any change in the motor skills of the participants. In the beginning parents did not believe in the trainee's ability to change and improve, but at the end they made a significant change in perception and the ability to recognize their variability.

Conclusions and Recommendations: the conclusion describes a conceptual TTSOT model that combines different disciplines, all of which together make up the training program success. The model represents six different aspects of the same model application components: an aspect of learning (trainee), an aspect of teaching trainer) socio-motivational aspects, ecological aspects, and cognitive- emotional aspects.
The practical implications make practical conclusions concept of training Special Olympics athletes participating in table tennis. Implementation of the model can be expressed in curriculum in schools for special education and in vocational training for Special Olympics Games in the table tennis domain in particular and other sports field including these skills in general.

Key words: Special Olimpics, Intellectual disability, physical activity, motor skills, table tennis.

Problem statement: this study sought to discover the ways and extent by which a special training program affects the improvement of table tennis skills of SO (Special Olympics) participants**.** This study designed to improve four motor skills: balance, hand-eye coordination, power regulation and coordination, of people with intellectual disability and Physical Disabilities. Testing the effect of the training program on four skills was conducted by comparing an experimental group with a control group.

Therefore, work on the motor field serves both as a therapeutic and rehabilitative tool for each functioning domain. Hemayattala & Movahedi (2010) found that the development of motor or mental skills among persons with intellectual disabilities is not enough. These domains have to develop together, in harmony. They maintain the development and nurturing of one domain contributes to the development of the other (Hemayattalab & Movahedi, 2010).

One of the proposed ways for persons with disability to shift to an active state is physical activity (Hotzler, 2004). Physical activity seeking to develop the disabled person's coping ways, challenge and self-realization, is a means that leads to achievements in other domains.

Research in the field of sports with persons with intellectual disabilities mostly show positive influences of physiological aspects such as gaining weight, fitness and health, quality of life, coordination aspects and muscular flexibility, a sense of self-efficacy and self-esteem (Ben Sira et. al., 2005; Ninot & Maiano, 2007; Lejcarova, 2009; Robertson & Emerson, 2009; Franciosi, 2010; Guidetti et al, 2010; Westendorp et. al, 2011; Cuesta – Vargas et al, 2011; Rasool & Ahmadreza , 2010; Hayakawa et al, 2011.(

There are a few organizations engaging in sports for persons with intellectual disabilities. The largest organization is Special Olympics (SO), established in 1968. SO started as a community school program and developed into an organization encompassing some 3.000.000 people around the world competing in more than 30 sports (Maclean, 2008). Most participants are male and at a relatively old age for competitive sport (Gillespie, 2008. (

Few studies were conducted in the SO domain, some of which focused on the physiological advantages and health implications

for SO participants as well as on so influence on the participant's quality of life (e.g. Meghann et al, 2012; Gibson et al, 2011; Hild et al, 2008; Turner et al, 2008). Some of the studies focus on the advantages and disadvantages of participating in SO (e.g. Maclean, 2008; Glidden et al, 2011; Smith et al, 2010; Storey, 2004:2008). Other studies focus on the influence of SO participation on mothers and families of children with intellectual disabilities, both from the perspective of the family unit and that of the influence of participation on the pressure within the family (Weiss & Diamond, 2005; Weiss, 2008).

Over the years, several studies related to various sports in SO have been conducted (e.g. Meghann et al, 2012; Gibson et al, 2011; Hild et al, 2008; Turner et al, 2008).

This study is based on four main *theories:*

*Views of Physical Activity - S*port and Physical Activity: In the context of rehabilitation, the connection between sport and Physical disability is important as it serves as a bridge beyond the physical limitations with which disabled individuals must grapple in their lives (Hutzler, 2012). In addition, this chapter includes an overview on the theory of sensory motor development (ayres, 1972).

Development and Learning Theories - Piaget' s Cognitive Development (1976), Engaged in various stages of human development while explaining the characteristics of each stage of development. Another theory regarding the issue is learning theories: Structural Cognitive Modifiability Theory (Feuerstein & Rand, 1997, 1999; Feuerstein, 1991; Feuerstein et al., 1997; Feuerstein et al., 1979). This theory deals with the significance of mediation and its importance for the promotion of different skills. According to the findings, reviewed all articles on motivation and motivation for learning in particular (e.g. Katz & Cohen, 2014).

The Ecology of Human Development - This chapter provides an overview on the development of the ecosystem in general (Bronfebrener, 1979), and the family as an ecosystem of humanity .In addition, will provide an overview engaged in intellectual disability (Ronen, 2005) and studies conducted in this population (e.g. Lifshits, 2014).

Physiological and Educational Theories of Table Tennis (e.g.Van Biesen et. al., 2014). Describing some studies conducted in the field they are in the normal population and people with special needs.

This suggests the importance of this research which examines the effect of a special training program on the physiological aspects of intellectual disabled people participating in table tennis.

Within the framework of the present study an intervention-training program- Special OTP- **S**pecial **O**lympics **T**raining **P**rogram was implemented.

Research hypotheses

The series of exercises included in the training program will improve the participants' performance in the four established criteria: eye-hand coordination, body-balance, power regulation, and coordination.

Participants, whose parents/siblings implement the program at home as well, will advance faster than those who had not.

Dependent variable: balance, eye-hand coordination, power regulation and coordination

*Independent Variable***:** integrative physical activity training program.

Methods: In the course of the present study, an training program was implemented-

Special OTP- Table Tennis Training Program for people with cognitive Disabilities age 30± 5 -32± 5.

In this study, an training program was implemented People with moderate intellectual disabilities, integrating the principles of teaching people with moderate intellectual disabilities, Taking into account the physical limitation added the cognitive limitations, And the importance of mediation as discussed in the literature review.

The pilot study procedure - In order to answer this question, three stages were undertaken:

a. Examining existing research tools in each one of the chosen four skills. This showed that there are a number of valid tests that examine these skills but they are unsuitable for an intellectually disabled population group. In light of participants' severe impai-

ments, it was recognized that they would not be able to undertake these tests and adapted tools would need to be built.

b. Constructing a test to examine each of the four skills. The skill tests, as can be seen in the methodology chapter that follows, were constructed in such a way that the first two motor actions in each skill were taken from known validated tests. The remainder were chosen according to motor actions linked to these skills, for example in the hand-eye coordination skill test, one of the actions was to throw and catch a ball. The tests were sent to 11 experts in different fields: special education, physical education and table tennis experts for analysis and validation.

c. Internal consistency testing

This training program was implemented for six months. All the participants Participated in all the trainings, twice a week, at least 90 minutes per workout. The lessons took place in Large sports hall. The training program is divided into five stages. Every step focuses on a different skills and more complex skills. Figure 1 shows the gradual plan.

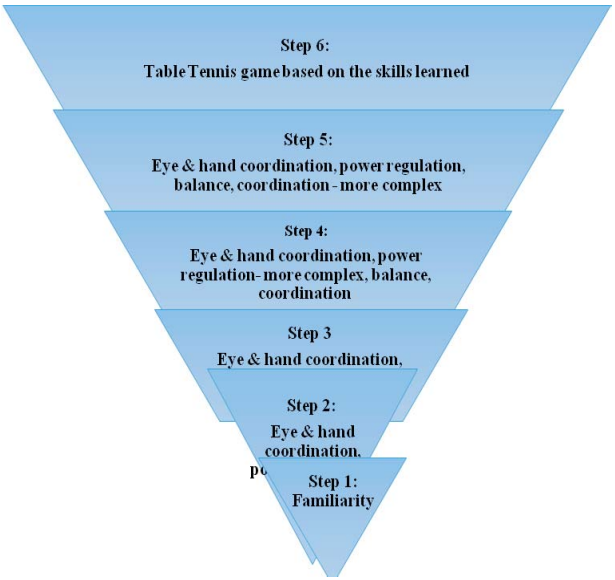

Figure 1. Gradual training program (Bechar, I. 2016)

Step 1 is based on the familiarity between the players themselves and the players' coach to acquire basic trust and creating motivation for further training

Step 2 includes a very basic exercise to develop hand-eye coordination and power regulation.

Step 3 includes more complex Exercises for developing hand-eye coordination and power regulation.

Step 4 includes all four skills: hand-eye coordination, power regulation, balance, coordination but basic Exercises.

Step 5 includes all four skills: hand-eye coordination, power regulation, balance, coordination but some complex Exercises integrating table tennis play

Step 5 includes performances in table tennis

Each of the steps is divided into sub-steps as can be seen in detail of each training plan in the program.

The pilot study of the skills tests

A pilot study of the skills tests was conducted prior to the study specified in third part of the thesis. The pilot program was conducted after writing the skills tests and the validity of 11 specialists.

Results and discussion: The results are presented in a logical sequence, given the most important findings first and addressing the stated objectives. The important aspects of the results obtained the following tables. The relevance of the findings in the context of existing literature or contemporary practice should seen here.

Validity and reliability

In order to examine the reliability of each measure comprising the test, Alpha Cronbach coefficients were calculated that demonstrated internal consistency between components of each measure. The results are presented as follows:

Table 2. Results of reliability analysis of balance measure

Reliability Statistics	
Cronbach's Alpha	N of Items
.896	8

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
a1	11.80	12.622	.564	.893
a11	11.50	10.278	.775	.873
a12	12.00	11.556	.760	.877
a13	12.10	11.211	.850	.870
a2	12.00	11.333	.566	.894
a3	12.00	10.667	.565	.902
a4	11.80	10.844	.779	.873
a5	12.00	11.556	.760	.877

The analysis demonstrated a high reliability level across the whole measure ($\alpha = 0.896$), table 2. The above table shows that there was no need to remove any component from the general measure.

Table 3. Distribution of results of balance measure

Components	Low	Medium	High	Total
Balance reactions – Paratrooper reflex*	20%	80%	0	100%
Symmetry (2 sides)	20%	50%	30%	100%
Powerful	40%	60%	0	100%
Responsiveness	50%	50%	0	100%

Transfer of weight from one foot to another 5 times in a row*	50%	40%	10%	100%
Standing on one leg for half a minute*	60%	20%	20%	100%
In game – cross steps across the table from side to side	30%	60%	10%	100%
In game - stop and hit the ball after leg movement	40%	60%	0	100%

Distributions show that balance abilities were generally low. In most components, none of the subjects achieved a high level and in three of them, only a small percentage achieved a high level.

Table 4. Results of consistency reliability of hand-eye coordination measure

Reliability Statistics	
Cronbach's Alpha	N of Items
.829	7

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
b1	10.80	7.067	.337	.864
b21	10.60	6.489	.649	.793
b22	11.20	6.400	.725	.779
b23	11.70	7.122	.671	.794
b3	11.80	7.067	.712	.789
b4	11.50	7.833	.452	.824
b5	11.60	7.156	.676	.794

The analysis demonstrated a high reliability level across the whole measure (α = 0.829). The above table shows that there was no need to remove any component from the general measure.

Table 5. Distribution of results of hand eye coordination measure

Components	Low	Me-dium	High	Total
Eye tracking* - following pencil or flashlight Sequence traceability – Cross-ing the center line	20%	20%	60%	100%
Catch ball from 2 meters with two hands				
Football	10%	20%	70%	100%
Tennis ball	20%	60%	20%	100%
Paddles ball	50%	50%	0	100%
In game – Right Serve	60%	40%	0	100%
In game - Thump the ball correctly when the player is in static mode	30%	70%	0	100%
In game - Thump the ball correctly when the player is in dynamic mode	40%	60%	0	100%

Distributions shows that hand eye coordination abilities were low. The football catching measure was especially high. 70% of participants demonstrated a high level of ability catching a large ball, see table no.5.

Table 6. Results of reliability analysis of power regulation measure

Reliability Statistics	
Cronbach's Alpha	N of Items
.803	10

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
c1	12.80	6.844	.564	.778
c21	12.30	8.011	.441	.790
c22	12.90	7.211	.409	.808
c23	13.30	6.678	.664	.760
c3	13.30	7.122	.790	.748
c4	13.10	7.211	.753	.752
c51	13.60	8.489	.531	.786
c52	13.70	9.567	.000	.813
c53	13.70	9.567	.000	.813
c54	13.60	8.489	.531	.786

Table 7. Distribution of results of power regulation measure

Component	Low	Medium	High	Total
Throwing one type of ball to same target from different distances*	30%	50%	20%	100%
Throw different size balls to same target*				
Football	0	60%	40%	100%
Tennis ball	40%	40%	20%	100%
Table tennis ball	70%	20%	10%	100%
In game - hit the ball across the net, the opponent's court	60%	40%	0	100%
In game – hit next to the net	40%	60%	0	100%
In game - bat on ball:				
Hit	90%	10%	0	100%
Spin	100%	0	0	100%
Chop	90%	0	0	100%
Serve	100%	10%	0	100%

Distributions show that power regulation abilities are very low. One can discern that the majority of athletes are at a low level in most components, particularly those connected with the game itself such as serve and the like.

The analysis demonstrated a high reliability level across the whole measure (α = 0.803). The above table shows that there was no need to remove any component from the general measure, see table no.8.

Table 8. Results of reliability analysis of coordination measure

Reliability Statistics	
Cronbach's Alpha	N of Items
.815	5

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
d1	6.10	4.100	.364	.838
d2	6.30	2.233	.713	.769
d3	6.20	2.622	.803	.712
d4	6.60	3.156	.678	.761
d5	6.80	3.511	.619	.785

The analysis demonstrated a high reliability level across the whole measure (α = 0.815). The table above shows that there was no need to remove any component from the general measure.

The pilot study population

Ten people participated in the pilot with moderate intellectual disabilities and motor disabilities aged 30±5 and 32±5, see table no.9.

The pilot study results:

Table 9. Distributions of results of coordination measure

Components	Low	Medium	High	Total
Motor pattern design includes two steps* (e.g. throw a ball and catch it)	10%	90%	0	100%
Dribbling while walking at least 3 times in a row*	50%	30%	20%	100%
Gambol at least 4 times in a row*	30%	60%	10%	100%
In game – hit the ball while moving legs	60%	40%	0	100%
In game - change position depending on body position of the opponent's hit and ball positions	80%	20%	0	100%

Distributions show that coordination abilities were low. Most athletes demonstrated a low or medium level of ability. Most showed a medium level of simple motor pattern planning skills of 2 steps as seen in the first component.

In summary, distributions of the test results prior to the program show that, in general, subjects' abilities were very low in all four measures.

Conclusions

In conclusion, the pilot results led to the conclusion that the tests constructed were suitable for intellectually disabled people and valid for the research field and that a test that mixes components from existing tests with movement components from the game itself, provides a greater internal consistency. According to this approach the researcher must act objectively in order to reach an understanding of reality, neutralize himself or herself and his/her

views, and adhere to the formal rules of reliability and validity in conducting the research (Shlasky & Alpert, 2007). Van Peer et. al. (2012) argue that scientific research allows us to discover things about the world in the deepest, most powerful way in the history of human research. However, its critics argue there is no one truth, and that the reality that the researcher examines is subjective, despite the research tools that he or she may chooses to use (Hakak, Kacen & Krummer and Nevo, 2001). This research examined the impact of the training program on four indices, being: balance, eye-hand coordination, power regulation, and coordination according to skill tests and examination of internal consistency by Cronbach's alpha.

A further conclusion that arose from the pilot stage was that the four chosen skills were indeed part of many skills connected to this branch of sport, but were indeed basics of the game and the most significant skills.

Following the pilot study of the training program, the conclusion was to introduce

The following changes:

1. Need more than 1 trainer to be able to work individually
2. Skill of hand and eye contact within the basic training is the easiest for the participants where they experienced success. The study will start with exercises on this skill and then continue to other skills.

The importance of the present study

The Research can help to understand how a training program can improve specific skills included in the program, such as - eye-hand contact, coordination, and balance and power regulation, in people with intellectual disabilities

Another practical significance is the use of training these skills for other sports areas with similar skills. The theoretical importance is that people with intellectual disabilities have the ability to learn through a physical activity training program even at an older age.

Another theoretical significance is that this program can be implemented in special education schools.

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Importance given to the reasons for sport participation and to the characteristics of a fitness service

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Abstract
The main motives for sports participation in Portugal are: health improvement (67%), relaxation (32%) and better physical appearance (28%) (*European Commission*, 2014). Regarding fitness activities, gym location (close to home or workplace), price and flexible schedules are the main characteristics when deciding the place for sports practice (Cracknelll, 2015). The present study has **two aims**: to analyse the importance given by the clients to the reasons for fitness participation and to assess the importance given to the characteristics of a fitness service. Forty-five fitness clients, which were also university students, participated in this study. Regarding the first objective, health related motives [adopt a healthy lifestyle (M=6.18) and improve health (M=6.09)] were the most important. Regarding the second objective, facility hygiene and cleanliness (M=6.33) price (M=6.27) good technical support (M=6.20) and a diversified schedule (M=6.16) are the factors to which most importance is given. This research supports Franco, Pereira and Simões (2008) and Campos (2015) statements, arguing that, gym and health club owners should consider the importance given by the clients to the facilities' characteristics and their motivations for sports participation.

Keywords: Fitness, gym, sports participation, service

1. Introduction

Gym sports and physical activities have increased in the last decades. According to the Sport and Physical Activity Eurobarometer, gym based sports activity have increased. In 2009, 11% of sports practitioners chose to practice their sports and physical activities at a gym (health or fitness centre). In 2013, this value raised to 15% (EC, 2014). In the Portuguese context, the values are higher than EU average, where in 2013 17% of active people claimed that they practice sports at a gym or health club facility. The tendency is also consistent with the rest of Europe, having raised 5% since 2009. Considering that this is a relatively recent, yet emerging market, its analysis, particularly as to the specificity of their target population is concerned, is important. Therefore, gyms and health clubs might adequate and aim their services to their clients' expectations, needs and preferences (Campos, 2015).

Motivation for sports, whether in a competitive or recreational manner, is one for the most studied areas of Sports and Exercise Psychology. Research about this topic is extensive. In general, their aim is to identify the reasons for adhesion and/or retention to a specific sport or sport organisation. According the EC (2014), reasons for sports participation are health improvement (62%), improvement of fitness levels (40%), relaxation (36%) fun (30%) performance enhancement (24%) weight management (24%), improvement of physical appearance (23%) and socialization (20%). In Portugal, the top 3 reasons for sports participation are health improvement (67%), relaxation (32%) and improvement of physical appearance (28%) (EC, 2014). Within the fitness context, the reasons for practice are similar. Fermino, Pezzini and Reis (2010) add that the main reasons for sports participation within the gym and health clubs' context are health, physical fitness, physical appearance, a better mood, harmony, fun, weight management and body image.

Considering the crescent importance of fitness services, it is important to consider their most valued characteristics. Firstly, a service might be defined as an economic area in which the result is not tangible, but something consumed along with its production (Zeitham, Berry, & Parasuraman, 1996). Additionally, it is any act, action or performance that a party offers, intangible, that does not

result in the material propriety of any good (Porter, 1998). Knowing that the quality of a service corresponds to the level of efficacy that correlates with consumer expectations (Grönroos, 2000), this perception can be influenced by the consumer's previous experience and personal needs, as well as the nature of the communication between the organization and the consumer. Therefore, within the fitness context, gym location. close to residence and/or workplace, prices and flexible schedules are the features considered by users when choosing a gym. Conversely, the equipment and the activities offered are considered as less important features, compared with the previous ones (Cracknell, 2015). In a different study, International Health Racket & Sports club Association (IRHSA) (2010) identified facility overcrowding, dissatisfaction with staff, programmes and activities and lack of communication or response by the club managers as the main reasons for dropout. Finally, Franco, Pereira and Simões (2008) identified lack of compatibility between work and gym schedules, low financial capacity and lack of complementary activities as reasons for dropout.

Service quality is, therefore, one of the main items to consider in fitness services (Barreira & Carvalho, 2007). Franco et al. (2008) recommend the development of strategies to increase perceived quality and, inherently, customer's satisfaction and retention. Understanding what users look for and how they assess quality through the relevance given to certain aspects of the service is, therefore, important to direct and adapt its service to their target (Grönroos, 2000), motivating them to sports participation, increasing satisfaction and retention (Campos, 2015). Considering the above, the aim of this research is to (1) assess the importance given to the reasons for fitness participation and (2) assess the importance given to the characteristics of a fitness service.

2. Methodology

2.1. Instrument

Qualitative research is one of the most usual methods in Social Sciences (Almeida & Freire, 2003). Of the different forms of

data collection available - interview, observation and questionnaire (Tuckman, 2005), the latter was used in this research.

After reviewing the most recent literature about the subject (CE, 2014; Cracknell, 2015 IHRSA, 2010; Franco et al., 2008), twenty-two possible motives for fitness practice and eighteen characteristics of a fitness service were listed. A 7 items Lickert scale was used to assess each item, where 7 was absolutely important and 1 not important at all.

The questionnaire was then sent to two specialists in the field of study and altered to its final form according to their recommendations, thus ensuring facial validity (Litwin, 1995). Google forms was used to make the questionnaire publicly available and able to be responded online.

2.2. Participants

Forty-five fitness sports participants participated in the research [13 male (29%); 32 female (71%)]. They were all undergraduate students, with ages between 18 and 53 (M=27.96±10.02). Prior to their participation, they were all informed about the objective of the research and all questions were clarified.

2.3. Statistical Analysis

To evaluate the importance given to the reasons for participation in fitness activities and the characteristics of a fitness service, IBM-SPSS Statistics was used. The analysis was done using descriptive statistics and average values, minimum, maximum and standard deviation was analysed.

3. Results and Discussion

Table 1 presents the main results regarding the reasons for fitness participation:

Table 1. Importance given to the reasons for fitness participation.

