

## Effects of swimming and water walking on body composition and spirometric values in young children

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### ABSTRACT

Ectomorphs are often below the average weight for their height and have a skinny appearance. Their muscle and bone outline are usually visible and they normally have low fat and muscle mass. Through this problem, sited in similar as disabling defects relative to lack of poor posture, lack muscular strength and proper support. This experimental study includes 40 males' ectomorph students, aged around  $17 \pm 1$ . 25 years. Divided into two homogenous groups (Experiment (ES), control (CS)) built on their BMI underweight  $< 18.5$  as disabilities, during the 2016/2017 school year, at Zagllole secondary school, Mostaganem academic. To test this hypothesis, we focused on two training programs traditional with weight (CS) vs Wheelchair (ES) as tools to strengthen upper body musculature, within 6-weeks under researchers' supervision, integrate as 15 minutes of warm-up during basketball cycle Second Semester. Although to assess their progress, we founded on Push up (PH), Chin up Test (CH) and Flexed Arm-Hang Test (FAH). Pre-test and post-test. From the beginning and at the end of the program basketball cycle. Founded on statistical applied. We approve the wheelchair as a benefited tool muscle training that improves the muscle building, muscle strength and muscle endurance upper body musculature among ectomorph body shape better than the traditional weight method. Report in similar studies as manufactured materials having high strength-to-weight ratios. Showed by recent studies through general grip resulted in the highest muscle activities in the upper body assistance during the wheelchair movement on both the ascending and descending ramps.

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# Physical and sport education between Italian academic system and European Research Council structure panel

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## ABSTRACT

Italian academic system is structured on 4 hierarchical levels. The basic level for physical and sports education is composed by 2 academic scientific-disciplines: Methods and Teaching of physical and sports activities to aim to research the theories, techniques and methods for general physical education or addressed to particular groups or age classes and to train and practice for different sports activities, the evaluation of performance and athletic aptitudes. The superior levels are academic recruitment field Didactics, special pedagogy and educational research to aim on Education for physical and sports activities, group of academic discipline field of Pedagogy and, finally, discipline area of historical, philosophical, psychological and pedagogical sciences. While European Research Council consisting of 3 areas: Social Sciences and Humanities, Physical Sciences and Engineering and Life Sciences, 25 panels and 333 subpanels. The aim is to research the scientific identity of physical and sports education in the current framework of rules with the identification and comparison between the systems keywords and subpanel ERC 2018. It was being identified by the 2400 keywords of Italian National University Council: Physical training, learning, human movement and sport education, sport pedagogy, motor development and by the ERC subpanels: Health, Cognitive basis of human development and education, Learning. The comparison between them is complex but configurable and emerges a gap for the two different method settings because of the misalignment between them. The effect is that the Italian system has a dichotomy between research and training with consequences for grant and funding abroad such as the European Research Council.

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# An innovative Educational-Sport strategy to aim to inclusion: Biodanza SRT

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## ABSTRACT

In the perspective of inclusive didactics, the differences are not only accepted, but also stimulated, valued, used in daily activities to work together and grow both as individuals and as a group. The basis of this new vision of the teaching-learning approach is precisely the "motor activities and the corporeity which, starting from what a person is able to give or to do, stimulate the consideration of oneself and one's own existence. In this regard, the aim of this paper is to identify and analyse the Biodanza SRT System as an educational strategy that, within the Inclusive Didactics-related teaching-learning process, represents a new innovative methodology able to contribute to the enhancement of diversity as a resource, and bring benefits to the overall well-being of the disabled or discomfort person, by facilitating a better "functioning" of the social context he is included (ICF-CY) and favouring Well-being and Inclusion. Through a careful analysis of literature references and protocols already exist for this educational-sport strategy arrive at a result that Biodanza is not considered as a therapy as it does not act on symptoms, conflicts, and disorders, but, in a therapeutic way, it stimulates the "healthy part" and its inclusion in programs or protocols: it is not intended as an "alternative" proposal but as a further strategy to be integrated with the actions already implemented in the different contexts. From the point of view of Special Didactics, the Biodanza seems to be an excellent strategy to aim to inclusion and "normal specialty".