	Min.	Max.	Mean	Std. Dev.
To have a healthy lifestyle	2	7	6,18	1,28
To improve my health condition	1	7	6,09	1,35
To feel more satisfied with my body	3	7	5,73	1,37
To mentally relax	1	7	5,56	1,56
To increase my muscle mass	1	7	5,47	1,66
To better perform daily activities and routines	2	7	5,42	1,41
To lose weight	1	7	5,13	1,85
To be fit	1	7	5,11	1,67
To run away from the day-to-day life	1	7	4,98	1,59
To improve my mood	1	7	4,87	2,00
To be more physically attractive	1	7	4,78	1,89
To test my skills/ abilities	1	7	4,60	1,85
To mingle	1	7	4,38	1,81
To participate in recreational activities	1	7	4,36	1,84
To feel good with myself	1	7	4,27	2,06
To learn new skills	1	7	4,20	2,17
To have time for myself	1	7	4,20	2,27
To fight against food disorders	1	7	4,13	2,16
To meet new people	1	7	3,76	1,96
To compete	1	7	3,58	2,22
To be with people that share the same interests	1	7	3,51	2,15
To improve my communication skills	1	7	3,44	2,19

The first aspect to report tis the fact that the indexes with the highest mean values (above 6) are related with health concerns. Having a healthy lifestyle (M=6.18) and improve health in general or specifically (M=6.09), are the motives which have the highest importance given.

Motives related with mental aspects appear in a second order of importance. Here, to feel more satisfied with one's body (M=5.73) and to mentally relax (M=5.56). At the same level, concerns with image such as those related with body composition (M=5.47), weight (M=5.13) or general appearance [being fit (M=5.11)] are of relative importance. Physical fitness is also referred as important [To better perform daily activities and routines (M=5.42)].

Running away from the day-to-day life (M=4.98), improve the mood and to be more physically attractive, test the skills, mingle, to learn new skills, having solitary moments and fighting food disorders have values that are still considered positive, being comprised between 4 and 5.

Finally, values related with the social importance of sports participation such as meeting new people (*M*=3.76), being with people that share the same interests (*M*=3.51) and to improve communication skills (*M*=3.44) are seen as the least important motives, along with competition (*M*=3.58).

The results confirm those presented by the European Community (2014) to the Portuguese case. The main reasons for sports participation are related with health (67%), mental wellbeing (32%), and a better physical appearance (28%), which confirms the results obtained. Curiously, EC values related with the increase of physical fitness levels are very different from the Portuguese ones (40% Vs 14%, respectively) (EC, 2014). Despite the fact that EC values refer to all types of sports participation and ours specific to the fitness segment, it is possible to verify that the result of this work is also confirmed in Fermino et al. (2010): health, physical fitness, mood, physical attractiveness, harmony, fun, weight management and body image.

Regarding the importance give to the characteristics of the fitness service, the results are presented in table 2.

Table 2. Importance given to the characteristics of a fitness service

	Min.	Max.	Mean	Std. Dev.
Hygiene and cleanliness	4	7	6,33	0,95
Price	1	7	6,27	1,42
Good technical accompaniment	3	7	6,20	1,25
Flexible schedule	3	7	6,16	1,19
Diversity of activities	1	7	5,80	1,46
Proximity to the place of residence	3	7	5,76	1,33
Good locker rooms	1	7	5,71	1,53
Location	3	7	5,71	1,16
Free access to equipment / materials	1	7	5,53	1,73
Access to the result of evaluations	1	7	5,42	1,80
Relaxing environment	1	7	5,36	1,61
Size of the facility	3	7	5,33	1,33
Promotion of extra activities	1	7	4,96	1,85
Parking for clients	1	7	4,87	1,94
Personal Training service	1	7	4,78	1,91
Access to bar/cafeteria	1	7	3,82	1,83
To have few users	1	7	3,71	1,59
Access to beauty saloon	1	7	3,47	1,84

As in the previous analysis and with values above 6, hygiene and cleanliness of the space (*M*=6.33), price (*M*=6.27), technical accompaniment (*M*=6.20) and a flexible schedule (*M*=6.16) are the characteristics that the clients value the most.

On a second level of importance (above 5), characteristics related with the specificity of the service such as offer of activities (*M*=5.80), access to equipment (*M*=5.53), access to the result of evaluations (*M*=5.42%) and environment (*M*=5.36). At this level, we can also find characteristics related with the quality of the facility [Good locker rooms (*M*=5.71), Size of the facility(*M*=5.33)] and its location [Proximity to the place of residence (*M*=5.76), Location (*M*=5.71)]

On a third level of importance, organization of extra activities such as paintball or canoeing activities (*M*=4.96), Parking for clients (*M*=4.87) and Personal Training service (*M*=4.87) are considered relatively important characteristics.

Regarding the least important characteristics, with mean importance values below 4, we find access to bar/cafeteria (*M*=3.82), facilities with few users (*M*=3.71) and access to beauty salon (*M*=3.47).

The results obtained are within the same that Franco et al. (2008), IHRSA (2010) and Cracknelll (2015) reported regarding the importance given to the fitness service.

4. Conclusions

Regarding the first objective, it is possible to conclude that a higher importance is given to reasons related with health, mind,

body image and physical condition. Contrarily, social related reasons, along with an interest in competition are the characteristics that participants are least interested in.

Considering the second objective, we conclude that the most important characteristics of a fitness service are hygiene and cleanliness, price, good technical accompaniment and a flexible schedule. Conversely the least valued characteristics considered by the clients when deciding about which service to choose are access to bar/cafeteria, having a reduced number of users and access to beauty services.

According to the recommended by Franco et al. (2008) and Campos (2015), it is important that gym and health club owners and managers consider, when designing their offer of services, the importance given by the users to their motivations and to the characteristics of the service.

By applying a questionnaire upon enrolment, managers will be able to know which objectives each client defines as important and will allow the organization to better adjust itself to their needs and preferences. Regarding the service characteristics, cleanliness is a fundamental requisite that must never be disregarded. Price can be a differentiating factor, particularly within urban centres. Staff quality provide quality of service and a wider and diversified schedule, with a broader offer of activities should also be considered in the design of fitness services.

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Study Regarding Fitness Improvement Using Step Aerobics Programs

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Abstract
Step aerobics represents and efficient and pleasant alternative for achieving fitness. Through its contents, this type of activity contributes to developing resistance, strength of lower body muscles and, not least, coordination.
The purpose of this paper is to note whether – after practicing systematically the aerobic effort using step aerobics programs – muscles become more toned, joint mobility and muscle elasticity increase and whether balance and motor memory improve.
The hypothesis of the paper was the following: by using the step aerobic program, we can improve the fitness of people who practice this type of physical activity.
The sample within our research comprised 30 women aged between 20 and 35. The study was conducted throughout a year and trainings took place three times a week. The step aerobic sessions lasted for 60 minutes. The tests applied to the research sample were as follows: test for abdominal and arm muscle strength and resistance; assessment of spine mobility in anterior plane; balance test; push-ups; and motor memory.
Findings
The values of mean and of standard deviation in the test *for abdominal and arm muscle strength and resistance* improved from 8.2±2.97 in the initial testing, to 13.00±1.94, while the variability coefficient dropped from 36.21% to 14.92%. In the test for *joint mobility and muscle elasticity*, the values increased from 22.8±5.91 to 28.9±4.92, while the variability coefficient de-

creased from 25.93% to 17.05%. Regarding the balance test, values recorded a progress from 2.8±0.78 balance losses to 1.2±0.48, while homogeneity improved from 27.85% to 15.70%. As for the test of *arm muscle strength,* values augmented from 6.3±1.63 initially to 8.8 ± 1.13 in the end, while homogeneity increased from 25.87% to 12.84%. Furthermore, the values of *motor memory testing* augmented from 4.3± 1.25 to 7.2± 0.78, while homogeneity from 29.10% to 10.95%.

Conclusions

After processing and interpreting the results, we posit that step aerobic programs contributed to the fitness improvement of female practitioners; thus, the paper hypothesis was confirmed.

Keywords: motricity, fitness, aerobic

Introduction

Fitness is a concept with multiple meanings, depending on the cultural level and the professional training of the person employing it. It may be defined as the individual's capacity of attaining an optimal quality of life, which represents a dynamic, multidimensional condition based on a positive health status and it includes several components: intellectual, social, spiritual and physical fitness (Grosu et. al., 2010).

Fitness is a very broad term and has various concepts. Total fitness looks at the overall individual, combining the absolute levels of physiological, psychological, social and cognitive fitness (Kalidas & Tapas, 2016).

The equivalent of the term fitness is the defining of motor capacities. It designates a set of attributes through which an individual copes with the physical and functional demands of daily or sporting activities, depending on his anatomical, physiological and psychological condition (Ortanescu et al., 2007).

Inactivity among young people is a growing public health and educational concern. During the past several decades, people have become increasingly sedentary (Chaddock et al, 2011).

Physical inactivity and low physical fitness are determinant factors in the occurrence of certain diseases which are a major concern in today's' society, as it is the case of obesity (Moliner-Urdiales et al., 2010; Ochoa et al., 2007; Rodriguez et al., 2008).

The benefits to be enjoyed from participating in a regular fitness and wellness program are many. In addition to a longer life, the greatest benefit of all is that physically fit people who lead a positive lifestyle have a healthier and better quality of life. These people live life to its fullest and have fewer health problems than inactive individuals who also indulge in negative lifestyle habits (Hoeger, 2011). Aerobic capacity and muscle strength are important indicators and predictors for disease and cardiovascular mortality risk (Balsalobrea, 2014).

Regular physical activities should be an integral part of an active lifestyle of human life. Programs including such activities are

more effectively being applied in the prevention and elimination of health problems, especially those that are the result of decreased movement, inadequate nutrition and excessive nervous tension (Halil et. al., 2014).An active life style increases energy, vitality, helps change bad habits, improves health, and strengthens one's energy and desire for life (Mavrić et al., 2014).

Physical fitness is defined as the ability of body to function efficiently and effectively, to enjoy leisure, to be healthy, to resist disease, and to cope with emergency situations. Health-related components of physical fitness included body-composition, cardiovascular fitness, flexibility, muscular endurance, and strength. Skill-related components included agility, balance, coordination, power, reaction time, and speed. Physical fitness is used in two close meanings: health-related which state the health and well-being and skill-related which more task-oriented based on the ability to perform specific aspects of sports or occupations (Tan Chee et. al., 2013).

Physical fitness involves most correctly performing physical education exercises, and it indicates the existing physical fitness of the body along with the physical endurance. (Uzunosmanoglu et. al, 2012) The components of fitness are as follows: body composition, mobility, strength, muscle and cardiovascular resistance (Nanu, 2009).

The fitness variables are important determinants of various health outcomes, and several specific biological mechanisms have been elucidated to confirm the causal relation of fitness variables to health (Blair et. al., 2001).

Scientific literature has firmly established the relationship between physical activity and health. Among the important reasons for assessing health-related physical fitness, are the following: educating participants about their health-related fitness status relative to health-related standards and age and sex matched norms; providing data that are helpful in the development of exercise prescriptions to address all fitness components; collecting baseline and follow-up data that allow evaluation of progress by exercise program participants; motivating participants by establishing reasonable and

attainable fitness goals; stratifying cardiovascular risk (Kaminsky, 2010).

Step aerobics is characterized by climbing, descending and crossing the sidelines with various steps related to interesting blocks performed with music. It is suitable for all practitioners, regardless of gender, age or physical condition. With activation of large muscle groups in legs and gluteal region, climbing up and going down is alternately performed with various movement structures (Nikić & Milenković, 2013).

Step aerobics has also improved upper body strength, because of its choreographies that involve dynamic movements of the arms. In addition, improvements in balance and agility have been shown in middle-aged and older adults because of the characteristic movements used in SA choreographies. Improvements in flexibility have been achieved by the range of motion required to perform the movements of SA choreographies and stretching exercises (Hallage et al., 2010).

Several studies noted that after various periods of step aerobics participants recorded significant improvements in physiological and motor performance parameters. For example, Nikić and Milenkovic (2013) noted that step aerobic practice significantly improved motor skills and body composition of young girls. Kraemer et al. (2001) found that step aerobic are an effective exercise type to improve physical fitness and body composition in healthy women (Bavl, 2016).

Material and method

The permanent desire to exercise and to practice a physical activity entails the ongoing diversification of action systems and of means for applying various programs. Starting from this assertion, we considered it useful to study this topic in order to attain the following objectives: maintaining health, modelling the body and improving fitness.

The purpose of this paper is to note whether – after practicing systematically the aerobic effort using step aerobics programs – muscles become more toned, joint mobility and muscle elasticity increase and whether balance, motor memory and spatial orientation improve.

The hypothesis of the paper was the following: by using the step aerobic program, we can improve the fitness of people who practice this type of physical activity.

The sample within our research comprised 30 women aged between 20 and 35. The study was conducted throughout a year and trainings took place three times a week. The step aerobic sessions lasted for 60 minutes and they were structured on three parts: warm-up - 25-30 minutes – comprising step structures specific to step-aerobic (basic step, step touch, V step, over the top, side to side, lunge, knee, kick, jumping - Jack, heel-up, etc); fundamental part (20-25 minutes), floor exercises with and on step (exercise for developing the abdominal, back, leg, arm muscles, exercise for developing joint mobility and muscle elasticity); ending part – 5-10 minutes – comprising exercises for relaxation, breathing, as well as stretching exercises.

In this research, we used several methods that represented ways to solve the proposed tasks. They were the following: documentary method, experimental method, tests method, statistical-mathematical method. The tests applied to the sample of our research were: test for abdominal muscle strength and resistance, for the assessment of spine mobility in anterior plane, balance test, push-ups and motor memory.

Results

We present below the results obtained at the tests applied to the sample within our research and the statistical-mathematical processing of data.

Table 1 Values obtained at the test for "abdominal muscle strength and resistance"

Statistical indicators	Initial testing (no. of executions)	Final testing (no. of executions)
Mean (X)	8.2	13.00
Standard deviation (S)	± 2.97	± 1.94
Variability coefficient(C.V.)	36.21%	14.92%

The Table above shows that the values of arithmetic mean and of standard deviation at the test for *abdominal muscle strength and resistance* improved from 8.2±2.97 at the initial testing, to 13.00±1.94, while the variability coefficient dropped from 36.21% to 14.92%, thus obtaining better homogeneity.

Table 2 Values obtained at the test for "joint mobility and muscle elasticity"

Statistical indicators	Initial testing (cm)	Final testing (cm)
Mean (X)	22.8	28.9
Standard deviation (S)	± 5.91	± 4.92
Variability coefficient(C.V.)	25.93%	17.05%

In the test for *joint mobility and muscle elasticity*, the values of mean and of standard deviation increased from 22.8±5.91 to 28.9±4.92, while the variability coefficient decreased from 25.93% to 17.05%, which proves better homogeneity.

Table 3 Values obtained at the test for "balance"

Statistical indicators	Initial testing (balance losses)	Final testing (balance losses)
Mean (X)	2.8	1.2
Standard deviation (S)	± 0.78	± 0.48
Variability coefficient(C.V.)	27.85%	15.70%

Concerning the balance test, the obtained values also show a progress of arithmetic mean and of standard deviation from 2.8±0.78 balance losses to 1.2±0.48, while homogeneity increased from 27.85% to 15.70%.

Table 4 Values obtained at the test for "push-ups"

Statistical indicators	Initial testing (no. of executions)	Final testing (no. of executions)
Mean (X)	6.3	8.8
Standard deviation (S)	± 1.63	± 1.13
Variability coefficient(C.V.)	25.87%	12.84%

In the test for *arm muscle strength*, the values of mean and of standard deviation augmented from 6.3±1.63 initially to 8.8 ± 1.13 in the end, while homogeneity improved from 25.87% to 12.84%.

Table 5 Values obtained at the test for "motor memory"

Statistical indicators	Initial testing (no. of executions)	Final testing (no. of executions)
Mean (X)	4.3	7.2
Standard deviation (S)	± 1.25	± 0.78
Variability coefficient(C.V.)	29.10%	10.95%

The values of mean and of standard deviation obtained in *motor memory testing* also recorded an improvement, from 4.3± 1.25 to 7.2± 0.78, while the variability coefficient decreased from 29.10% to 10.95%, thus accounting for better homogeneity.

Discussions

Therefore, coaches of step aerobics should be aware of the consequences of the increase in the height of the platform or music

beat frequency, especially in the beginner groups (Błażkiewicz et al, 2016).

Santos Rocha suggests that most of the injuries in step aerobics are caused by an inappropriate music beat frequency, complex choreography, an excessive number of high-impact steps and improper step height. (Santos-Rocha, 2006).

Characterized by rhythmical movements on a bench, step aerobic is performed to cadenced musical arrangements and is easy to learn. The intensity of step aerobic can be adjusted easily and does not require special equipment, thereby accommodating the needs of an aging population. (Cai Z et al., 2014).

Numerous studies have indicated that step aerobic training can be a low-cost intervention and an effective strategy for improving functional fitness, sleep quality, and cardiovascular health, as well as for enhancing exercise adherence and promoting greater satisfaction, quality of life, and physical function in healthy older women. Compared to resistance training and running on a treadmill, step aerobic exercises more easily meet requirements in terms of facilities, space, and training protocols. Moreover, the protocols and intensity of step aerobic exercise programs can be simply modified to suit the target group (Harden et al, 2015).

Conclusions

After processing and interpreting the data obtained in the tests applied, we highlight the following conclusions: in the final testing, we noted a progress of strength indicators at the level of shoulder girdle and upper limbs, of abdominal strength indicators, of motor memory, of joint mobility and muscle elasticity indicators and of balance, compared to the same indicators obtained by the same group of subjects at the initial testing.

Considering the aforementioned aspects, we posit that step aerobic programs contributed to the fitness improvement of female practitioners; thus, the paper hypothesis was confirmed.

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The role of hiking activities in improving balance skills to the students of Sports University of Tirana

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Abstract
Through this study, we aim to assess the immediate feedback of hiking on balance and to evaluate gender differences in exercising balance skills. 10 girls and 14 boys aged 19 - 21 years, hiked every two days for 20 days. Each hike day lasted several hours and involved elevation gain on uneven terrain, according to a preset program. Static balance skills were measured by using the Leonardo Mechanography Ground Reaction Force Platform, in two testing sessions, before starting the hiking program and after completing it. In each testing session, the balance test was executed twice, first with eyes open and then with eyes closed. Sway index and relative path length scores were used as indicators of static balance skills. It resulted that hiking has positive effects on balance skills and girls experience more improvement in balance skills than boys. The Sway Index scores, in the open eyes trial, were decreased 26.76% ($p < 0.05$) for the male group, 37.39% ($p < 0.05$) for the female group and 30.38% ($p < 0.05$) for the whole group of participants. In the closed eyes trial, the Sway Index scores after hiking were decreased 30.23% ($p < 0.05$) for the male group, 46.87% ($p < 0.05$) for the female group and 37.3% ($p < 0.05$) for the whole group of participants. The relative path length scores, recorded after hiking, were reduced in both open eyes and closed eyes trials, with respectively 14.54% ($p < 0.05$) *and* 16.46% ($p < 0.05$) *for the male group, 18.23%* ($p < 0.05$) *and* 26.35% ($p < 0.05$) *for the female group* and 16.08% ($p < 0.05$) *and* 20.62% ($p < 0.05$) *for the whole group of*

participants. In future it would be beneficial to further study the effect of hiking on both motor and balance skills. An intervention study structured to evaluate the effect of improving motor skills through hiking, as a strategy for exercising balance, is needed.

Keywords: Hiking, Balance Skills, Outdoor Activities

Introduction

Balance refers to both the body remaining in place and moving around its horizontal or vertical axis (Gallahue and Donnelly 2003) and the process for maintaining postural stability (Wescott, Lowes, and Richardson 1997). More specifically, according to Gallahue and Donnelly (2003), axial movements, such as bending, stretching, twisting, turning, swinging, body inversion, body rolling and landing/stopping, are all considered being balance skills.

Now days, there is too much debate about the best interventions to exercise balance and reduce the risk of falls. Novel balance rehabilitation tools, such as virtual reality games, have been proposed. They are thought to have advantages over regular exercise training, because they provide an environment of enjoyment through gaming, which enhances attention and motivation. According to Scanlan and Simons (1992), enjoyment is an important factor that may lead to greater involvement in the activity. However, virtual reality games use in everyday practice is rather limited, mainly because of unfamiliar cognitive demands for the patient. We hypothesized that hiking could be a good substitute to those games. Hiking does not put much cognitive demands on the patient, because it consists of everyday movements, such as walking and climbing. Furthermore, hiking is rather motivating, especially if group support is provided, and it enhances attention while trying to prevent falling episodes.

Through this study, we aim to assess the immediate feedback of hiking on balance and to evaluate gender differences in exercising balance skills.

Material and Methods

Participants

The participants of the study were 24 physical education students aged 19 - 21 years. The sample comprised 10 girls and 14 boys, who were involved in the same hiking program.

All participants provided written informed consent and the study was approved by the Sports University of Tirana.

Design and Data Collection

The applied hiking program comprised living at an established camp, 900 meters above sea level, and hiking every two days for 20 days. Each hike day lasted several hours and involved elevation gain on uneven terrain. At the beginning hikes were 10 – 13 km long round – trips, on trails that gained less than 450m of elevation. They gradually progressed to 22 km round – trips with 1000 m of elevation gain. The terrain was mostly mountainous and the average walking speed was 0.45 m/s, although hiking rates were variable according to terrain elevation and slope.

All participants in this study performed the same balance tests two days before starting the above-mentioned hiking program and two days after completing it. Static balance skills were measured by using the Leonardo Mechanography Ground Reaction Force Platform. In the test procedure, the participants stand for 5 seconds on one leg, balanced on a flat square surface (660mm x 660mm) 70 mm high. The free leg is bent backwards and the arms are wide opened at both sides. Participants are free to choose the right or left leg to execute the test. There was no practicing time before the test. The test was executed twice, first with eyes open and then with eyes closed. At the end of the balance tests, area of 90% standard ellipse (Sway Index) and path length for second (relative path length), for both trials were recorded.

Statistical Analysis

Data were processed with the SPSS statistical package for Windows. ANOVA data, derived from the t-Test: Paired Two-Sample for Means, are presented in table 1 to 4. Outcomes of statistical analyses were evaluated on the basis of probabilities. In order to estimate any possible gender difference in testing results after the hiking program, the testing results were analyzed not only for the whole group of participants but also specifically for the male group and the female one.

Table 1_t-Test: Paired Two Sample for Means for Sway Index scores (Open Eyes Trial)

	Male		Female		Total	
	Before Hiking	After Hiking	Before Hiking	After Hiking	Before Hiking	After Hiking
Mean	12,292	9,002	8,894	5,568	10,876	7,571
Variance	38,553	24,790	19,156	9,605	32,215	20,763
Observations	14	14	10	10	24	24
Person Correlation	0,3001		0,4907		0,417	
Hypothesized Mean Difference	0		0		0	
df	13		9		23	
t Stat	1,839		2,6759		2,890	
P(T<=t) one-tail	0,044		0,0126		0,004	
t Critical one-tail	1,770		1,833		1,7138	
P(T<=t) two-tail	0,088		0,0253		0,0082	
t Critical two-tail	2,160		2,2621		2,0686	
Relative difference		26,76%		37,39%		30,38%

Table 2 t-Test: Paired Two Sample for Means for Sway Index scores (Closed Eyes Trial)

	Male		Female		Total	
	Before Hiking	After Hiking	Before Hiking	After Hiking	Before Hiking	After Hiking
Mean	33,787	23,571	34,895	18,537	34,249	21,473
Variance	341,277	93,510	458,428	69,133	372,5917	86,3341
Observations	14	14	10	10	24	24
Person Correlation	0,267242		0,22800		0,069773	
Hypothesized Mean Difference	0		0		0	
df	13		9		23	
t Stat	1,660027		2,448371		2,844976	
P(T<=t) one-tail	0,060412		0,01842		0,004584	
t Critical one-tail	1,77093		1,833112		1,713871	
P(T<=t) two-tail	0,120824		0,036855		0,009169	
t Critical two-tail	2,160368		2,262157		2,068657	
Relative difference	30,23%		46,87%		37,3%	

Table 3 t-Test: Paired Two Sample for Means for Relative Path Length Scores (Open Eyes Trial)

	Male		Female		Total	
	Before Hiking	After Hiking	Before Hiking	After Hiking	Before Hiking	After Hiking
Mean	102,517	87,604	102,941	84,167	102,694	86,172
Variance	1215,937	501,532	1312,0166	473,8751	1200,7124	471,9009
Observations	14	14	10	10	24	24
Person Correlation	0,589788		0,736109		0,647074	
Hypothesized Mean Difference	0		0		0	
df	13		9		23	
t Stat	1,9774354		2,3746553		3,062674	
P(T<=t) one-tail	0,0347959		0,0207952		0,0027567	
t Critical one-tail	1,7709333		1,8331129		1,7138715	
P(T<=t) two-tail	0,0695918		0,0415904		0,005513	
t Critical two-tail	2,1603686		2,2621571		2,068657	
Relative difference	14,54%		18,23%		16,08%	

Table 4 t-Test: Paired Two Sample for Means for Relative Path Length Scores (Closed Eyes Trial)

	Male		Female		Total	
	Before Hiking	After Hiking	Before Hiking	After Hiking	Before Hiking	After Hiking
Mean	179,436	149,899	182,392	134,323	180,667	143,409
Variance	1947,746	1156,510	737,641	1034,893	1391,757	1120,172
Observations	14	14	10	10	24	24
Person Correlation	0,291985		0,57049		0,345237	
Hypothesized Mean Difference	0		0		0	
df	13		9		23	
t Stat	2,341503		5,45802		4,49384	
P(T<=t) one-tail	0,017894		0,0002		8,21872	
t Critical one-tail	1,770933		1,83311		1,71387	
P(T<=t) two-tail	0,035788		0,0004		0,000164	
t Critical two-tail	2,160368		2,26215		2,06865	
Relative difference	16,46%		26,35%		20,62%	

Results

The interpretation of results was based on the estimated mean difference between the Sway Index scores and relative path length scores recorded before and after performing the hiking program. It resulted that hiking, was associated with better balance skills as the Sway Index scores, in the open eyes trial, were decreased 26.76% *($p < 0.05$)* for the male group, 37.39% *($p < 0.05$)* for the female group and 30.38% *($p < 0.05$)* for the whole group of participants (table 1). In the closed eyes trial, the Sway Index scores after hiking, were decreased 30.23% *($p < 0.05$)* for the male group, 46.87% *($p < 0.05$)* for the female group and 37.3% *($p < 0.05$)* for the whole group of participants (table 2). The relative path length scores, recorded after hiking, were reduced in both open eyes and closed eyes trials, with respectively 14.54% *($p < 0.05$) and* 16.46% *($p < 0.05$) for the male group, 18.23% ($p < 0.05$) and* 26.35% *($p < 0.05$) for the female group* and 16.08% *($p < 0.05$) and* 20.62% *($p < 0.05$) for the whole group of participants (table 3 and 4)*. Based on the above mentioned data, we concluded that hiking has positive effects on balance skills.

Discussion

The first research task of this study was to assess the immediate feedback of hiking on balance. Although we had preliminary evidence that elevation gain on uneven terrain is important for exercising balance skills, we did not have studies, where balance skills after hiking activities were evaluated. In this study, sway index and relative path length scores were used as indicators of static balance skills. The resultant association between these variables and hiking activities may have a few implications. First, common strategies employed to improve balance, require high motor skills and sometimes they put new cognitive demands on the patient. Hiking, instead, does not put any new demand on the patient. Anyone who can walk is perfectly capable of hiking. Second, hiking is an easy way to enjoy the outdoors and enjoyment is a significant predic-

tor of physical activity engagement (Kremer, Trew, and Ogle 1997; Wallhead and Buckworth 2004). Patients may make the distinction between involvement in physical therapy as an enjoyable experience and physical therapy as a demanding one.

The second research task of this study was to evaluate gender differences in exercising balance skills through hiking. Our results showed that at the end of the same hiking program, girls experience more improvement in balance skills than boys. This finding goes in line with other findings (Toole and Kretzschmar 1993; Wieczorek and Adrian 2006) that revealed that girls make fewer errors in the balance skill exercises.

In future it would be beneficial to further study the effect of hiking on both motor and balance skills. An intervention study structured to evaluate the effect of improving motor skills through hiking, as a strategy for exercising balance, is needed.

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In future it would be beneficial to further study the effect of hiking on both motor and balance skills. An intervention study structured to evaluate the effect of improving motor skills through hiking, as a strategy for exercising balance, is needed.

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Differences in self-perception of adolescents in relation to the affiliation of the individual or collective sports

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Abstract
This survey was conducted in the total sample of 128 adolescent of both sex and average age of 18.75 years by using adapted questionnaire*Profile of self-perception for adolescents* (Harter, 1988). The main objective of this study was to investigate the psychological characteristics of adolescents, candidates for admission to the Faculty of Sport and Physical Education, and to determine the differences in these characteristics of candidates according to the type of sport – individual or collective. The results of ttest for Independent Samples showed that there are statistically significant differences between participants in scores on the self-concept dimensions depending on the sport they practice. Candidates who are engaged in team sports had significantly higher score on the dimension of Social Acceptance than the participants who are engaged in individual sports.

Keywords: adolescents, self, individual sports, collective sports

Introduction

Adolescence is the chronological period between 10 and 24 years of age preceding the achievement of physiological, psychological, social and economic maturity (Kapor-Stanulović, 1988; Tubić, Đorđić& Poček, 2012). Developmental tasks of adolescents are often turbulent since there is a simultaneous adaptation to different newly-appeared psychological and anatomical changes and integration of a mature sexuality into a personal model of behavior, then the establishment of personal identity and formation of appropriate social roles. In addition, adolescence is characterised by the development of skills for professional activities and gradual allocation of free activities that are beneficial to individual and community.

Middle adolescence period (15-19 years) is characterised by a higher propensity to self-reflection, with the emphasis on willing components of personality and distinct moral evaluation of one's own personality. The concept of self (self-concept, self-esteem, self-awareness, self-concept, self-image, self, ego identity, and me) is a subjective experience of own personality (Batić, Bajić, 2009). Krstić (1988) in the Dictionary of Psychology defines self-concept as „attitudes, modes of reasoning, value system, behaviour, skills and everything else that one person considers relevant, including one's own assessment of the own characteristics" by which it approaches the concept of „identity"; but opposing view has Hrnjica (1992) who claims that self-represents only the conscious part of identity.

According to the theory of social interaction, self-image is the result of „mirroring", i.e. obtaining a feedback about one's self from important persons in the own environment, especially parents and peers (Cooley, in Krstić, 2008; Batić, 2003). Shavelson, Hubner, Stanton (in Batić, Bajić, 2009) believe that self-concept is hierarchically organized, structured experience of one's self composed of dimensions/aspects in which an individual categories information

specific to him and/or the group to which belongs, develops and enriches the life through personal involvement with the environment and the interpretation of that environment, evaluation by significant others, reinforcement and attribution of own behaviour that has significant impact. In this study, self-concept is operationalized multidimensional construct that represents a combination of different individual perceptions of competencies and aspects of the own myself in various areas of operation, with special and relatively independent general perception of the value of self as a person (Harter, 2012). According to the Theory of Motivation for Competences where the principal motive/cause of behavior is the feeling of competence or expertise in dealing with given domain of reality which continues to affect the development of the real competence (Harter, 1992 in Tubić, Đorđić&Poček, 2012). Previous studies show that adolescents with low self-esteem usually tend to have an instable self-concept, so more than others feel lonely; they are awkward in social contacts, sensitive to criticism by others and doubt their own competence. Young people with a stable self-concept, have higher self-esteem, lack of feelings of inferiority and anxiety, they are favorite in the group, socially more active, and better adapted than young people with unstable self-concept (Hurlock, 1971, in Batić, Bajić, 2009).

Some former studies have examined which kind of role sports playing has on the principle of maturation in young adults. Through participation in sport, children and adolescents are subjected to concepts that usually apply to adults, such as organization, discipline, fair play, devotion, and teamwork which have very positive effect on the maturation process. Personality traits which are then more common in adults who were engaged in sports during their maturation are a lower level of neuroticism, high level of compliance and conscientiousness (Allen, Greenlees & Jones 2013).

Previous research also confirmed that population of active sportspersons was significantly different than the population of non-sportspersons especially in characteristics such as emotional stability, self-reliance, persistence, responsibility, etc. (Tubić, 2010 in Tubić, Đorđić&Poček, 2012).

According to Ostojić (2006), sport is one highly structured physical activity that has a precise aim and includes elements of dedication and overcoming one's self or opponent. Sport can be individual or collective. The collective sports perform in a group and usually these are sport games (basketball, football, handball...) and with individual one, a sportsperson acts alone for the score and success. In the base of each sport exists striving for success – thebest result. An athlete is a person who possesses an above-average level of physical fitness thus it is possible to say that at the very basis of this concept stands an aspiration for the best personal result as well as the award (Ostojić, 2006).

The main objective of this study was to investigate characteristics of the self-concept of adolescents, candidates for admission to the Faculty of Sport and Physical Education on the entrance exam. The specific objective was to determine the differences in these characteristics of the candidates according to the type of sport – individual or collective– inpreparation for the entrance exam and admission to the Faculty of Sport and Physical Education in Novi Sad.

Method

Sample of participants: Total number of participants within this research was 128, of which male adolescents (n=91) and female adolescents (n=37) of average age of 18.5 ± ???years. Examining the completed answers of the questionnaire,of the total number of respondents, it was determined that 120 of them played sports (93.8%),and 4 did not (3.1%),while 4 respondents did not answer this question (3.1%). In regard to the question of individual / collective sports it was determined that 33 participants playedindividual sports (25.8%) and 85 collective sports (66.4%), while 10 adolescents did not answer this question (7.8%). A total of 12 (9.4%) participants played sports up to 3 years, 5 (3.9%) respondents up to 5 years, while 109 (85.2%) respondents wereengaged in sports more than 5 years. Without answer were 2 (1.6%) respondents.

Testing was conducted by application of standardised questionnaire of the adapted *Questionnaire of Self-perception Profile for Adolescents*, Harter, 1988, as well as the *Entrance Exam of the Faculty of Sport and Physical Education,University in Novi Sad.*

According to the current experience (Popović, 2002), students attending the Faculty of Sport and Physical Education are selected in many ways, but not in the sense of partial selection in regard to the certain dimensions of psycho-physical status, like with supreme sportspersons, but with the assumption that all is about general multivariable distribution shift toward the zone of qualitative better results in relation with normal population.

The participants sample as such, upon many anthropological characteristics, presents a specific population due to various criteria which are different in comparison to the normal peer's population as follows:

- Level of biological development (all participants were 18.75 years of age);
- Level of health condition (ill participants were not tested);
- Level of motoric development;
- Level of intellectual and cognitive development.

The Questionnaire of Self-perception Profile for Adolescents, Harter 1988: This instrument was developed out of the children version The Profile of Self-Perception for Adolescents, Harter 1985, in such way that competences like Competence at work, Close friendship and Romantic attraction were added to the domains from children version. The instrument contains nine subscales; it is aimed to assess eight different and specific adolescents' functioning areas as well as general self-perception. A participant should decide if he/she is better described by the left of right part of the sentence; then should assess the chosen part of the sentence if it describes him/her completely or partially (*Completely correct when I am in question;partially correct when I am in question*). This is how the four grade scale is formed. This format was chosen to avoid socially favourable answers, so the options were offered. For each statement should be filled in one *X*in one of the 4fields offered. Each sub-scale score represents the arithmetic mean of the

responses to the each statement, which are then graded in a way that 1 means a minimum competence and 4 the maximum (Tubić, Đorđić&Poček, 2012). Reliability of these sub-scales is high (from 0.60 to 0.86) except for self-perception of behaviour and competence at work (Harter, 2012).

The *School competence* represents an operationalization of the appraisal of own cognitive abilities within the school environment (e.g. s*ome teenagers are very good at schoolwork* but *other teenagers are not very good at schoolwork*);

The *Social acceptance* relates to the level in which an adolescent is accepted by school mates or feels popular. He/she measures the appraisal of own abilities to form a friendship (e.g.*some teenagers find it difficult to make friends* but*other teenagers make friends quite easily)*;

The *Sport competence* relates to the assessment of own motoric abilities and competences in sport (e.g. *some teenagers are good in all kinds of sports* but *other teenagers think that are not so good at sport*);

The *Physical appearance* measures satisfaction with own look (e.g.*some teenagers are quite satisfied with their appearance* but *other teenagers are not satisfied with their appearance*);

The *Business compet*ence – includes evaluation of own abilities in performing task as well as readiness to perform well (e.g. *some teenagers consider themselves old enough to find and retain paid job* but *some other teenagers consider themselves not yet old enough to really carry out well such job*);

The *Romantic attraction* – estimation of own ability in the exercise of romantic relationships and personal sexual attraction (e.g. *some teenagers feel that they are attractive to their peers of the opposite sex* but *other teenagers worry if they are attractive to their peers of the opposite* sex);

The *Behaviour control* – refers to the level of satisfaction of adolescents with their own behaviour; to the feeling that they behave properly and in accordance with expectations (e.g. *some teenagers often get into troubles because of their acting* but *other teenagers usually do not make things that could lead them into trouble*);

The *Close friendship* – measures ability of a person to keep close relationships and to create intimacy with dear persons (e.g. *some teenagers have a close friend to share secrets*but *other teenagers do not have a close friend to share secrets*);

The *General self- perception* – is the level of satisfaction with own-selves and own entire lives (*some teenagers like themselves* but *other teenagers usually want to be someone else*).

Statistical analysis of data: To present indicators of self-perception of male and female adolescents depending on the type of sport, the basic descriptive statistics were applied. To determine the existence of gender differences among participants with regard to the type of sport the method of Chi-square test was applied. To determine the differences between participants engaged in individual or collective sports the t-test were applied.

Results

The basic descriptive statistics of male and female adolescents self-evaluation (N=128) depending on doing sports are displayed in the Table 1.

Table 1.The self-perception profile for adolescents (SPP)

Dimension	AM	S	min	max
1. School competence	3.10	0.45	1.80	4.00
2. Social acceptance	3.23	0.54	1.20	4.00
3. Sport competences	3.22	0.44	2.00	4.00
4. Physical appearance	2.94	0.43	1.60	3.60
5. Business competence	3.02	0.66	1.00	4.00
6. Romantic attraction	3.24	0.47	1.40	4.00
7. Behaviour control	3.24	0.49	2.00	4.00
8. Close friendship	3.36	0.54	1.60	4.00
9. General self-perception	3.43	0.52	1.40	4.00

AM – Arithmetic Mean Min – minimum value
S – Standard deviation Max –maximum value of results

Table 2. Results of the t test for the differences in relation to affiliation of the individual or collective sport

Scale – Dimension	Sport	AM	S	T	P
Self-Perception Profile for Adolescents					
1. School competence	individual	3.19	0.41	1.19	0.24
	collective	3.08	0.47		
2. Social acceptance	**individual**	**3.00**	**0.64**	**-3.04**	**0.00**
	collective	**3.33**	**0.47**		
3. Sport competence	individual	3.09	0.46	-1.90	0.06
	collective	3.25	0.42		
4. Physical appearance	individual	2.98	0.43	0.68	0.50
	collective	2.92	0.44		
5. Business competence	individual	3.16	0.67	1.49	0.14
	collective	2.96	0.67		
6. Romantic attraction	individual	3.19	0.44	-0.56	0.58
	collective	3.25	0.49		
7. Behaviour control	individual	3.18	0.48	-0.98	0.33
	collective	3.28	0.50		
8. Close friendship	individual	3.27	0.66	-1.04	0.30
	collective	3.39	0.51		
9. General self-perception	individual	3.37	0.53	-0.81	0.42
	collective	3.46	0.53		

The t-test for independent samples was applied to determine the differences between participants in scores on dimensions of selfwhich depend on the kind of sport they practice (individual or collective). There was significant statistical inference differentiations potted in scores Participants practicing collective sports had significantly higher score only on Social acceptance dimension ($t(116)=3.04$, $p<0.01$).

To test the gender differences due to type of sport preferences, the chi-square was applied. The results showed that there was not statistically significant differences between male and female, so both of them equally choose one or another type of sport: $\chi^2(1)=3.58$, $p=0.59$.

Discussion

Persons engaged in team sports had a significantly higher score on the Social acceptance dimension than those participants who are engaged in individual sports. Members of team sports with higher scores on the Social acceptance showed that they feel better among peers and they have a more pronounced ability to form friendships. This result can be partially explained in terms of an atmosphere of individual and collective sports. The maturing process of young sportspersons certainly includes an influence of particular atmosphere in which a young sportsperson usually resides (Stambulova, 2006; in Franck, 2009). That atmosphere during training and competitions is completely different when compares these two categories of sports. At sportspersons playing in a team, the crucial is coping in the group. According to the previous research, sport competitions relating to collective sport includes a higher level of communication and social interaction. This also explains the reason why athletes play in a team are different than individual players, due to team sports usually request higher levels of interdependence and social interaction (Van Vianen, De Dreu, 2001).

Important differences in the type of personalities are spotted in sportspersons who participate in various kinds of sport activities

(Geron, Furst, and Rotstein, 1986 in Carlstead, R., 2013). All these studies confirmed that personalities of sportspersons who participate some team sport differentiate from those who plays individual sports, and most usually regarding extraversion (players who are in collective sports show a high level of extraversion) which was not the case of this research.

Upon some research, the members of collective sports are usually of very different characters among themselves than among the position they take in a team. (Allen, Greenness& John, 2013). Maybe it is realistic to expect differences in the type of personalities between different positions the players take in a team because different positions often request different behavior which more or less can be harmonised with a type of personalities of special characters. Thus, presently there is no base to make any acceptable conclusion on differences in the type of personalities and differences relating to the position in team stay open area for further research of components and dynamics in relation to results.

This study aim was to investigate differences in self-perception between adolescents, the sportspersons, in relation to their affiliation to individual or collective sports. We have assumed that those who belong to collective sports and individual would have higher scores on dimensions connected with social aspects which were confirmed by some former researches.

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Resilience and Psychomotricity: inclusion strategies in Preschool Education

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Abstract
With this article we would like to deepen the resilience and psychomotricity as inclusion strategies in preschool education. We analyse too the importance of resilience and psychomotricity and their impact in the learning of disadvantaged children at a preschool age that are exposed to adverse social and personal factors and to assess the efficiency of an intervention program based in psychomotricity and resilience together.
We developed a project in a region of Brazil (Botucatu), where a Psychological Development Activation Model was used with psychomotricity exercises and also the Programme Strong Start Pre K, in the area of resilience. The assessment instruments used were the WeBeST test for resilience and the Operational Portage Inventory test for Psychomotricity.
The study is longitudinal, quasi-experimental, with an experimental group (subject to Strong Start Pre K Programme for assessing resilience) and a control group (not subject to the Programme), with pre and post tests given to both groups. These groups were assessed before (pre-test) and after (post-test) the manipulation of the independent variable.
The results indicate that there was an evolution in resilience among children in the group that participate in this program. They improved the resilience capacity, dealing with problems and controlling the emotions.

To finalise, we recommend that the training of professionals who work in education and health should include the promotion of resilience in their curriculum, as well as the implementation of psychomotricity and the study of emotions and feelings in order to better deal with the adversities in life.

Keywords*:* resilience, psychomotricity, educational intervention, programmes, strategies, preschool education.

Introduction

According to Motta & Aguiar (2007) being competent is having the capacity to apply skills, knowledge and behaviour. The ability to use knowledge to achieve a purpose, the capacity of using knowledge and skills acquired in one's profession and the capacity to mobilise knowledge such as know-how, know how to be and know how to act, and lastly, the capacity to solve problems. A personal skill is an integrated and structured knowledge that an individual will have to resort to and uses in order to effectively undertake various tasks encountered throughout life, while being aware of their potential and resources as well as psychological constraints in order to be able to pursue projects in various dimensions of their existence.

It is known that the education that use the movement, in its organic, motor and psychological aspects promote that the formation of the child character occurs as well as the development of the ability to carry out daily tasks which allow children to live harmoniously with their bodies and the others and also with the surrounding environment. The education based on movement stimulates self-trust; it attenuates the hurdles that interfere with developmente and learning at school; it favours the perfecting of willpower, decision-making and perseverance; it stimulates creativity, tolerance and the acceptance of challenges with responsibility.

For the World Health Organisation (WHO), health is not merely the absence of illness but a resource of our daily lives and the state of physical, psychological and social well-being of the human being. Barbosa *et al.* (2002) reports that psychomotricity is directly related to education, health and well-being, which help to achieve a complete balance of the human being, and has the objective of promoting integral development.

Resilience: Different Approaches

With regard to resilience, the term is not a fixed attitude that changes according to the stage of life and circumstances, type of

trauma and how a person experiences it as well as the historical-cultural factors (Hensius, 2010). It is a dynamic process, a symbiosis between the individual's inside and outside, in a social context, resulting from the interaction of various micro-systems (family, school, friends) and macro-systems (community, beliefs, ideologies, values and customs, means of communication, economic situation and educational system). Resilience leads to a metamorphosis of the individual, who learns through experiences lived and draws life lessons for life. Resilience is the opposite of vulnerability. Resilience refers to a set of factors that the child has (or its environment) that offer some protection against the effects of vulnerabilities, which means that a highly vulnerable child integrated in a poor or unfavorable environment can produce more adverse effects. However, an integrated resilient child in a poor environment can have good performance, since it is given the possibility to discover and enjoy many stimulating opportunities. In the case of a vulnerable child, surrounded by a good environment, can also have good performance, especially when child is helped to deal with their vulnerabilities.

Still with respect to resilience, Regalla, Guilherme & Serra-Pinheiro (2007) adds that resilience should not be seen as a fixed attribute of the individual, so that if the circumstances relating to that person can change, the resilience changes too. Resilience happen precisely from protection processes that encompass four main functions, namely: reduce the impact of hazards; reduce the negative chain reactions, which follow the individual's exposure to risk; establish and maintain self-esteem and self-efficacy, through secure attachment relations and compliance of tasks successfully and ultimately create opportunities to reverse the effects of stress. According to Barbosa (2006) resilience results from the interaction between seven factors: management of emotions, impulse control, empathy, optimism, causal analysis, self-efficacy and reach of people. The author in analysis argues that such factors when grouped provide overcoming adversity, related to the meaning of life, the very individual and his next, and it is this assemblage that allows the development of emotional maturity. The first fact approached

by Barbosa (2006) includes the ability of the subject to remain calm before a stressful situation by redirecting its behavior. The impulse control relates directly to emotion regulation, the subject experiences the situation in an enhanced and/or inhibiting manner. The third factor relates to the empathy, to the author, this is the ability that the human being has to understand the psychological state of the others by decoding non-verbal information. The author in question reveals that optimism, is a belief of the individual who determines that things can change for the better, and there is the belief that you can control the future, even when the power of decision is not yours. Through the causal analysis, the fifth factor described by Barbosa (2006), the individual recognize with precision the causes of problems and adversity in the environment, putting themselves in a safe situation and not at risk. In the self-efficacy, the individual solves problems with means that he, himself, finds in the environment. To finalize the approach to the interaction between the seven factors of which resilience results, the author refers that the last factor, the reach of people, reflects the ability of the subject has to be linked to others, without fear of failure and with the purpose of forming support networks.

Oliveira (2008) and Lindström (2001) highlight a concept of resilience that consists of four components that make up a set of features that protect the individual: individual factors, environmental context, lifelong events and protective factors. In the background, the resilience capacity refers to the interaction between personal attributes, the family environment and the support from the community. In this line of thought Andreucci (2008) and Garmezy (1993) show resilience as the ability to recover the operating pattern after experiencing adverse situation without letting yourself be hit by it. It is a universal capacity that encourages the individual to face the risk.

To finalize the approach to resilience and its meaning, according to Cardoso & Sade (2012), Machado (2010) and Tavares (2001) resilience is the capacity that people have, individually or in group, to withstand adverse situations without losing their initial balance. This can be strengthened with the development of self-concept and

self-esteem so that the individual becomes stronger, more efficient and collaborate towards a less violent society. They describe that the resilience allows individuals, groups or communities to prevent, minimize or overcome the damaging effects of adversity. Resilience is a universal capacity. Agreeing to Pereira (2001), resilience, knowing how to cope with difficult situations, is developed and acquired throughout the different stages of life and derives from the relationship that the child establishes with their environment.

In all of these definitions the concepts of adversity, trauma, stress, illness and unfavourable situations or vulnerability are mentioned. This is the starting point for studying factors of protecting the individual, the family and the environment where the subject has resilient strength to face critical situations and emerge from them a stronger person with a new meaning to their own life.

Psychomotor education: psychomotricity's contribution to the success of teaching and learning

UNESCO proposes an Education model based on learning to know, learning to do, learning to socialise and learning to be, so that the individual formulates their own judgements, may decide for themselves how to act in different circumstances and adversities of life in order to have healthy relationships and undergo a personal transformation in favour of citizenship.

It is through the education using movement (psychomotor education), in its organic, motor and psychological aspects, that the formation of character occurs as well as the development of the ability to carry out daily tasks which allow children to live harmoniously with their bodies and others and with the surrounding environment. It stimulates self-trust; it attenuates the hurdles that interfere with learning at school; it favours the perfecting of willpower, decision-making and perseverance; it stimulates creativity, tolerance and the acceptance of challenges with responsibility. For Heinsius (2010, 2008), psychomotricity stimulates the connection that the child establishes with other people and objects through their actions.

In conclusion, it should be noted that the development of psychomotor activity contributes significantly to the development of gross motor coordination, fine motor skills, balance, the notion of body scheme, laterality, spatial structure of the temporal structure, rhythm and perceptions. Like this, appropriat psychomotor activities will allow that the child lives with spontaneity their own bodily experiences. A good psychomotor structure is the fundamental basis for the cognitive development and for the process of learning. The development takes place from the general to the specific and during the process of learning the basics of motor skills should be used frequently.

Education programmes that promote Resilience and Psychomotricity, indicators of a health life in various phases of life from childhood to adulthood, are already appearing. This study highlights a programme involving resilience and psychomotricity in children that are socially, culturally and economically disadvantaged in the city of Botucatu, in Brazil, in preschool where the Programme Strong Start Pre K (Strong Kids Website, ORP, 2008) was used together with the Activation of Psychological Development Model - ADP (Cró, 2006), based on psychomotricity, as promoters of the acquisition of personal, social and emotional skills.

The development activation model: introduction in Brazil

The Development Activation Model has its roots in the Active School movement which opposes the Traditional School. What is essential to this process is that the teacher discovers the potential of each student at the different stages of their development. With the Development Activation Model, the difference is that both the teacher and the student will form their own personalities while interacting in a common project. In this way, the learning and development process is a result of the interaction that continues between the teacher, the student and their environment (Cró, Andreucci & Pereira, 2008). These dynamic interactions occur in a specific culture that is at the origin of the objects to be learned. The interactions

may spontaneously establish themselves resulting in the following: the subject occasionally learning despite not being aware that they are doing so, or intentionally learning as a result of a conscious decision by the learner to do so. These dynamic interactions may still, and this is the case with schooling (from pre-school to higher education), be systematically desired (by the teacher and by the student) and systematically created, as a result of relying on defined means originating from defined objectives and more importantly, relying on the potentials that the student has.

The Development Activation Model combines the antinomy of reference to the subject and acknowledges the power of action (Tavares *et al*., 2011). Another important part in the model is the carrying out of tasks. Tasks are synonymous with activity. As we know, these may be more or less complex, more or less specific, but it is necessary that the level of difficulty or complexity of the tasks to be carried out is adequate to the level of skill that the subject has (Cró, 2006). The task or activity has to present some level of difficulty in relation to the development of the subject, or else they will lose interest because it is too easy or it does not motivate them because it is too complex

Based on this Activation Model, in 2000 in the city of Botucatu, in the Nucleus Joanna De Angelis, a project was elaborated to "educate and include". The aim of the project was to reduce the consequences of the difficulties that disadvantaged children had, strengthen the families and increase the chances of evolution in these children so that they may be integrated in the life of a society. For this to occur, support was given by the University of Aveiro through Professor Maria de Lurdes Cró in order to facilitate the promotion of global and harmonious development in the personality of these children who were considered as having special educational needs by the State Department of Education (of the State S. Paulo), in addition to providing educational activities that could influence their cognitive and psychological development in order to: decrease school failure in the future, promote the development of self-esteem and promote well-being and health so that they have personal and social achievement (Andreucci, Macedo & Montelli, 2005).

A research plan was established that integrated areas of psychomotricity and resilience in the perspective of the Activation of Psychological development Model in order to verify if this activation intervention promotes global development, widening the field of knowledge that the subject can try at a certain moment in their development as they overcome stages.

In order to answer the needs of this reality some deep studies were designed to improve the quality of children´s life and to promote resilient personalities.

The aim of the present investigation intends to focus the development of social, personal and emotional skills in Brazilian disadvantaged children at a preschool age as well as the different approaches of resilience and psychomotricity to put in perspective an interventional methodology that is based in the Development Activation Model and it have been introduced in Brazil, in the city of Botucatu.

Methods

Based on the previous study carried out in Brazil (Andreucci, 2007), the present study aims to promote resilience and psychomotricity in children through the application of the Strong Start Programme (2008) and the Activation of Psychological Development Model, through psychomotricity as well as assess the effectiveness of these programmes.

The study is longitudinal, quasi-experimental, with an experimental group (subject to Strong Start Pre K Programme for assessing resilience) and a control group (not subject to the Programme), with pre and post tests given to both groups. These groups were assessed before (pre-test) and after (post-test) the manipulation of the independent variable.

As for psychomotricity, the children from the experimental group had psychomotor activities in a preset programme and the control group did not. Both groups were assessed by the Operational Portage Inventory, with pre-test and post-test measurements for both groups. It is important to highlight that psychomotricity is

not mandatory in Brazilian schools (it was implemented in Curitiba and São Paulo). The experimental group in the city of Botucatu, assessed in this research, has been following a psychomotricity programme since 2000, reported by Andreucci (2007).

The study was performed in 2008 and included 151 Brazilian children from disadvantaged families who were exposed to adverse social and personal factors such as malnutrition; family stress; impoverished stimulation and domestic environments; with specific learning disabilities, both in terms of visual-motor perception and language and body structure. They were submitted to the same training, communication and activation techniques used in preschool but appropriate to their age and development.

At the sample, the most represented age was 5 years old with 45.7 % and the least represented age was the 3 year old group with 19.2%. The majority of boys and girls were 5 years old with 42.5% and 50%, respectively.

The minimum age of the sample constituents is 3 years old and the maximum is five years old, accounting for an average of 4.26 years old (SD = 0.763). For males, the average age is 4.44 years old (SD = 0.735) and for females the average age is 4.11 years old (SD = 0.758).

In the experimental group, the most representative are the 4 and 5 years old children, with 39% each, with the 3 years old group being less representative (22.1%). In the control group the most representative age is five years old (45.7%), with 3 years old being the least representative (19.2%).

In the experimental group, the average is 4.17 years old (SD = 0.768), there are 42 girls (54.55%) and 35 boys (45.45%). In the control group, the average age is 4.36 years old (SD = 0.751) and there are 39 girls (52.7%) and 35 boys (47.3%).

Instruments

A - Resilience: Strong Start Pre K Programme

The Strong Start Pre K programme (2008), which includes children from 3 to 5 years of age and is aimed at early interven-

tion and is preventive in nature with several areas of action. It was developed at the University of Oregon (United States), by the Department of Special Education and Clinical Sciences, headed by Kenneth Merrell (Strong Kids Website, ORP, 2008) and continues in the STRONG KIDS Programmes (for children between the ages 5 and 14) and STRONG TEENS (14 to 18 years old).

With inner strengthening as an assumption, this programme allows the child to establish healthy emotional bonds early on, acquire personal and social skills appropriate to the age, and to be exposed to approaches that favour results of well-being and effectively deal with stress.

The aim of the programme is to develop social and emotional skills, promoting resilience, strengthening what they already possess and increase coping strategies in children. The Strong Start Pre K programme can be used in various situations and with different children, such as at risk children or students with behavioural and emotional disorders.

The fundamental points of this programme are the teaching and learning about the essential elements of emotional education, cognitive restructuring, solving interpersonal problems, personal and social skills, empathy, problem solving, reducing stress and relaxation. These are necessary in order to create important changes in affection, cognition and behaviour. The programme's curriculum structure consists of 10 sessions of approximately 25 to 40 minutes each, and is headed by a teacher or mental health professional. Students find the sessions engaging and fun as popular children literature is used to help emphasise key concepts, with affective and behavioural benefits. The ten sessions in the STRONG START PRE K manual have the following objectives: working, understanding, and identifying ours and others feelings and emotions; solving people´s problems with others.

In order to obtain the support and collaboration of parents in the programme, each session has a newsletter with information on the content that is learnt and the activities carried out that day so that they may be further strengthened and encouraged at home.

In addition to the basic 10 sessions, the STRONG START programme includes two extra sessions in order to help reinforce the

curriculum concepts and teachings weeks after the completion of the last session. The STRONG START manuals are complex and detailed and include all of the necessary material for the sessions.

The following Assessment Instruments complement the Programme: WeBeST (Well Being Screening Tool) that measures "negative" affection: SEARS-P which is directed towards parents and SEARS-T which is directed towards teachers. This study only presents the tests given to the children.

Test WeBeST (Well- Being Screening Toll) - Assessment Test

In order to measure the capacity of resilience in a child of preschool age, the WeBeST– Well-Being Screening Tool test was applied. This test was also developed at the University of Oregon in the United States by the Department of Special Education and Clinical Sciences and subsequently translated and then a request to the author was submitted requesting that it be adapted by Andreucci (2008) for Brazilian children.

The WeBeST measures negative affection symptoms, emotional and social problems and resilience in kindergarten children and children in year one and two at school. This study was applied only to students in preschool, individually and directly by the researchers, before and after the implementation of the programme Strong Start Pre-K, to the children in the experimental and control groups.

The test consists of 22 closed questions, scored using the Likert method. Each answer is given a score of 0 to 2, obtaining a maximum score of 44 and a minimum score of 0. This is a negative placement test, therefore the higher the score when summing the answers, the less the capacity of resilience and vice-versa.

B - Psychomotor activation programme used in Brazil

The main objective of the programme was to activate the cognitive, socio-emotional, symbolic, psycholinguistic and motor development which is essential to the maturation and learning process. The programme intended on achieving this through integrated and organised recreational activities which lasted for 30 minutes,

in two periods, where the children were stimulated to observe and describe their movements. It included standardised and easily reproducible exercises, based on various authors, namely Lambert (1972), Oliveira (2008), Almeida (2008) that aim at stimulating the concept of body image, laterality, spatial and temporal orientation as well as language.

Operational Portage Inventory (OPI) - Assessment Test

OPI is a guide describing the behaviour of children between the ages 0 to 6. It was designed and introduced experimentally by Bluma *et al*. (1972), as part of a comprehensive training system for parents and preschool education and was revised soon after (1976).

This Inventory, composed of 580 items of behaviour assessment, researches six areas of development: cognition (108 items), motor development (140 items); language (99 items), socialisation (83 items) and self-care (105 items), distributed by age groups of 0 to 6 years old, and the sixth area of development is infant stimulation (45 items) – specifically for babies. In this study we have only considered children from the ages of 3 who played with games, balls and plastic toys.

The inventory was adapted by two Brazilian psychologists, Williams & Aiello (2009), who translated the instrument into Portuguese and operationalized each of the items, creating definitions, criteria, specific assessment conditions and describing the material being used.

With the purpose of standardising the registering of the child's performance in each test, a Record Sheet was made in order to record how many items were correct and the respective percentage of success.

Procedures

Concerning to the implementation of Programmes and Instruments formal process was carry on. Following the authorisation be-

ing given by the governing agencies upon our request, permission forms were given to parents and/or guardians so that the students could participate in this study.

The programmes were implemented during the second semester in 2008. For the experimental group, a newsletter with information on the content that they had learnt and the activities they participated in that day was sent after each session so that the programme would be reinforced and stimulated at home and to have the support and collaboration of the parents.

Data was gathered through the use of the previously described instruments, through a pre-test (before applying the Strong Start Pre K programme) and a post-test (after the application of the Programme), in the field of resilience and of the Operational Portage Inventory (administered to the experimental group before the psychomotor stimulation programme), to all children in the sample individually.

The statistical programme SPSS, version 16.0, was used in order to carry out the statistic analysis of the data gathered.

Results and discussion

Accordin to the table 1 in the experimental group, with regards to the Pre-test, the average being 10.12 (DP= 4.896) and in the group's Post-test, the average was 5.79 (DP= 3.446). In the control group's Pre-test, the average being 10.97 (DP=5.584) and in the group's Post-test, with an average of 13.92 (DP=6,339).

In assessing the resilience between the group's Pre-test and Post-test the Wilcoxon test was used.

In the experimental group, the Post-test scores are higher than the Pre-test scores. Given the statistical significance of the probability value which indicates that the intervention had an influence on the children (p = 0,00).

Table 1 - Resilience in the experimental and control groups

Groups	Tests	N	Min	Max	X	DP
Experimental group	Pre-test	77	1	24	10,12	4,896
	Post-test	77	0	16	5,79	3,446
Control group	Pre-test	74	1	25	10,97	5,584
	Post-test	74	4	36	13,92	6,339
	Total Pre-test	151	1	25	10,54	5,244
	Total Post-test	151	0	36	9,77	6,495

The results indicated that those children who participated in the psycho-educational programme of promoting resilience demonstrated differences in relation to those children who did not. This difference indicates an improvement in skills when dealing with difficult situations and adversities as well as dealing with emotions. This pilot study suggest that this program can include increase levels of cognitive development and improve the students well-being as was referred by other studies conducted by Chari, Cohen, Abdul-Adil & Aoun (2009).

These results are very similar to the exploratory studies conducted by the Strong Start Pre K project researchers Kenneth Merrell (2009) of ORP (2008), University of Oregon, in the United States.

Except for the studies in progress in the America, there are no points of comparison which serve as a reference or help facilitate a more detailed discussion.

In the area of resilience analysed in the said study, no significant differences between scores in the control groups were found. In the experimental groups, the post-test scores are higher than the pre-test scores in both groups. The probability value is statistically significant which indicates that the intervention programme had a positive effect on Brazilian children ($p = 0.00$).

These results indicate that there was an evolution in resilience among the children in the group that participated in the Strong Start Pre K programme, as the values are indicators that the children improved their resilience capacity, especially in terms of controlling emotions and dealing with problems, their emotions and the emotions of others in addition to empathy.

The results in the area of Psychomotricity, show that the children who participated in the Psychomotor Activation Programme presented positive results and developed their personal and social skills, while significantly improving their quality of life and well-being in addition to making academic progress.

This research, exploratory in nature, had limitations inherent to this type of study. It involved an intervention programme briefly and synthetically described here in the areas of resilience and psychomotricity.

The overall results of this direct intervention with children stress the importance of the principles, objectives and the appropriateness of the methods used as well as suggesting the continuation of these intervention programmes in schools with children in preschool and school.

Conclusion and future research directions

It is one of the aims of this study to provide the results of implementing the Activation of Psychological Development Programme in the area of psychomotricity and of the Strong Start Pre K Programme to promote the resilience development.

As studies in this area are limited, this pioneer study intends on serving as an incentive for Education and Health professionals in making them sensitive to the promotion of the development of resilience and psychomotricity in young children.

Despite the satisfying results, these data should be analysed with some caution. Further studies are necessary in order to reinforce this argument.

Although having gratifying results in both countries wich we consider to be an incentive for future studies and further investigations in countries of Portuguese origin (PALOP). However, a larger sample of the population should be used and a program especially developed for Portuguese-speaking communities, since a gap at the level of tools and assessment programs involving resilience in children of preschool and school age was detected in the investigations carried out by Cró, Andreucci, Pinho, & Pereira (2013).

To finalise, we recommend that the initial and continual training of professionals who work in education and health should include the promotion of resilience in their curriculum, as well as the implementation of psychomotricity and the study of emotions and feelings in order to better deal with the adversities in life. We think that is important too develop their emotional, social and professional skills so as to become more responsible, active and participative citizens.

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Effects of acute psychological stress measurement in sports – EGIG, an innovative method to state stress response objectively

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The aim of this study is to find an objective way to measure the well-researched topic of the zone by stating that electrogatro-intestinography (EGIG) is able to monitor the athletes stress response through the gastric and intestinal motility. **Methods:** 15 healthy team- and motorsports athletes underwent a resting EGIG which took 40 minutes with an audio stimulus (AS) at halftime. Records were made by an Electrogastrographic Myograph System – developed by MDE Co. Ltd. **Results (n=15):** All subjects had valid EGIG records. There were significant responses to the AS in the stomach (p=0,000), small intestine (p=0,000) and great intestine (p=0,001) as well. There were no significant differences between the resting amplitudes prior to and following the AS. **Conclusion:** Stress response can be monitored by EGIG. The great intestine is the most sensitive on stress. The scales of optimal zones are expected by monitoring stress-response of the GI during training and competition compared with personal results.

Key words: stress response, gastric motility, sport, zone

Introduction

Great goal in sport psychology to being able to measure or even monitor the anxiety, thereby determine the optimal zone. This can be the next step improving the peak-performance of professional athletes. Hull declared the correspondence between performance and arousal in the Drive Theory (Hull, 1943). However the Yerkes – Dodson Law stated the best performance is in the optimal arousal zone, which is the peak of the Gauss-graph (Yerkes and Dodson, 1908)

In a modern approach we have to pay attention to the person himself. Therefore Hanin stepped forward and created his theory, the Individual Zones of Optimal Functioning (IZOF). According to the IZOF theory people's reaction to anxiety is different, which means that one will perform well at a lower level of emotions while another can reach peak-performance at a high anxiety level. (Hanin, 2000)

The measurement of the optimal zone can be approached by the Flow (Csíkszentmihályi, 2004). A great amount of researchers have dealt with the Flow in sports (Jackson, 1996; Jackson and Marsh, 1996; Balogh and Domokos, 2013; Balogh 2014). Yet the main methods are paper and pencil test however researches lately have monitored arousal using HR, ECG and acceleration sensors (Kusserow et al. 2010).

An innovative approach of determining the zone is monitoring the gastric and intestinal motility. Researches have proven that certain emotions can cause variations in the gastric motility (Fukunaga et. al., 2000; Vianna and Tranel, 2006; Vianna et. al. 2006.). However there are no researches giving objective numeric data on athletes' response to stress. Using an electrogastro-intestinographic device – which is able to monitor the gastric along with the intestinal motility in a non-invasive way – is a new method in sports.

Methods

15 healthy subjects participated in resting electrogastro-intestinography (EGIG). The participants were female and male, team- and motorsports athletes aging 24 (sd=3,2). Records were made in the morning fasting by an Electrogastrographic Myograph System – developed by MDE Co. Ltd. for Medical Research, Development and Manufacture. The device is a battery powered extracellular amplifier with four individual channels and a built-in recorder.

The EGIG sensors were placed on the abdominal skin and a reference sensor was placed on the right m. quadriceps femoris non-invasively while the subject was lying on a mattress supine position in a silent room. The recording took 40 minutes in total. In the first 20 minutes the subjects were resting. Exactly at 1200000 ms of the recording an audio stimulus (AS) was played by a mobile PA system at 105 dB. The second half of the recording was in rest too.

All the records were transformed by Adware Research Ltd. The transformed data was statistically analyzed in IBM SPSS v22 software. One sample T-tests were used to compare the time of peaks to the time of the AS. Paired sample T-tests were used to compare resting and peak CPM values.

Results

All subjects had valid EGIG records which showed responses of all subjects (n=15) in the first 18 (M18), between 18-25 (MAX), and after 25 minutes (P25), in the stomach, great intestine and small intestine as well.

The mean M18 amplitude of the stomach was 3,16 cycles per minute (CPM) (sd=0,28). Peaks were detected at 21,33 min (sd=2,22) following the AS at 20 min t(14)=2,320; p=0,036. MAX averaged 5,06 CPM (sd=0,80) which is higher than M18 t(14)=-7,718; p=0,000; and P25 3,27 CPM (sd=0,39). t(14)=-7,345; p=0,000. There is no significant difference between M18 and P25 t(14)=-1,089; p=0,294.

The small intestine M18 mean was 11,13 CPM (sd=0,35). The peaks were detected at 21,26 min (sd=1,75) following the AS t(14)=2,801; p=0,014; with 12,646 CPM (sd=1,26). MAX is higher than M18 t(14)=-4,568; p=0,000; and P25 10,91 CPM (sd=0,58); t(14)=-5,135; p=0,000. There is no significant difference between M18 and P25 t(14)=1,421; p=0,177.

M18 mean of the great intestine was 4,31 CPM (sd=1,46). The peaks were recorded at 21,80 min (sd=2,27) following the AS t(14)=3,066; p=0,008 with 9,96 CPM (sd=2,71). Therefore the MAX is higher than the M18 t(14)=-8,653; and P25 5,42 CPM (sd=2,66); t(14)=-4,002; p=0,001. However there is no significant difference between M18 and P25 t(14)=-1,429; p=0,175. The amplitudes of the great intestine in the three separated periods are shown by figure 1.

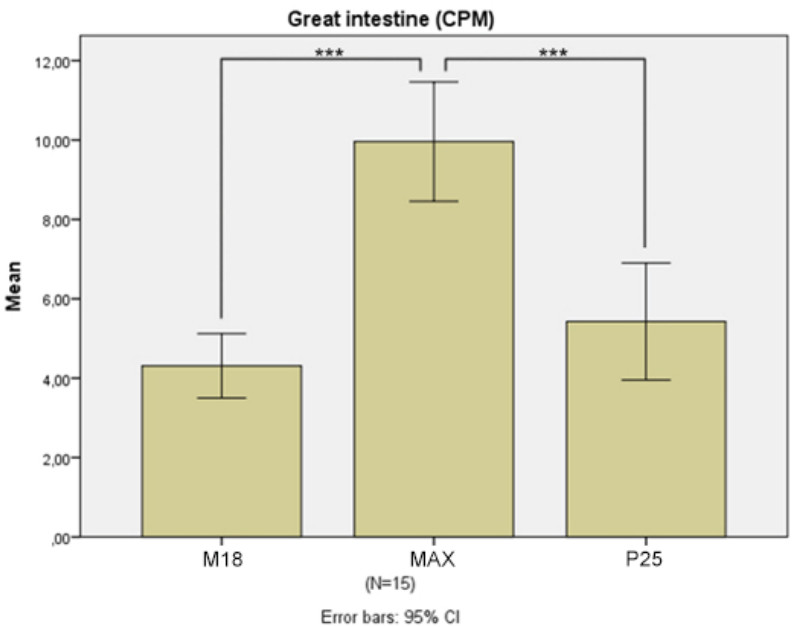

Figure 1. Amplitudes of the great intestine in the three separated periods.

Discussion

The results of the study support the hypothesis: arousal can be monitored by EGIG. All the three examined tracts of the GI reached CPM max significantly after the AS. The resting M18 and P25 amplitudes differed significantly from MAX values within the tracts.

The stomach, small and great intestine reacts similarly to stress however the great intestine is the most sensitive on the stress-response. The resting (M18) CPM was raised by 251% to peak. The small intestine was the only tract which had lower P25 values than M18, although it is not significant.

The relation between the resting and max values in EGIG is similar to ECG and HR monitoring (Dickhut, 2005). This indicates the monitoring methodology for further EGIG in sports. As in HR monitoring, not only the extreme values should be measured but the duration of rising and lowering as well (Yamamoto et al., 2001).

In conclusion the data of this study is the foundation for further researches of the optimal zone. It gives valid resting and basic stress-response CPM values. The scales of optimal zones are expected by monitoring stress-response of the GI during training and competition compared with personal results.

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Methods and Means Regarding the Learning of Swimming in Pools of Different Depths

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Abstract
Swimming plays an outstanding role in the daily life of contemporary man. Its hygienic and recreational importance has favourable effects upon the body and consequently strengthens health. In order to gradually reach the intensity and a huge workload in case of the performance sport necessary to a world-wide competitive swimmer the initiation from a very early age is needed along with the learning, if possible, of the four correct swimming techniques in the shortest possible time. This is achievable only through the creative use of the existing conditions, organisation and correct training, by choosing the most efficient methods and teaching means and the judicious use of the time devoted to the training classes. By using adequate means during the initiation process we will get very good results and stimulate courage, self-confidence, increase of work capacity as well as the avoidance of monotony providing a greater variety and complexity. I do consider that the use of water games in going through the fundamental steps of the specific initiation (getting used to the water, learning of the basic technical elements (floating, breath, gliding), learning of the leg and arm movements and the co-ordination of the legs movement with the arms movement and breath are of utmost importance.
The goal of this paper is to prove that the initiation of swimming in deep water is as efficient as the initiation of swimming in shallow water.

Keywords
Methods, game, floating, breath, gliding, pools with different depths.

Introduction

Using correctly structured exercises for learning the basic technical elements (floating, breath, gliding) as well as learning the gliding process in case of front crawl and backstroke and using the most efficient teaching methods and means (game) a more rapid and correct learning will be achieved from the very beginning; this will lead to a considerable shorter time for learning swimming.

During childhood and adolescence, physical education at school offers an excellent opportunity to learn and practise skills necessary for the improvement of the physical condition and health during life time. These daily activities may include swimming and other sports games.

In the White Paper on sport (European Commission, 2007), the Commission has underlined the fact that the time spent for practicing sports activities as part of the physical education classes both at school and as part of the extracurricular activities may produce substantial beneficial effects on education and health. The promotion of the physical education in schools implies the introduction and adjustment of the policies whose goal is the increase of the general awareness of the long life social and education value the physical education and sport play. In many countries, such an action requires a strategic and rational approach in order to mobilize the young to recognize this principle and create the opportunities for them to take part in physical activities. The European countries adopt different approaches to develop physical education and physical activity promotion strategies. The herein experiment has taken place in Hungary where swimming is included in the curriculum starting with the 1st grade of the primary school. In Hungary swimming represents a national interest activity along with other seven priority sports. There is a huge interest of schools in supporting the practicing of swimming.

In Hungary, the latest reform that has been implemented starting with the school year 2012-2013 increased the number of compulsory physical education classes and offered the students the opportunity to practice sports and physical activities five times a

week. In the lower secondary education system the time devoted to this subject has doubled. Moreover, a more flexible time schedule will allow schools to include in their curriculum alternative forms of sports activity, as swimming, dancing and horse riding. Such activities may be practiced twice a week, out of the five classes in total, in some cases within the school sports clubs. (Tóth Ákos, 2002, *Úszásoktatás*, Semmelweis Egyetem Testnevelési és Sporttudományi kar, Budapest, p. 23).

The training process in the performance sports aims at a continuous increase of the exercise capacity in order to ensure both the withstanding in good conditions of a greater quantity of mechanical work during training and allowing the achievement and maintenance of the effort at the highest possible level during competitions. (Silviu Salgau, Gheorghe Marinescu, 2005, *Adaptarea efortului si programarea la inotatori",* Editura Tehnopres Iasi, p. 8).

Methods

The experiment consisted in the application of some methods and means in order to learn and reinforce the basic technical elements and learning of the front crawl and backstroke techniques. It took place at the Swimming Centre at Ketegyhaza (Hungary) and we worked on two groups (experimental and control), each made up of 10 children aged 5 to 7. Each group consisted of 5 girls and 5 boys. Taking into account that at this age the morphological functional differences are insignificant and that they were all beginners I may consider that they all belong to the same statistical sample.

The subjects have been selected according to the following criteria:

- to be a disciplined group with a regular attendance of the classes;
- to work according to a common plan so that all the subjects use the same training means, methods and the exercises are personalized in accordance with their morphological and physiological characteristics;

- in order to measure progress we used the arithmetic mean as a statistical indictor at the final tests.

During the experiment, children were individually guided and we worked according to the swimming technique teaching and reinforcement methods. The swimming course comprised 12 lessons of an hour and a half each. They took place three times a week from Monday until Friday for four weeks. The experimental group used the deep pool for their activity while the control group the shallow pool.

The analytical learning involves the learning of the swimming technical procedures by increasing gradually the learning of the technical structures specific to the swimming procedures and in the end reaching the achievement of the co-ordination of the component parts and the global performance of swimming procedure. (Jivan Ioan Sebastian, 1999, *Inot – tratat metodic* Editura Printech Bucuresti, p. 87).

During the 12th lesson the children were submitted to the control tests. The marks were from 1 to 5, 1 standing for unsatisfactory, 2 – satisfactory, 3 – average, 4 – good and 5 – very good or excellent.

The control tests were the following:

- breaststroke – pushing off wall;
- backstroke – pushing off wall;
- breaststroke with front crawl legs movement;
- backstroke with back legs movement;
- breaststroke with front crawl legs movement, the right arm stretched forward and the left arm along the thigh;
- breaststroke with front crawl legs movement, the left arm stretched forward and the right arm along the thigh;
- backstroke with back legs movement, the right arm stretched forward and the left arm along the thigh;
- backstroke with back legs movement, the left arm stretched forward and the right arm along the thigh.

Moving in water using a specific technical procedure is achieved by moving the arms, also called paddling. In all technical procedures arms have a propulsion role and in the front crawl technique they also get an elevation from water role. (Luciela Carla, 1999, *Inot*

aptitudinile psihomotrice si pregatirea tehnica, Editura Printech, p. 113).

The components of the operational model comprised the following driving and algorithm systems used during the training lessons:

- Exercises for a harmonious physical development;
- Water games – regarding the fundamental stages of specific training (getting used to the water, learning of the basic technical elements – floating, breath, gliding), learning of the arms and legs movement, the co-ordination of the arms and legs movement and breath;
- Exercises for learning the front crawl and backstroke technique.

The objective of the training programmes has been to produce metabolic and psychological adjustments allowing the swimmers to swim better. (Maglischo, E. W., *Swimming fastest*, Ed. Human Kinetics Publishers, Inc. 2003, p. 85).

From the point of view of the statistical analysis we have used as statistical indicators the arithmetic mean, the amplitude, the average deviation, the standard deviation, the variability coefficient which can provide us with conclusive data on our experiment. Conclusions have been drawn after quantifying the differences of the tests performed upon the control and experiment groups.

Results

The experimental results have been organized in tables, statistically processed and interpreted according to the methodology of the physical activity research methodology. The evolution recorded during the learning process and the reinforcement of the basic elements in swimming along with the learning of the front crawl and backstroke technique (in gliding) obtained by the studied subjects are shown in the following tables:

Tabel nr. 1. The results of control samples of the **control group** conducted in shallow water

THE CONTROL GROUP (shallow water)							
The subject of the research	**Year of birth**	**Sex M/F**	**Age (years)**	**Sliding crawl with push the wall – T1**	**Sliding crawl, crawl with legs exercise-T2**	**Sliding crawl, with left arm extended-T3**	**Sliding crawl with right arm extended-T4**
1.	2010	F	6	4	4	5	5
2.	2009	F	7	5	5	4	4
3.	2009	M	7	5	4	4	5
4.	2009	M	7	2	3	3	3
5.	2010	F	6	4	4	4	5
6.	2009	F	7	5	5	5	5
7.	2009	M	7	4	5	5	4
8.	2009	M	7	4	4	3	4
9.	2010	F	6	5	5	4	5
10.	2010	M	6	3	3	4	3
ARITHMETIC MEAN			**6,6**	**4,1**	**4,2**	**4,1**	**4,3**
AMPLITUD			**1**	**3**	**2**	**2**	**2**
AVERAGE DEVIATION ABATEREA MEDIE			**0,04**	**-0,21**	**-0,12**	**-0,11**	**-0,13**
STANDARD DEVIATION			**0,48989795**	**0,94339811**	**0,748331477**	**0,7**	**0,781024968**
VARIABILITY COEFFICIENT			7,42269619	23,0097101	17,81741613	17,07317073	18,16337134

Tabel nr. 2. The results of the control samples of the **experimental group** conducted in deep water

THE EXPERIMENTAL GROUP (deep water)							
The subject of the research	**Year of birth**	**Sex M/F**	**Age (years)**	**Sliding crawl with push the wall-T1**	**Sliding crawl, crawl with legs exercise-T2**	**Sliding crawl, with left arm extended-T3**	**Sliding crawl with right arm extended-T4**
1.	2010	B	6	4	4	4	4
2.	2010	B	6	5	4	5	5
3.	2009	B	7	5	4	5	5
4.	2009	B	7	3	2	3	3
5.	2009	F	7	5	4	5	5
6.	2009	F	7	5	5	5	5
7.	2009	B	7	4	5	4	4
8.	2010	F	6	4	5	5	5
9.	2009	F	7	2	4	3	3
10.	2009	F	7	4	5	4	5
ARITHMETIC MEAN			**6,7**	**4,1**	**4,2**	**4,3**	**4,4**
AMPLITUDE			**1**	**3**	**3**	**2**	**2**
AVERAGE DEVIATION ABATEREA MEDIE			**0,03**	**-0,11**	**-0,22**	**-0,13**	**-0,14**
STANDARD DEVIATION			**0,458258**	**0,943398113**	**0,871779789**	**0,781024968**	**0,8**
VARIABILITY COEFFICIENT			**6,839665**	**23,00971008**	**20,75666164**	**18,16337134**	**18,18181818**

Tabel nr. 3. The results of the check samples of the **control group** conducted in shallow water

THE CONTROL GROUP (shallow water)							
The subject of the research	**Year of birth**	**Sex M/F**	**Age (years)**	**Sliding crawl with push the wall-T1**	**Sliding crawl, crawl with legs exercise-T2**	**Sliding crawl, with left arm extended-T3**	**Sliding crawl with right arm extended-T4**
1.	2010	F	6	4	5	4	4
2.	2009	F	7	4	4	5	4
3.	2009	B	7	5	5	4	4
4.	2009	B	7	3	3	3	3
5.	2010	F	6	5	4	5	4
6.	2009	F	7	5	5	5	4
7.	2009	B	7	4	4	4	4
8.	2009	B	7	4	4	4	4
9.	2010	F	6	5	5	5	5
10.	2010	B	6	3	3	3	3
ARITHMETIC MEAN			**6,6**	**4,2**	**4,2**	**4,2**	**3,9**
AMPLITUDE			**1**	**2**	**2**	**2**	**2**
AVERAGE DEVIATION ABATEREA MEDIE			**0,04**	**-0,12**	**-0,12**	**-0,12**	**-0,09**
STANDARD DEVIATION			**0,489898**	**0,748331477**	**0,74833148**	**0,74833148**	**0,53851648**
VARIABILITY COEFFICIENT			7,422696	17,81741613	17,8174161	17,8174161	13,8081149

Tabel nr. 4. The results of the check samples of the **experimental group** conducted in deep water

THE EXPERIMENTAL GROUP (deep water)							
The subject of the research	**Year of birth**	**Sex M/F**	**Age (years)**	**Sliding crawl with push the wall-T1**	**Sliding crawl, crawl with legs exercise-T2**	**Sliding crawl, with left arm extended-T3**	**Sliding crawl with right arm extended-T4**
1.	2010	B	6	4	5	4	4
2.	2010	B	6	5	5	5	5
3.	2009	B	7	5	5	5	5
4.	2009	B	7	3	2	3	3
5.	2009	F	7	4	4	5	4
6.	2009	F	7	4	4	5	5
7.	2009	B	7	5	5	5	5
8.	2010	F	6	5	5	5	5
9.	2009	F	7	3	4	3	3
10.	2009	F	7	4	5	5	4
ARITHMETIC MEAN			**6,7**	**4,2**	**4,4**	**4,5**	**4,3**
AMPLITUDE			**1**	**2**	**3**	**2**	**2**
AVERAGE DEVIATION ABATEREA MEDIE			**0,03**	**-0,12**	**-0,24**	**-0,15**	**-0,13**
STANDARD DEVIATION			**0,458**	**0,748331477**	**0,91651514**	**0,806225775**	**0,781024968**
VARIABILITY COEFFICIENT			6,84	17,81741613	20,8298895	17,91612833	18,16337134

Following the arithmetic mean of the performed tests by the control group (in the blue column) and the experiment group (in the red column) in Tables 1 and 2 represented in Graph 1 (on the vertical axis there are the marks from 1 to 5 and on the horizontal axis the tests performed by the subjects from the experimental and control group), as well as the evolution of the arithmetic mean of the tests performed by the control group (in the blue column) and the experiment group (in the red column) from Tables 3 and 4 and represented in Graph 2 we may draw the conclusion that the two start-up methods are approximately equally effective with a minimum plus for the experiment group who developed their activity in the deep water pool.

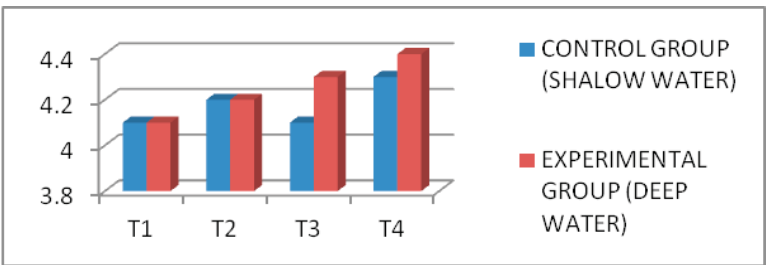

Chart no. 1. The graph represents the **arithmetic mean** of the samples from table 1 and 2.

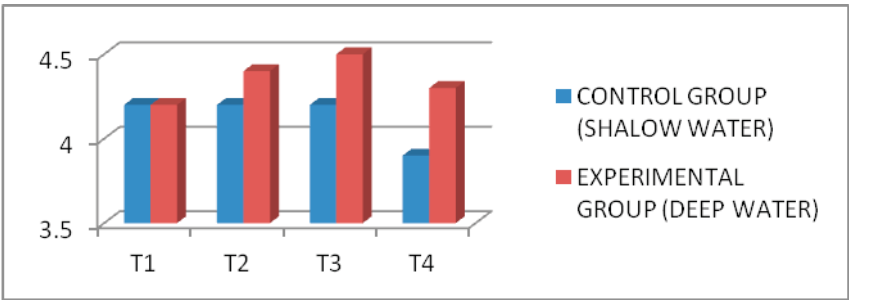

Chart no. 2. The graph represents the **arithmetic mean** of the samples from Table 3 of and 4.

Hence, I may conclude that after acquiring the basic technical elements (floating, breath, gliding), both the subjects from the control and experiment group learned and reinforced the front crawl and backstroke in about the same time, as I have previously stated, with a plus for the experiment group. Also, I appreciate that the means for the technical preparation have been sensibly chosen and used.

The most frequent age in the tested group was 7. The average age of the subjects in the tested sample was 6,6 for the experiment in shallow water and 6,7 years of age for those in deep water.

The variation coefficient (VC) is the most and significant indicator for the variation analysis. The VC of the age of the subjects who got marks is comprised between 0 and 10% which shows that the homogeneity of the group is high. The VC of the marks the subjects got at all tasks (both in shallow and deep water) is between 10 and 20% which shows the average homogeneity of the given marks. There is a deviation of the given marks from the central value with ± 0, 24, a difference that inscribes in the standard computed for the studied groups.

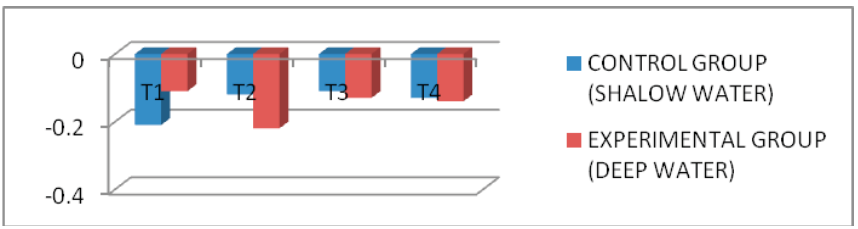

Chart no. 3. The graph representing the **standard deviation** of the samples from table 1 and 2.

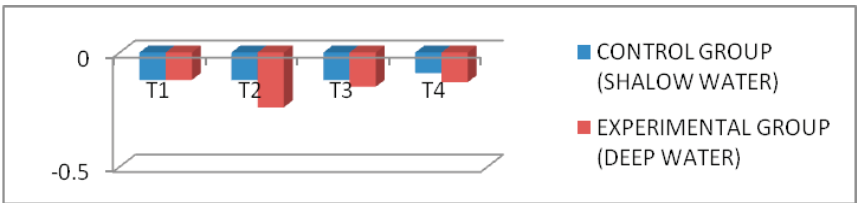

Chart no. 4. The graph representing the **standard deviation** of the samples from Table 3 of and 4.

Conclusions

Following the recorded data that have been statistically processed we may state that:

- the results at the performed tests improved constantly and finally the progress was obvious;
- the evaluation of the technique, though more difficult to achieve but based on a rigorous algorithm in our case showed an improvement of the basic technical skills, fact that proves that the independent variables have been rationally chosen.

I consider that the focus on the technical component of the training, especially at this age, when the psychological and physiological particularities of the subjects allow motion acquisitions, high receptivity, plasticity of the nervous system is of great importance and this is also noticeable in the progress made in acquiring the swimming basic technical elements and the front crawl and backstroke procedures (in gliding). The rigorous quantification of the technique influence and the obtaining of the sport performance is difficult to achieve but referring to the literature in the field we consider that at that age the effectiveness of the means used during the start-up stage, the learning of the basic technical elements and the swimming technique for front crawl and backstroke should be a priority over the physical, tactical and psychological training. The results obtained both with regard to the motion and technical accuracy acquired in shallow water pools confirm the hypothesis. Finally, I consider that the means used during the initiation stage and the technical preparation for learning how to swim front crawl and backstroke have attained their goal. Also, my future intention is to rationalize them and choose those with the highest formative value. As a general conclusion, I consider that the initiation of swimming in deep water pools is recommendable because after this stage children will be prepared for a new level of learning, namely that of other swimming technical procedures. The start-up stage for swimming in shallow water pools is recommended to the children between 1 and 5 years of age.

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Attitudes, Goals Orientation and Stress of Youth Kung Fu Fighters

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Abstract
The aim of this study was evaluate the motivation, attitudes and pre-competitive stress of Youngers Brazilians Kung Fu fighters. As instruments, we applied the Teosq, Ssca and Lsscpi correlation each one in a total of 21 students, age between 7 and 16 years old. By the results, we check mean for task orientation 4.31 and for ego orientation 2.53; for the positive attitudes the mean was 2.86 and for negative was 2.16, and the girls presents more stressed before the competitions than the boys, 2.90 and 2.61 respect. In this case, boys have tendency to task orientation,positive attitudes for the competition and more control in stress pre competitive. This results show that in correlation we have tendency to ego orientation, negative attitudes and higher level of stress in girls concluding that the characteristics related to stress tend to affect the development of a positive orientation as the orientation characteristics to task, which lead athletes to work harder and be aware of their skills.

Keywords: Motivation; Stress pre-competitive; Attitudes; Kung Fu Fighters.

Introduction

Motivation is something that leads the individual to an action, which keeps him focused to persist toward their goals, so it is necessary to have an objective to be reach(Winterstein, 2002).

Motivation includes needs, impulses, desires, interests, purposes, attitudes and aspirations of an individual. Perhaps schools could achieve greater success while exploring the interest and motivation of the child, providing opportunities that they are committed to their own learning(Marante & Ferraz, 2006).

According to Machado(1997) the key to human behavior is the knowledge of motivation, being indispensable consider the intensity of different reasons, for its efficient control. Furthermore, the motivational process is a proactive learning function and the reasons for perceived channel information in the direction of behavior.

Motivation is defined as need for achievement of success; necessity of do better than others in activities and complete challenging tasks; the desire to rise above, especially when competing with others players(Huffman, Vernoy & Vernoy, 2003).

Bebetsos, Zetou & Antoniou(2014) says that the bottom of the theory of the achievement Goal is that individuals engage in achievement contexts in order to demonstrate competence, so the individual who is high in task orientation uses self-referenced criteria to define success and perceives competence as improvement.

Therefore, we can say that a satisfied athlete are motivated. Under the assumption, the cognitive theory of motivation can establish two types of orientation: ego and task orientation(Nicholls, 1984).

According to Duda(1992), there is an association between the motivational orientation in any particular environment and the potential socialization of values inherent in that atmosphere. So when we note that an individual are propelled to ego orientation, we see some features such as individualism and performing with a low degree of difficulty, while the individual task-oriented brings the team spirit alive all the time, self-reference against its will. Individuals task-oriented are concerned with the demonstration of learning and

domain of the task, namely, their behavior is directed, are persistent and establish appropriate goals on their skills; have a greater need for achievement by being optimistic and believing in their effort. Therefore, when subjects are oriented to ego, subjects feel highly competent and successful only; when they show that,they are better than others are (Klain, Cid, Matos, Leitão, Hickner, & Moutão, 2014). They perceived of competence was judged by a normative criteria.

Son in this way of thinking may the kind of motivational orientation influence the attitudes upon the competitions and the athletes stress.

Attitude toward Brito(1998) can be understood as a personal, idiosyncratic, this provision in all individuals, directed to objects, events or people that assume different direction to and intensity according to the lived experiences of the individual. Moreover, it presents components of affective, cognitive and motor domain. You can have positive (almost when you like do something) and negative (when you don´t).

In this direction, we problematized if the type of orientation (task or ego) shall be correlate with the type of attitudes and the pre competitive stress.

Weinberg & Gould(2001)describe the stress as a process containing four stages. First, the individual and placed a demand that can be physical or psychological, after the second stage is the perception regarding to the demand, which is different for each individual. Third step response occurs as demand lodged, and the last stage and the behavior of individual the stress caused by this process, so a continuous cycle especially when the answer is negative.

The pre-competitive stress can cause consistent changes in the behavior of an athlete before competition, disfiguring his hours of sleep, and during sports practice, harm your performance(Hirota, Tragueta & Verardi, 2008).

Apparently, the motivation includes needs, impulses, desires, interests, purposes, attitudes and aspirations of an individual. Perhaps schools could achieve greater success while exploring the interest and motivation of the child, providing opportunities that they

are committed to their own learning(Marante & Ferraz, 2006). Motivation seen to be a psychologically directed force. Students may be more or less motivated to study and are motivated differently for different courses. Therefore it should not be studied only the strength or amount of motivation, but also their quality. Use task goals and intrinsic goals is better than other goals that guide for performance and extrinsic goals. Thus, personal reasons are more adaptable than impersonal reasons to study(Lens, Matos, &Vansteenkiste, 2008). Thus, the practice of physical activity can help teens develop positive attitudes to their concepts(Matias, Rolim, Kretzer, Schomoelz, & Andrade, 2010).

In this way,the aim of this study was evaluate and correlate the motivation, attitudes and pre-competitive stress of YoungersBraziliansKung Fu fighters.

Method

This study is classified as a descriptive and correlate research, which aims to describe the characteristics of a given population or phenomenon, and establish relationships between variables(Thomas & Nelson, 2002).

Sample

The study sample was intentional, and consisted of a total of 21 students (n:21), all practicing of Kung Fu, in the City of Carapicuiba, São Paulo - Brazil; students present age between 7 and 16 years old (mean 11.87 ± 2.76, coefficient of variation of 23.25%). All students involved in this study were selected by establishing the criteria that should participate in the sport related and in regular championships of this modality. Of the total students, 17 (n: 17) of participants were male (mean age 12.72 ± 2.73 years, and coefficient of variation of 21.46%) and four (n: 04) made up the female sample (mean age 10.75 ±2.98, coefficient of variation of 27.72%). By the ages, even if we separated by the gender we have no homogeneous characteristic's in the sample according to the age.

Instruments

a. For data, gathered in this study, the motivation scale used was Task and Ego Orientation in Sport Questionnaire – TEOSQ(Duda, 1992), and since then the instrument has been tested in several studies both in Portuguese, the Brazilian version (Hirota & De Marco, 2006;Hirota, Schindler & Villar, 2006; Hirota, Hayashi, De Marco, Verardi, 2011; Hirota, 2014; Hirota, Touri, Ferreira, & Leite 2014; Hirota, Diniz, Arroxellas, De Marco, Verardi, Seabra, Paula, 2016c)and has also been adapted into other languages in different countries (Duda & Whitehead, 1998; Fonseca & Balagué, 2001; Lopez-Walle, Tristan, Tomas, Castillo, & Balaguer, 2011; Klain et al., 2014). The purpose of TEOSQ is to evaluate individual differences in perspectives of the goal, set a school sports practice, detecting if the individual is determined to be task-oriented or ego-oriented. This instrument allows us to identify the motivational goal orientation (task and ego) of the participants assessed when performing a task, in other words, respondents should see in front of sports and evaluate how successful they seen to be in this sport. Therefore, the instrument consists of 13 Likert type questions of 5 points, divided by 6 issues regarding ego orientation, and seven questions related to task orientation;

b. Scale of Attitudes toward Mathematics (Brito, 1998) proposal, adapted and validated in Brazil(Hirota, Diniz, Silva, Lima, Verardi & De Marco, 2014b; Hirota, Anjos, Ferreira, De Marco, 2016b),named of Sports Scale For Attitudes Competition (SSAC) Likert-type scale, oh 4 points, that consists of 20 items (10 positive and 10 negative) whose purpose was to assess attitudes toward a joint entity, in this case, the sporting competition. Issues 01, 02, 06, 07, 08, 10, 12, 13, 16 and 17 expressed whereas negative feelings the issues 03, 04, 05, 09, 11, 14, 15, 18 and 19 is related to positive feelings[5.] this instrument watching whether it the athletes have a positive or negative attitude towards sports competition, in other words, if they like or not to join championships;

c. LSSCPI - List of Symptoms of "Stress" Pre-Competitive Youth Children(De Rose Jr., 1998; Hirota, Verardi & De Marco, 2016). This instrument also constitutes as a Likert scale of 5 points

where the answers may vary: 1: Never/ 2: Rarely / 3: Sometimes / 4: Often and 5: Always. The applicability of the instrument provides that it be applied in the period from 24 hours before the sport competition, and can be administered to athletes aged 10-14 years, upper age range of athletes since the language is properly appropriate to them. This instrument aims to identify the level pre-competitive stress for young athletes who participate in school sports competitions.

Procedures for Data Collection

Prior to collecting data with students, we ask permission from the Academy of Kung Fu to conduct the survey, so the Director signed a Letter of Authorization Institution. A Term of Free and Informed Consent Form (TFICF) that was delivered to parents to allow their children to participate in the study, so students received along with the consent form, a letter of information to the research subject was written, describing what procedures would be taken in data collection. After receiving the TFICF's, we rely on the help of Master´s institution, and as students arrived for sports practices, were separated into five groups, and the researchers handed a clipboard and a pen containing the instrument. Students should respond individually to ensure nothing interfering with the results, and after responses, the researchers checked whether all issues were properly completed. The procedures for data collection followed the Newsletter to Research Subjects and signature of the Terms of Consent, by paying attention to research ethics set by the Declaration of Helsinki, 196421, Resolution no. 466, 2012(Who, 2002).

Processing Statistical Data

The statistical method used was calculating the *Alpha´s Coefficient Crobanch* in order to verify the reliability and internal consistency of the instrument items therefore calculated separately for each type of motivational orientation (task and ego), for each attitude (negative and positive) and pre competitive stress, to guarantee the scales performances. We adopted this procedure because according Pasquali(1998) the most used techniques to assess the internal con-

sistency are two halves, Kuder-Richardson and *Cronbach'sAlpha*. Also for statistical analysis to calculate the median, average, standard deviation and score for all the scales. We have adopted the division of the calculations of descriptive statistics separately by genders. In order to highlight possible significant differences between the means we include the Mann-Whitney test ($p \leq 0.05$) and *Spearmantest (rho)* was used to establish the correlation of data. For these analyzes we used the SPSS software EDITOR-DATA (Statistical Package for Social Science) version 18.0 for Windows.

Results & Discussion

Testing the reliability of the instruments, we found for TEOSQ the result of Alpha´sCoefficient for task orientation of 0.87 and 0.80 for ego orientation (see Table 01) representing a good performance of this instrument as in other studies (Duda, 1992, Duda & Whitehead, 1998, Fonseca & Balagué, 2001,Lopez-Walle et al., 2011, Klain et al., 2014)

The reliability of the attitudes instrument show us Alpha of 0.82 for positive attitudes and Alpha 0.71 for negative attitudes questions (see Table 02), confirmed excellent results (Brito, 1998, Hirota et al., 2014b). For the third and last instrument, the one that evaluate the stress pre-competitive we had Alpha´s Coefficient of 0.89 for the whole instrument (De Rose Jr, 1998, Hirota, Tragueta, & Verardi, 1998, Hirota et al., 2014c).

Table 01: Results of Mean, Standard Deviation, Median, Score and Alpha´s Cronbach by Gender of Task and Ego Orientation.

	ORIENTATION (TEOSQ)									
	TASK					EGO				
Gender	Mean	S. Dev.	Med.	Score	α	Mean	S. Dev.	Med.	Score	α
Male	4.28	±0.98	5	31	0.87	2.51	±1.28	2	15.11	0.80
Female	3.85	±1.14	4	27		2.58	±1.05	2	15.50	
Total	4.31	±1.04	5	30.23		2.53	±1.24	2	15.19	

Comparing the results of mean of task and ego orientation of female group, we check that there is a significant difference between task and ego (p=0.001), so girls are task orientated as boys are.

Comparing the average between task orientation by gender, in male group, there is a significant difference, so boys are more task oriented than girls are (p=0.01). About ego orientation, there is no difference (p=0.800), so in this orientation both genders are similar.

Table 02: Results of Mean, Standard Deviation, Median, Score and Alpha´s Cronbach by Gender of Positive and Negative Attitude's.

	ATTITUDE´S (SSCA)									
	POSITIVE					NEGATIVE				
Gender	Mean	S. Dev.	Med.	Score	α	Mean	S. Dev.	Med.	Score	α
Male	2.89	±0.93	3	31.88	0.82	2.13	±0.92	2	21.35	0.71
Female	2.72	±1.01	3	30		2.30	±0.79	2	23.00	
Total	2.86	±0.95	3	31.52		2.16	±0.89	2	21.66	

Referent the attitudes, in total group there is a significant difference between positive and negative attitudes (p=0.001), so the total group have a positive way to leading with the sports competition. In female group, there is no significant difference between positive and negative attitudes (p=0.03), so we cannot say that the girls really like the sports championships, but there is a tendency for then to like competition if we look the median (Table 02).

The male group, when we compare the positive and negative attitudes, there is a significant difference (p=0.001), so definitively boys like more the competitions then girls do.

Comparing the mean of negative attitudes between genders there´s no significant difference (p=0.255), so they see the negative points of the competition in the same way, the median are 2 for both. For positive attitudes the difference in not significant also (p=0.284)

In the first testing of the instrumentwith 260 youngers athletes the average results was 2.52 (±0.86) to negative and 4.66 (±0.84) was determined for positive(Hirota et al., 2014b).

The mean stress of the group was 2.66 (±0.48), score total of 82.71; the malemean was 2.61 (±1.29) with a score of 81 while the female havemean of 2.90 (±1.50) with a score of 90 (see Table 03).

Table 03: Results of Mean, Standard Deviation, Median, Score and Alpha´s Cronbach by Gender ofStress Pre-Competitive.

STRESS (LSSCPI)					
Gender	**Mean**	**S. Dev.**	**Med.**	**Score**	***α***
Male	2.61	±1.29	3	81	0.89
Female	2.90	±1.50	3	90	
Total	2.66	±0.48	3	82.71	

According to the resultsof mean, there is a significant difference between the gender (p=0.03), so the girls have more pre-competitive stress then the boys. First, because girls are younger than the boys are and second they have less experience in competitions. However, as we can see in the median results, both have three, as the role group.

The athletes participating in competitions often have advantages over the athlete who do not participated in competitions with the control of stress before and during the competition(De Rose Jr., Korsakas & Deschamps, 2001).

In this way, the motivation, stress and anxiety are directly connect to sport performance, which can be decisive when facing the

victory as the failure during sports competition.The guidance could be adjust as the environment of learning, so students can take the guidance as atmosphere created by the teacher (Duda, 1989).

In sports, the success, perspective should be create sports training centers, exploring age groups, genders and different skill levels to better develop the fights in the formative context of struggles (Franchini & Del Vecchio, 2011).

Establishing the correlation between task orientation and positive attitudes, only in females, was found evidence of an moderate and significant correlation (*rho*=0.406, *p*=0.03); Another correlation was detected from the level of stress and task orientation (*rho*=0.455, *p*=0.01), and the level of stress and ego orientation, there is also a moderate and significant correlation (*rho*=0.518, *p*=0.01), thus demonstrating that no matter the cases of motivation, girls suffer from pre competitive stress.

Regarding ego orientation and negative attitudes the correlation is strong but not significant (*rho*=0.870, *p*=0.686), i.e., the negative factors have connection with guidance to ego, where athletes tend to be more insecure, less persistent and give up more easily.

In recent study with 207 athletes who participate in school sports competitions, aged between 14-18 years old, girls are more stress than boys are significantly; correlation between stress and the positive attitude proved a weak and negative result; thus, students who have higher positive attitudes invariably tend to have a more controlled level of stress(Hirota et al., 2014c).

The other correlations were weak and not significant in males, negative correlation between task orientation and negative attitudes (*rho*= -0117); weak and positive guidance between guidance to ego and negative attitudes (*rho*=0.148), results that justify these in the direction of correlation of variables.

The extent that the results of positive attitudes increase, negative attitude decreases, so more students who like to compete in sports, tend to have less negative attitudes(Hirota, 2014b).

We can conclude that with all applied instruments, female athletes have emotional alteration that can bring in their competitive results since the pre competitive stress was correlated most other

characteristics. The characteristics related to stress tend to affect the development of a positive orientation as the orientation characteristics to task, which lead athletes to work harder and be aware of their skills; they are more persistent, self-confident and give a clear direction to the positive performance during training and during competitions.

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Study regarding the impact of the number of physical education classes at primary level

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Abstract
In Romania, the secondary effects of the lack of physical activity are becoming more visible now with high incidence in children and young people, and many social and economic difficulties affecting voluntary participation of young people in physical activities. One solution could be increasing the number of hours of physical education in the public educational system. **The aim** of this study was to determine the effect of increasing the number of hours of physical education under the current system of education in Romania, from two to five classes a week and placing movement games in their classes of students in primary level, physically and mentally healthy. **Methods and subjects.** Thus, using the experimental method, we chose the subjects as the pupils in two classes from primary level, as follows: first grade, as an experimental group - EG (n = 16, 10-B / 6-G), age = 7 ± 0; height = 1.31 ± 0.03, weight = 30.125 ± 3.28; and second grade as a control group - CG (n = 16, 10-B / 6-F), age = 8 ± 0; height = 1.34 ± 0.07, weight = 33.68 ± 9.03. Before study, we tested both groups of students, initial test - IT, on the level of motor skills development time, using 5 different samples. Then I worked with EG differentiated as planned; ie, five hours a week, while the CG we used means and dosage, according to the current curriculum in Romania.

Results. After three months were carried out final tests FT- and we present in this study the results for statistical indicators: mean - M, standard deviation - SD and coefficient of variation - CV, five of the samples - back extension / rep. (BE), - maintaining hang / sec. (MH), - lifting torso (crunch) / rep. (LT) - shutlle 5x5 / sec. (SH), and - long jump from standstill / cm (LJ), of randomly selected samples in the school curriculum. Thus we present here summarized results of the samples from IT: CG: BE: 6.06 ± 2.54, CV = 41.9%; MH: 6.18 ± 2.83, CV = 45.8%; LT: 27.31 ± 3.75, CV = 13.7%; and GE has the results: BE: 6.43 ± 2.27, CV = 35.4%; MH: 6.18 ± 3.22, CV = 52.2%; LT: 27.5 ± 4.22, CV = 15.4%; while the TF, the results were: CG: BE: 2.9 ± 8.75 CV = 33.3%; MH: 9 ± 3.14, CV = 34.9%; LT: 28.62 ± 2.68, CV = 9.4%; and EG it has the results: BE: 13.37 ± 2.94, CV = 22%; MH: 15.2 ± 3.3, CV = 21.8%; LT: 29.81 ± 0.54, CV = 1.8%. **Conclusions**. The results indicate that, after three months of five hours per week of physical education, the experimental group improved both quantitatively and qualitatively the parameters on all motric qualities, but in force the growth was more spectacular.

Keywords: physical activity, motion games, motric qualities, harmonious development.

Introduction

Frequent changes within our educational system, not considering the actual situation in Romanian schools - with many remaining amenities of 20-30 years ago, and especially the lack of interest in physical education, generally within the education system in our country, are factors that caused the sharp drop in interest of children and hence their poor results in physical education and many more medical exemptions faced daily by every physical education teacher. Therefore, I think it is imperative that within the organized school, during the program and beyond, children are accustomed from an early age to participate in physical activities, initially in the form of simple games and competitions, relays, passes, etc. to form the habit of making motion to heading outdoors, in nature even to practice various sports later, to learn rules of hygiene and healthy eating, in a word to prepare to become a complete person, firmly planted in reality and who can face any situation successfully (Gyori, 2015).

International statistics show that the teaching time allocated to physical education in primary education has been greatly reduced since 2006/2007, with a share of about a third of the time allotted for language instruction, respectively half the time allotted for math (EACEA, 2013). Thus, the curriculum is given too little time for sports, sports media time is 109 minutes per week in primary schools, the figure dropping constantly since 2002. Due to the low level of education and increasing financial hardship they face every day, the Romanian society has a rigid position, indifference and even rejection towards the need to practice regular, if not daily, exercises of motion, maintenance, although the top quality of life, in the European Union was ranked at the bottom, 53rd (http://internationalliving.com). But in Romania, 7.7% of the male population is obese and 9.5% of the total female population is obese, according to a study by Eurostat (European Statistical Office). In our country, a Romanian in three is overweight and one in four is obese. Unfortunately, only 10% of the population with body mass index over 30 going to a medical control to solve the problem of weight. In total, in Romania there are 3.5 million obese, according to a study conducted by the company Abbot Laboratories. (http://www.sfatulmedicului.ro). However, and that by 2016, physical education

in the Romanian education compulsory lost further ground, lead us to a simple conclusion but extremely clear: physical education held starting at primary school, sports and exercise all need to be promoted as major factors regarding education standards, so as to contribute to increasing desire to go to school for students and improve academic thereof. (Howie, Pate, 2012).

We believe that a solution to this problem would be to increase the number of hours of physical education under the current system of education in Romania, from two to four - five hours a week, and introducing motion gaming to the lower grades in these hours, to positively influence the level of development of motor skills and wellbeing of general, elementary school children. It is therefore necessary to study primary school, ascertaining the degree of truthfulness of those mentioned above, in order to implement this solution nationally, if this proves true.

The purpose of this study was to observe whether there is any improvement in the somatically, mentally and physically health of the students. Also during the experiment, one of the major objectives was to select the drive means that neither bore the students nor submit them to excessive efforts.

Methods. Participants.

The experiment I conducted in Secondary School "Sorin Titel" Margina, Timis county, on a sample of 32 students, representing the students of two classes: first grade, as an experimental group - EG (N = 16, 10-B / 6-F), M age = 7 ± 0; M height = 1.31 ± 0.03, M weight = 30.125 ± 3.28; and second grade as a control group - CG (N = 16, 10-B / 6-F), M age = 8 ± 0; M height = 1.34 ± 0.07, M weight = 33.68 ± 9.03. With EG I worked differently according to the selected content planned for the duration of five hours per week, while the control group we used means "traditional" set in units / drives each motor quality, during the space of two hours a week, according to the curriculum in force in our country. Both the EG and the CG, the methods and means used complied schedules yearly and the structure of the physical education lesson, development /motric education, having locations defined in the composition of this structure: the speed and skill - after "Influence selective

musculo-skeletal / body "and the resistance and strength - before" , the body after exercise."

Say that we decided that the EG to consist of students from class I (the first grade) in order to better support the research hypothesis, namely that the number of hours per week to physical education has an important role in developing motor skills in young school children.

Also, all project participants come from rural areas where the school is located and where was conducted the study, being clinically healthy at the date of commencement of the experiment, and at its end, with no injury, trauma or serious illness while participating in it. The children's parents were informed and they signed an agreement for this study.

This study had methodological support of the Research Center for Physical Activities of the Faculty of Physical Education and Sports from Aurel Vlaicu University of Arad. We mention that we have the permission of the Commission of Ethics of the faculty to conduct this study.

Experimental Design

The experiment was conceived and was conducted in three stages:

Stage - I: that included initial tests and evaluation of motor skills development, physical development for both groups (EG and CG).

a) Anthropometric measurements: height, weight, waist and the thorax circumference and body mass index – Quetelet - useful for measuring a population and not to make the diagnosis on one person (Galea, 2014), were held in the gym, outside school hours;

b) The assessment / investigation of the degree of development of motor skills we used the following tools / samples: -Maintaining in hanging position; -Long jump from standstill; -The shuttle 5x5 m; -Back extension; -Lifting the torso (crunches); were held in the gym, during the school hours, from 15 to 26 February 2016;

Stage - II : was to implement effective planning documents developed and experimentation methods and tools, which aim at increasing pupils' interest in movement, increasing development of motor skills - under investigation - increasing physical and mental health exertion, through movement games, especially attracting students to physical education class, held in pleasant and useful

manner, sports culture education, respecting a good structure.

Here are some of the means used during lessons with experimental group:

-The Pacer - "Progressive Aerobic Cardiovascular Endurance Run" (Meredith, Welk, 2010), and different games for: - speed development; - for skill development; - for the development of resistance; - or force development games (Login, Stoicescu, 1982);

We also performed with pupils various utilitarian and applicative pathways or different stage races, in the form of contest or games, for the development of skills and abilities.

Stage - III : which included final testing and evaluations, registration and ordering data for processing them. Also, another activity of this stage was the statistical analysis by comparing and determining the degree of achievement the objectives and working hypothesis confirmation or rejection.

For the experiment to achieve the most correct results, we took into account the particularities of age, anatomical and physiological and psychological characteristics of students, and that during the most favorable for the development of motor skills are lower ages for speed and skill, and the higher (from 14 years), for strength and endurance. Therefore, games and paths applied or circuits that we selected, primarily target development speed and skill rather than developing strength and endurance, without neglecting them, but only as a general matter, taking into account the specific of their age.

Statistics

Data in the tables are measurements of the two groups at initial testing (IT) and final (FT), the five selected samples: - back extension / rep. (BE), - maintaining in hanging position/ sec. (MH), - lifting the torso / rep. (LT), - the shuttle 5x5 / sec. (SH) and - long jump from standstill / cm (LJ). We also calculated the mean - M, standard deviation - SD and coefficient of variation - CV for them to plotting.

Results

The average of data obtained are presented in tables 1 and 2. Although students are growing , like to mention that they are

almost the same age and are part of regular classes, that are not selected based on physical qualities, and are not uniform regarding to body weight, height or level of fat. Results are outstanding, as indicated by CV, because its values are decreasing at the final testing and especially at experimental group, indicating an increase of homogeneity of the group.

Table 1. Results from initial testing – IT, at both groups CG and EG.

Groups:	Control group	Experimental group
The samples	*M ± SD / CV*	*M ± SD / CV*
- Maintaining in hanging posit. (sec)	6.18±2.83 / 45.8%	6.18±3.22 / 35.4%
- Long jump from standstill (cm)	121.62±22.65 / 18.6%	100.43±16.62 / 16.5%
- The shuttle 5x5 m (sec)	10.68±1.34 / 12.5%	10.52±0.74 / 7.1%
- Back extension (rep)	6.062±2.54 / 41.9%	6.43±2.27 / 35.4%
- Lifting the torso (crunches) (rep)	14.62±5.65 / 38.7%	14.5±5.7 / 39.3%

Table 2. Results from final testing – FT, at both groups CG and EG.

Groups:	Control group	Experimental group
The samples	*M ± SD / CV*	*M ± SD / CV*
- Maintaining in hanging posit.(sec)	9.0±3.14 / 34.9%	15.12±3.3 / 21.8%
- Long jump from standstill (cm)	124.5±22.6 / 18.2%	104.93±16.7 / 15.9%
- The shuttle 5x5 m (sec)	10.67±1.34 / 12.6%	10.44±10.75 / 7.3%
- Back extension (rep)	8.75±2.9 / 33.3%	13.37±2.94 / 22%
- Lifting the torso (crunches),(rep)	18.06±5.61 / 31.1%	23.56±5.8 / 24.6%

Analyzing the results obtained in the tests, we see that all the samples there was a considerable improvement in the results for students in the experimental group, as shown in the figure 1, which illustrates the results of the experimental group to back extensions (BE); if initial testing results were about equal, after 3-month,

experimental group has clearly improved motric quality - force, for this test, registering an doubled average, compared to initial testing.

Experts say that a very high standard deviation indicates that average is not representative for data string, but our data are within normal parameters. It is also known that a decreasing coefficient of variation, indicates a high homogeneity of the group tested, which can be seen on the data presented by us in the tables (Galea, Ardelean, Istvan, 2010).

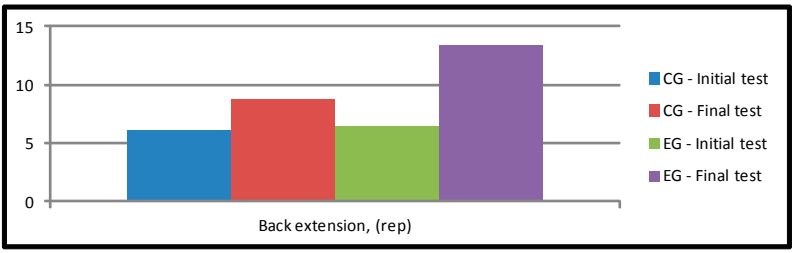

Figure 1. Graphical representation of mean results achieved by the two groups on the test back extensions.

What should be noted, after the experiment, it is that all physical attributes have improved, but the force is the one that had the sharpest growth, as shown in the graph below.

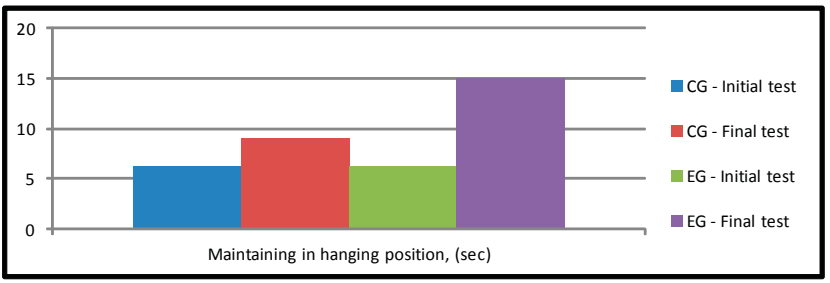

Figure 2. Graphical representation of mean results achieved by the two groups on the test maintaining in hanging.

Even if not used a specific workout for strength, the greater number of lessons made the difference in the experimental group, in final testing.

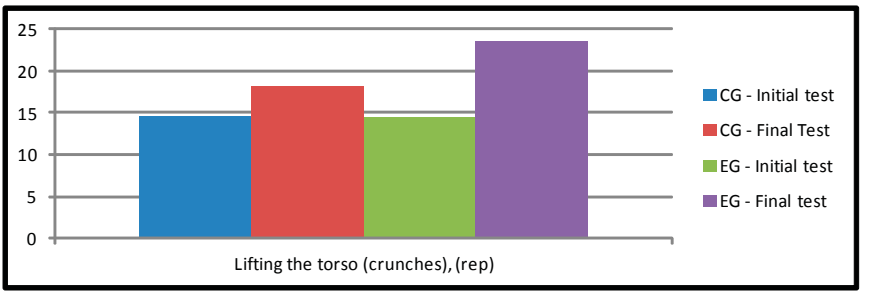

Figure 3. Graphical representation of mean results achieved by the two groups on the test lifting the torso.

In Figure 4 we have represented the long jump sample. This test is only in which control group exceeds experimental group. The explanation could be the age difference, which is higher in the control group and from here comes the difference in strength in the lower limbs. But anyway experimental group improves performance at final testing.

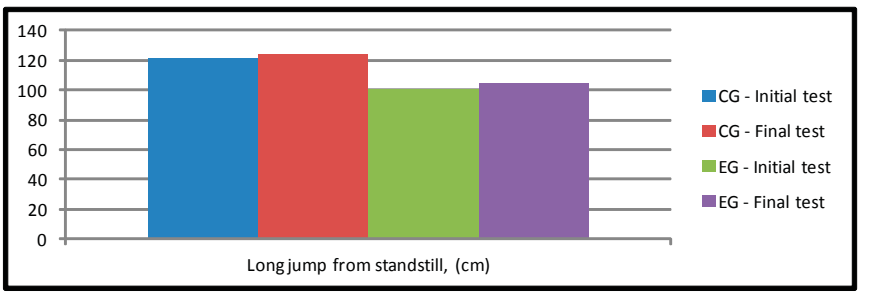

Figure 4. Graphical representation of mean results achieved by the two groups on the test long jump.

It can be seen in figure 5 as speeds improves at final testing in both groups but significantly in the experimental group.

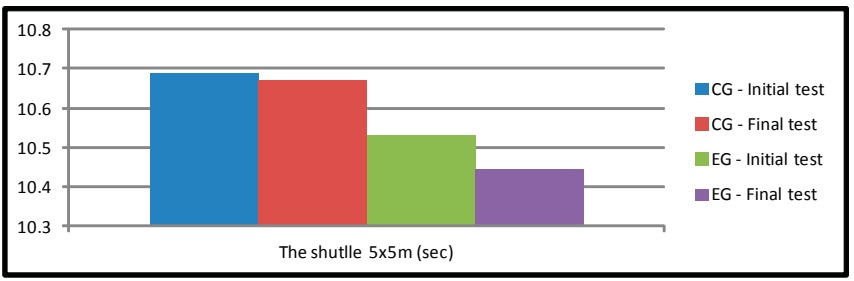

Figure 5. Graphical representation of mean results achieved by the two groups on the test the shutlle.

Conclusions

A comparative analysis of graphs, that represent arithmetic averages of the results of the initial and final two groups subjected to research, follows a breakthrough, significantly higher in the experimental group, confirming that increasing the number of hours, from 2 to 5 and by use of motion games in physical education classes, there is positive influence on the instructive – educational level and abilities improvement.

The experiment also demonstrated that by using means and methods specific to physical education, grouped in structured exercises and movement games, runs applications and relay race in 5 hours per week, were obtained indices of higher manifestation of motor skills in the experimental group, compared to the control group, although the latter was composed of older students, age and therefore with greater possibilities for solving tasks.

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Habits in healthy nutrition, obesity, alcohol, smoking, among students of the Faculty of Physical Activity and Recreation

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Abstract

Albania is a country of Eastern Europe with a relatively young and predominantly rural population. After the end of the communist regime in 1991, Albania experienced a difficult economic transition and suffered two economic shocks due to the financial collapse of the so-called "pyramid schemes" in 1997 and to the Kosovo crisis in 1999. Since the 1990s, the supply of many food groups has increased, particularly for dairy products and eggs, and fruit and vegetables. Consequently the diet has become more diversified, especially in urban areas. Presently, at national level, the dietary energy supply is largely sufficient to meet the population's energy requirements. As a consequence, the dietary habits of young adults have been affected; thus, overweight and obesity are increasingly being observed among the young. The purpose of this study is to assess the prevalence of overweight and obesity on a sample of students from the Sports University of Tirana and to examine their eating habits. **Methods.** A cross-sectional survey of 150 students (63.3% male and 36.6% female), aged 18.69 years, were chosen randomly from the Sports University of Tirana (SUT) during October 2016. Students were asked to fill out a self-reported questionnaire that included questions

on their eating, drinking and smoking habits. Also, their weight, height, and body mass index were measured. Body mass index (BMI) was used to assess students' weight status. **Results.** This study showed that the majority of the students (75.52 %) were of normal weight (69.36 % male students compared to 81.16 % female students). The prevalence of overweight and obesity was not common among male students compared to females (24.98 % and 11.96 % vs. 3.86 % and 1.98 %, respectively). In contrast, 4.9% female students were underweight as compared to 1.8% males. Eating habits of the students showed that the majority (70%) reported taking meals regularly. Healthier eating habits of female compared to male students in terms of daily breakfast intake are the same. 38.23% of female students reported eating breakfast daily compared to 45.65% of male students. Intake of colored vegetables and fruits was common among students. A total of 32.5% reported daily intake of colored vegetables with a small gender differences (32.35% females vs. 32.6% males). Alcohol intake to male students in terms of 2or 3 times per week was 2.17% and rarely 56.52%, while to females students was 2.94% and rarely 35.29%. Males at least 1 packet is 23.91% and rarely 15.21% , females at least 1 packet is 11.76% and rarely 5.88%. 70% of our students are never smoker. **Conclusion.** In spite of the overall low prevalence of overweight and obesity in the studied sample, results indicate that university of sport students would possibly benefit from a nutrition and health promotion program to reduce the tendency of overweight and obesity, especially among male students, and to improve students' eating habits.

Keywords: healthy food, BMI, eating habits, gender differences.

Background

After the liberalization of the economy in the early 1990s, the daily supply of many food groups (fruit and vegetables, meat and offal, milk and eggs) increased. The supply is still characterized by the high share of cereals. However, their supply is reduced, giving way to an increase of other food groups, particularly dairy products, fruit and vegetables and meat. The daily supply of starchy roots, fruit and vegetables, milk, eggs and meat are more than doubled compared with the 1986/88 period. The increase suggests that diversity of the diet is improving for a major part of the population. On the contrary, cereal consumption was reduced about by one-third during the same period. This was caused by trade liberalization, shifting of the food supply from the traditional domestic production to imported products, together with life style changes.[8]

Dietary habits of young adults are affected by the fast-food market. As a consequence, overweight and obesity are increasingly observed among the young. Obesity in combination with unhealthy life style, such as smoking, alcohol and physical inactivity, may increase the risk of chronic diseases. In this regard, nutritional knowledge may act as a deterrent against fast-food trend. Thus, sport universities may contribute significantly in reducing the prevalence of obesity among the young population through the promotion of healthy eating habits. The purpose of this study was to assess the prevalence of overweight and obesity in a sample of students from the Sports University of Tirana and examine their eating habits. Assessing students' weight status and eating habits will help health educators to develop proper nutrition-related education programs that promote healthy food choices and good eating habits.

Methods

Design and sample

The study design was a cross-sectional survey conducted at the Sports University of Tirana (SUT) during October 2016. A sample of 150 students (63.3% male and 36.6% female), aged 18.69 years participated in this study. Students were recruited randomly by a trained student accompanied by an (SUT) professor. The response

rate among students was high. Students who agreed to participate in this study were asked to sign a consent form according to Helsinki declaration, (Ethical Principles for Medical Research Involving Human Subjects).

Data Collection

Data collection took place in two steps. The first step was to fill out the questionnaire and the second step was to perform the anthropometric measurements. Recruited students were asked to fill out a questionnaire related to their eating, drinking and smoking habits. The questionnaire was adopted from a previously published study where authors have standardized its use among university students [2]. Prior to questionnaire administration, students were informed by an (SUT) professor about the study. They were given instructions on how to fill out the questionnaire completely and truthfully. After filling out the questionnaire, anthropometric measurements, such as weight and height, and body mass index, were done. As fluctuations in body hydration status may affect body composition results, measurements were taken in the morning (at least three hours after waking up) when students were on an empty bladder, not having exercise, food or drink for at least three hours before having the measurements. Height measurements were taken with a secured metal ruler. Students were asked to take off their shoes for height measurements. Body mass index (BMI) was used to assess students' weight status. According to guidelines stated by the National Institutes of Health, weight status was classified into four categories:

1-Underweight (BMI $\leq$ 18.5)
2- Normal weight (BMI between 18.5 – 24.9)
3- Overweight (BMI between 25–29.9)
4-Obese (BMI $\geq$ 30) [3].

Results

Characteristics of the students' sample and BMI values

Characteristics of the participated students are presented in Table 1. A total of 150 students (95 males and 55 females), with a mean age of 18.69 years, participated in this study. The average

weight and height of the participated students were 64.33 kg and 1.705 cm, respectively. Mean BMI was 22.97.

Table 1. Characteristics of the participants.

Variable	Total	Males	Females
Number of Students	N=150	N = 95	N = 55
Age (years)	18.69	18.99	18.38
Weight (kg)	64.33	71.85	56.82
Height (cm)	1.705	1.78	1.63
BMI	22.97	24.58	21.36

Students' weight status based on BMI categories

The majority of the students (75.26 %) were of normal weight (69.36 % male students compared to 81.16 % female students). The prevalence of overweight and obesity was not common among male students compared to females (24.98 % and 15.14 % vs. 3.86 % and 2.92 %, respectively). In contrast, 3.35 % female students were underweight as compared to 1.8 % males.

Table 2. Prevalence of obesity among students based on BMI by gender

	Males		Females		Total	
Weight Status	*N*=	*Percentage*	*N*=	*Percentage*	*N*=	*Percentage*
*Underweight**	1.7	1.8	2.69	4.9	2.19	3.35
*Normal***	65.9	69.36	44.63	81.16	55.26	75.26
*Overweight****	23.7	24.98	6.58	11.96	15.14	18.47
*Obese*****	2	3.86	1.08	1.98	1.54	2.92

*Underweight (BMI ≤ 18.5), ** Normal (BMI between 18.5 – 24.9), *** Overweight (BMI between 25–29.9), **** Obese (BMI ≥ 30).

Eating habits of the students showed that the majority (60.37%) reported taking meals regularly. Healthier eating habits of female compared to male students in terms of daily breakfast intake are not the same. 21.83% of female students reported eating breakfast daily compared to 40% of male students. Intake of colored vegetables and fruits was common among students. A total of 35.51% reported daily intake of vegetables with a big gender differences (43.64% females vs. 27.37% males). Alcohol intake to male students in terms of 2 or 3 times per week was 26.32% and rarely 18.95%, while to females students was 7.27% and rarely 25.45%. Males at least 1 packet daily smoking is 16.84% and rarely 38.95% , females at least 1 packet is 3.64% and rarely 23.64%. 57.47% of our students are never smoker.

Table 3. Question 1. Do you take your males regulary ?

Questions	Levels	*Total* N=150	MALES N=95	MALES %	FEMALES N=55	FEMALES %	*TOTAL* %
1-Do you take your meals regularly?	**Always**	**35**	**25**	**26.31**	**10**	**18.1**	**22.2**
	Regular	90	56	58.94	34	61.8	60.37
	Irregular	**25**	**14**	**14.73**	**11**	**20.1**	**17.41**

Table 4. *Question 2. Do you take breakfast ?*

Questions	Levels	*Total* N=150	MALES N=95	MALES %	FEMALES N=55	FEMALES %	*TOTAL* %
2-Do you take breakfast?	**Daily**	**50**	**38**	**40**	**12**	**21.83**	**30.91**
	Three or four times per week	40	24	25.26	16	29.09	27.18
	Once or twice per week	**38**	**21**	**22.10**	**17**	**30.90**	**26.5**
	Rarely	22	12	12.63	10	18.18	15.41

Table 5. Question 3. How many times do you eat meals except snacks?

Questions	Levels	*Total* N=150	MALES N=95	MALES %	FEMALES N=55	FEMALES %	*TOTAL* %
3-How many times do you eat meals except snacks?	**One time**	**22**	**13**	**13.68**	**9**	**16.36**	**15.02**
	Two times	51	34	35.79	17	30.90	33.35
	Three times	**48**	**29**	**30.53**	**19**	**34.55**	**32.54**
	Four times	29	19	20	10	18.18	19.09

Table 6. Question 4. How often do you take snacks apart from regular meals?

Questions	Levels	*Total* N=150	MALES N=95	MALES %	FEMALES N=55	FEMALES %	*TOTAL* %
4-How often do you take snacks apart from regular meals?	**Daily**	**28**	**18**	**18.95**	**10**	**18.18**	**18.57**
	Three or four times per week	57	39	41.05	18	32.72	36.86
	Once or twice per week	**41**	**25**	**26.31**	**16**	**29.09**	**27.7**
	Rarely	24	13	13.68	11	20	16.84

Table 7. Question 5. How often do you eat vegetables?

Questions	Levels	*Total* N=150	MALES N=95	MALES %	FEMALES N=55	FEMALES %	*TOTAL* %
5-How often do you eat vegetables?	**Daily**	**50**	**26**	**27.37**	**24**	**43.64**	**35.51**
	Three or four times per week	54	38	40	16	29.09	34.55
	Once or twice per week	**36**	**27**	**28.42**	**9**	**16.36**	**22.39**
	Rarely	10	4	4.21	6	10.90	7.56

Table 8. Question 6. How often do you eat fruits?

Questions	Levels	*Total* N=150	MALES N=95	MALES %	FEMALES N=55	FEMALES %	*TOTAL* %
7-How often do you eat fried food?	**Daily**	**53**	**41**	**43.16**	**12**	**21.82**	**32.49**
	Three or four times per week	41	26	27.37	15	27.27	27.32
	Once or twice per week	**33**	**14**	**14.74**	**19**	**34.55**	**24.65**
	Rarely	23	14	14.74	9	16.36	15.55

Table 9. Question 7. How often do you fried food?

Questions	Levels	*Total* N=150	MALES N=95	MALES %	FEMALES N=55	FEMALES %	*TOTAL* %
6-How often do you eat fruits?	**Daily**	**60**	**38**	**40**	**22**	**40**	**40**
	Three or four times per week	48	29	30.53	19	34.55	32.54
	Once or twice per week	**26**	**16**	**16.84**	**10**	**18.18**	**17.51**
	Rarely	16	12	12.63	4	7.27	9.95

Table 10. Question 8. How often do you eat with friends and family?

Questions	Levels	*Total* N=150	MALES N=95	MALES %	FEMALES N=55	FEMALES %	*TOTAL* %
8-How often do you eat with friends and family?	**Daily**	**40**	**24**	**25.26**	**16**	**29.09**	**27.18**
	Three or four times per week	39	22	23.16	17	30.90	27.03
	Once or twice per week	**59**	**39**	**41.05**	**20**	**36.36**	**38.71**
	Rarely	12	10	10.53	2	3.64	7.09

Table 11. Question 9. What type of food do you think you should eat to have a balanced nutrition?

Questions	Levels	*Total* N=150	MALES N=95	MALES %	FEMALES N=55	FEMALES %	*TOTAL* %
9-What type of food do you think you should eat to have a balanced nutrition?	**Mainly meat**	**39**	**31**	**32.63**	**8**	**14.55**	**23.59**
	Mainly vegetables	34	15	15.79	19	34.55	25.17
	Meat, vegetables and other variety of foods	**56**	34	**35.79**	**22**	**40**	**37.89**
	Fast-Food	21	15	15.79	6	10.90	13.35

Table 12. Question 10. How often do you drink alcohol?

Questions	Levels	*Total* N=150	MALES N=95	MALES %	FEMALES N=55	FEMALES %	*TOTAL* %
10-How often do you drink alcohol?	**Two or three times per week**	**29**	**25**	**26.32**	**4**	**7.27**	**16.79**
	Never	89	52	54.73	37	67.27	61
	Rarely	**32**	**18**	**18.95**	**14**	**25.45**	**22.2**

Table 13. Question 11. Please state your smoking history?

Questions	Levels	*Total* N=150	MALES N=95	MALES %	FEMALES N=55	FEMALES %	*TOTAL* %
11-Please state your smoking history	**At least 1 packet**	**18**	**16**	**16.84**	**2**	**3.64**	**10.24**
	Rarely	50	37	38.95	13	23.64	31.29
	Never smoke	**82**	42	**42.21**	**40**	**72.73**	**57.47**

Discussion

The purpose of this study was to assess the prevalence of overweight and obesity and examine eating habits in a sample of Sport University of Tirana students. Body mass index was used to assess weight status. Based on BMI classification of weight status, findings of this study indicate that the majority of students were of normal weight. Normal weight was more prevalent among females (81.16%) as compared to males (69.36%), whereas, overweight and obesity were more common among male than female students. Prevalence of overweight was 24.98% in males as compared to 11.96% in females. Obesity was no problem for both genders. A total of 3.86% of the males were obese compared to 1.98% of the females. The lower rate of obesity among female students is expected since females are more cautious about their weight status than males, due to society perceptions which encourage females to be slender. This assumption was supported by the fact that only 1.8% of males were underweight as compared to 2.19% of females in this studied sample. Obviously, pictures of movie stars and models in fashion magazines and mass media have a strong impact on girls' body shape and image perception [4]. University Sport girls see the shape and weight of fashion models as the ideal body shape and figure to attain. Girls with such strong body weight perception can be at risk of developing eating disorders [5]. Similar findings of prevalence of obesity among male university students were reported in recent studies [6,7 In this study, data analyses of students' eating habits revealed that the majority of students eat meals irregu-

larly and eat breakfast daily (30.91%), or rarely (15.41%). 60.37% of the students eat meals regulars. As expected, intake of vegetables and fruits was also common among students. Alcohol intake and smoking were common among students. The majority of students believe that eating meat, vegetables and other foods will provide them with a balanced diet. 35.79% male students and 40% female students in this study agreed that it is important to eat a variety of foods to have a balanced and nutritious diet. Daily intake of snacks was reported by the majority of students (18.57%). The unhealthy eating habit of students was noticed in the intake of fried food (majority 59.81% were reported eating fried food daily or three or four times per week), because 55.7% of them are living not with their parents but with friends. Frequent snacking and eating fried food can adversely affect students' health status, given the abundance of energy dense and high fat ingredients they contain. Improving students' knowledge about nutrition and healthy eating habits may promote healthy body weight management among students and reduce the prevalence of overweight and obesity. Therefore, developing nutrition education programs that promote healthy eating habits for university students should be encouraged. Alcohol intake and smoking were common in our sample of sport students.

Limitations

The findings of this study are limited by the use of a sample of students from just one university which may not be a representative of all university students in Albania. Furthermore, students attending the Sport University of Tirana are usually of middle socio-economic standards; therefore, samples from different universities in different cities may provide a more inclusive picture of university students taking into consideration of socio-economic status. However, baseline information about weight status and eating habits among a sample of university of sport students was certainly obtained from the present study.

Conclusion

Despite the low prevalence of overweight and obesity in the studied university students' sample, results indicate that university students would benefit from a nutrition and health promotion program to reduce the tendency of overweight and obesity among students, particularly males, and to improve students' eating habits.

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Behavioral Models on the Players' Activities during the Tennis Matches

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Abstract
The individual sport games—given their characteristics—impose constraints on behavior, constraints in relation to which some actions tend to produce good and other actions harm or at least lesser amounts of good. Therefore, in the last decades there was a lot of discussion whether certain behavior should be considered Fair Play. The dominant paradigm on ethical behavior presented in 1986 by J. Rest (Rest, 1986), despite its age, it is still the leading model for studying ethical behavior (Craft, 2013).
This study is aimed to answer two questions: *How* can we act ethically in sport? And *why* would we want to be ethical competitors in the first place?
The starting point of the study is the conceptualization of the term Fair Play as either "respect for the rules" or "respect for the spirit of the game", as well as by other determinants.
The author analyzes the act of thinking, followed by a parallel between the tennis games and the stories found in the literature. Next is brought into the discussion the importance of challenges or tests as a result of impediments (hurdles) and objectives (goals). It is emphasized the position of the players as testing collaborators, not necessarily contesting opponents. Instead of *competitiveness* (a commitment to try to surpass) and *sportsmanship* (a commitment to civility, fairness, if not generosity), two other virtues come to mind under the umbrella of testing obligations. One is *determination*; the second is *impartiality* or justice.

The conclusion is that it can't be known if the chaotic-constrained patterns of evolution will continue to produce people who are meaning-seeking, story-telling human-beings, or who will see only the constraints that were visible to human intelligence around the year 2000 AD, or who will think that the connections between themselves and game playing are particularly gratifying ones.

Keywords: Fair Play, sportsmanship, competitiveness, determination, impartiality

Background

The individual sport games from a broader perspective and the tennis matches especially —given their characteristics—impose constraints on the player's behavior, constraints in relation to which some actions tend to produce good and other actions harm or at least lesser amounts of good (Badminton World Federation, 2012, pp. 2-3). Many analysts ventured to tell us how we ought to act in sport, unfortunately, before analyzing the practice (and thus the uniquely constrained context) in which all these normative actions are to take place. Therefore, in the last decades there was a lot of discussion whether certain behavior should be considered Fair Play (Simon, Torres, Hager, 2015). The dominant paradigm on ethical behavior presented in 1986 by J. Rest, despite its age, it is still the leading model for studying ethical behavior (Cahn, 2008), (Crouch, 2009), (Craft, 2013).

Also, there is an ongoing theoretical discussion on what encompasses Fair Play, but to date the conceptualization has not yet been studied empirically (Butcher & Schneider, 2007).The use of a certain conceptualization when making a moral judgment on Fair Play is, however, a necessary condition to investigate what triggers unethical behavior (i.e., the lack of Fair Play) on the sport fields (Lincoln & Holmes, 2011).

Purpose of study

This study is aimed to answer two questions: *How* can we act ethically in sport? And *why* would we want to be ethical competitors in the first place?

Sources of Evidence

The starting point is the conceptualization of the term Fair Play as either "*respect for the rules*" or "*respect for the spirit of the game*", as well as by other determinants.

UNESCO states that Fair Play is defined as *a way of thinking, not a way of behaving. It incorporates issues concerned with the elimination of cheating, gamesmanship, doping, violence (both physical and verbal), the sexual harassment and abuse of children, young people and women, exploitation, unequal opportunities, excessive commercialization and corruption*.

Rather than giving a definition of Fair Play, there are described some related virtues. It is possible that tennis players use such a list of related virtues to come to a moral judgement, but UNESCO neither gives no criteria for inclusion or exclusion of a certain virtue, nor gives no guideline for dealing with rivaling virtues (McNamee, 2014).

Another view of Fair Play is to see it as an implicit contract or agreement, to which the players agree by entering the game. In this view, fairness is seen as doing what one has agreed he would do and nothing more or less. But the ambiguous interpretation of the contract or agreement could generate some problems in defining Fair Play as similar to a contract. Another ambiguity is generated by this view, where fairness is merely the absence of unfairness. The negative concept of not breaking the contract ignores the positive attitude of honoring the spirit of the game (Butcher & Schneider, 2007).

The result is a generic brand of ethical guidance that produces players who may be '*nice*' (Moffatt, 1989), '*charming*' (MacIntyre, 1984) or '*professional*' (Bellah *et al.,* 1991), but who ultimately are confused.

One possibility to separate '*is*' conditions (e.g. what the tennis match is) from '*ought*' recommendations (e.g. how players ought to act during the match) is to sever ties with important sources of information. It is to try to behave ethically *in vacuum* and thereby to court moral confusion.

Feldman's (1986) errant criticism of MacIntyre's practice virtues is a case in point. She argued that the twin virtues of sportsmanship and competitiveness would place players in a moral stalemate when deciding whether to call an opponent's ambiguous tennis shot '*in*' or '*out*.' The competitive sportsperson, she argued, should call

the ball '*out*' (in order to take the point and presumably meet his obligations as a competitor), while the sportsmanlike player should call the ball '*in*' (so as to give the point to the opponent and thus supposedly meet his obligations as a sportsperson).

Because sport in general can have almost any purpose according to Feldman, and thus because sporting practices have no fundamental structures and offer no constraints (these are the '*is*' conditions), she cannot know which virtue should take precedence. (These are the '*ought*' recommendations). It depends, she thinks, on what one takes sport to be. And assuming that no agreement could ever be reached on this matter, she cannot tell tennis players to be either competitive or sportsmanlike. She would have to recommend, it seems, that they would be charming while making what, for her, is essentially an arbitrary decision regarding the shot in question (Zimniuch , 2009).

Further is described this middle ground between a blind optimism about the player's ability to understand reality, on the one hand, and an unnecessarily pessimistic view, on the other. All human thinking involves three elements: a) an ego, the person who does the thinking, b) an act like seeing, wondering about, or valuing, and c) an object like a tennis racket, and thus the racket as seen, wondered about, or valued, depending on which act intends it.

The first element, the ego, is a language-influenced, historical, and otherwise limited source of thinking. Therefore it must fight for more or less objective views of reality without ever gaining—or having any chance of gaining—a pure or absolute perspective. Nevertheless, degrees of objectivity vary, not all stances are equally effective in thinking accurately about objects of interest, and consequently, efforts to gain better vantage points are not, in principle, misguided. In short, epistemological relativism is true, whereas judgmental relativism is not (Bhaskar, 1991).

The act of thinking, the second element, ranges from direct perceptions of things like seeing tennis matches, to any number of indirect or reflective perspectives, such as admiring or doubting tennis, or perhaps comparing tennis to other activities. In each case the character of the act affects the way we '*have*' the object in ques-

tion. Relative to the examples above, we have the tennis match alternately as seen (perhaps in terms of some spatial characteristics), as admired (possibly in relation to its tendency to require the player stamina and courage), as doubted (as, e.g. a thing that raises questions about the merits of the coaching involved in contemporary tennis matches), and as compared (as distinct, for instance, from badminton or table tennis).

The third element, the object, exists independently of persons who may or may not think about them. Atoms, and tennis, and love continue to exist when we are thinking of them or when we are thinking of something else, and they would exist even had nobody ever reflected on them. However, both physical objects (like tennis courts) and intangible things (like competitive drive or sportsmanship) are not composed of Platonic forms (absolute, unchanging ideals that somehow stand behind experienced objects), or always of neat chunks of reality with clear dividing lines between them (e.g. white and black kinds of distinctions), or of fixed, closed systems (things that only reproduce perfect copies of themselves).

Because of the complex, open, sometimes continuous, and evolving nature of the object in acts of knowing, it is more accurate to say that reality constrains thinking rather than determines it. When we perceive sport, for example, the nature of sport (as distinctive but not fixed) limits the ways in which we can sensibly describe it. We can say that it is an activity that requires the passage of time. But we cannot intelligibly say that it can only be experienced in the presence of music, or that it requires only five participants, or that only children can play it. The correspondence theory of knowledge is accurate only in the sense that recognizing, describing, wondering about, and all other intentional acts (tacit or explicit, theoretical or practical, sedentary-reflective or motor active) must heed such constraints.

Given difficulties on both the side of things known (complex, variable objects like tennis rackets) and perspectives from which to know them (the historical ego, the tennis player), it is not correct to picture these investigations as scientific in nature and any outcomes as conclusive and sufficient, though they may still be right as far

as they go. It is to be expected that all conclusions will be replaced with more sophisticated analyses or filled out with alternative and complementary descriptions as time passes.

Main Argument

Much can be learned about tennis matches by looking at them as stories, defined here as narratives that have a beginning, middle, and end and whose events cohere through the presence of one or more plots and sub-plots that typically involve conflict. This conflict is important because stories spring to life when problems that need solutions confront us and when, as a consequence, we are uncertain about how things will come out. In the rich soil of '*maybe we can*' (solve the problem) and '*maybe we cannot*', stories spring to life and grow.

Challenges or tests are produced by hurdles and goals. Both of them—the impediments (hurdles) and objectives (goals)—can be either found or manufactured, but in no case can they be too high or too low for hurdles or too near or too far for the goals. Tests, it was noticed, live in the middle ground between tasks that are too easy, on one hand, and those that are simply impossible to solve, on the other. The proposed hypothesis can then be restated as follows: when and where tests (oppositions by cut) are experienced, uncertainties will appear about how things might come out and thus, so too will develop stories about how the player prepared yesterday, what strategies he is using now, and what kinds of success he hopes for the future.

The structure that appears to describe tests is an opposition by cut—a lived '*maybe I can*,' '*perhaps I cannot*'. When the test is too easy or too hard, and thus, the possibility for change/achievement is reduced or eliminated, a storyline becomes a story point and essentially no story at all.

Tests play a central role in practices like tennis matches (and thus too the narrative development of the players' lives), it stands to reason that fundamental moral obligations and virtues will be related to the creation, preservation, and validation of tests and test

results. This is instructive when one revisits the moral dilemma posed by Feldman on the ambiguous tennis shot. Remember that she saw no way to choose between being virtuously competitive (and thus taking the point) and virtuously sportsmanlike (and thus giving the point).

The findings of Miller et al. (2005) show a connection between high-performance contexts and lower moral judgment, as well as a relationship between high-performance contexts and the legitimatization of using intimidation in sports. It could be possible that subjects apply different conceptualizations of Fair Play in recreational, national, or Olympic tournaments and that they would engage differently in transgressive behavior if more is at stake.

Feldman, it would appear, has not seen the difference between tennis players' duties as testing collaborators and contesting opponents. She appears to be focusing on the latter, whereas important clues about right actions may come from the former. Instead of competitiveness (a commitment to try to surpass) and sportsmanship (a commitment to civility, fairness, if not generosity), two other virtues come to mind under the umbrella of testing obligations. One is determination; the second, impartiality or justice.

Determination is needed if a good test is to be provided consistently for opponents. As tennis players interact with the ball, racket, distances, court shapes, and net heights to produce a good test for opponents, determination is needed to weather disappointment, injury, fatigue, slumps, extrinsic temptations, and any number of other test-making pitfalls.

In the face of these problems, the mutual obligation in any tennis match is to keep a good test alive for the other side. Consequently, as the serve in the Feldman tennis match is about to be hit, the receiving player must be attentive, well-positioned, menacing, prepared, whatever adds to the richness of the service test—that of getting a small round ball into a modestly sized rectangle with such speed, spin, and location that it either will not be legally returned or returned only weakly. (Schönborn, 2008). While, in this case, much of the test is provided by the sheer architecture of the court *vis-a-vis* the constitutive rules of the game, the receiver is still part of this tennis test. The virtue of determination is required now as a

'*returner-of-service*' and later in other testing roles if tennis players are to be relied upon as faithful test makers for one another.

Spectator behavior was considered an important factor in ethical decision making by Shields et al. (2007). Their approval or repulsion to the behavior and perceived attitude of the badminton and tennis players was shown to influence the moral judgments that are made and possibly the concept of Fair Play that is applied.

Conclusion

The judgment on Fair Play is a combination of the judgments on respect for the rules and the judgments of respect for the spirit of the game, where the latter contributes more to the final evaluation. This study clearly shows that when Fair Play is studied, it is important to incorporate at least these two aspects of this more sophisticated concept.

In the literature, there is an ongoing debate on whether the presence of an ethical code in sports organizations has an influence on the moral judgment. The availability of guidelines on Fair Play, even if they are not made concrete, could possibly affect the outcome of Fair Play and therefore are put to the test.

One cannot know if the chaotic-constrained patterns of evolution will continue to produce people who are meaning-seeking, story-telling human-beings, or who will see only the constraints that were visible to human intelligence around the year 2000 AD, or who will think that the connections between themselves and game playing are particularly gratifying ones. But all of us are called upon to act as ethical agents today and make our decisions based on what we can see now and who we are in this time and place.

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