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# The importance of sport activities to stimulate an educational management of students with SLD

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## ABSTRACT

In Italy, one student out of five, during his/her educational path from the early years of school up to University, faces difficulties in learning requiring the need of help by experts. This observation allows us affirming that, in Italian country, there are roughly 10 million students needing didactic support; among them, in particular, almost two million show the so-called Specific Learning Disorders (SLD). In this regard, this paper aims to identify and analyse a performing management strategy, in educational and social perspective, able to deal with the critical aspects relating to Specific Learning Disorders (SLD) in the main scholastic contexts such as School and University. Through a performance analysis of: data, laws and regulations, protocols of action and sources of literature, were detected a set of key determinants has been suggested to define and develop operational management solutions at different educational levels. An important result was that we identified in the sporting activity a tool of universal support able to achieve multiple benefits for supporting students with SLD. In fact, sport contributes significantly to the enhancement of the specific characteristics of these people, and the consequent increase in their self-esteem level and in their relational skills. This implies, in turn, a greater predisposition to school and university learning, favouring the overall development of the individual.

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# Athlete's motivations from different regions of Portugal for the practice of athletics as a federated sport

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## ABSTRACT

Introduction: Athletics is an important sport because it offers a determining basic preparation for other different sports (Sampaio, 2010). Objective: The purpose of this study was to determine the motivations that led athletes to practice athletics and to know if the fact that lived in different country regions influences these motivations. The participants were 184 federated athletes from 5 different zones of Portugal (Castelo Branco, Coimbra, Leiria, Santarém and Setúbal). Methodology: To understand the motivations that lead athletes to practice athletics, the questionnaire EMI-2 (Exercise Motivation Inventory version 2 of Markland and Hardy (1993), translated for the Portuguese population by Alves and Lourenço (2003) was applied and were collected during the national championship. For statistical purposes we used descriptive statistics, arithmetic mean, standard deviation and inferential statistics, with the application of One-Way Anova and Kruskal-Wallis tests. Results: The results showed that the Psychological and Physical Condition motives were the most valued, while the Health and Body Related motives were the least valued by the athletes belonging to the different regions. As for the results of the means, only statistically significant differences were found in the physical fitness motives, more valued by athletes from the regions of Setúbal and Santarém and less valued from the athletes of Coimbra e Castelo Branco. Conclusions: The conclusions showed some uniformity in the importance attributed to the reasons that led the athletes to choose athletics as a federated sports practice.

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# The training of physical education teacher in primary school

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## ABSTRACT

In 2018 the Italian government has proposed a bill to develop Physical Education PE in Primary school. The focus is the qualifications of Primary teachers throughout (PE) degree course for teaching qualifications instead the generalist training, as well as it happens in secondary school. Aim is to point out the core curriculum to become a specialist teacher of PE in the Italian primary school. It is a mapping activity providing a comparative data from all 38 Italian degree course in PE. It based on declared learning outcomes of four areas of knowledge: 1. sport and physical activity; 2. biological, biomedical and clinical; 3. psicopedagogical; 4. historical, legal, economic, statistical and sociological. Results shows that the percentage of degree course that curriculum focus on PES is 34%, while the percentage of curricula, focused on biological, biomedical and clinical area is 63%. It seems that, despite University aims to train professional in the field of PE, the degree courses of PE are mainly shaped to build biological, biomedical and clinical skills instead professional skills of PES. The core curriculum should be aim on the strict elements of physical training and sport sciences methodology and should have the same structure plane of subjects on all of 38 universities.

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# Powerglove: Genesis of a wearable technology aimed at studying volleyball service

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## ABSTRACT

The spread, in sport, of technologies able to detect and organize in real time a wide range of data related to the athlete and the context (tracker, gps, gyroscopes, accelerometers, bio-sensors embedded in smartphones or available as wearable devices) offers a great opportunity to collect performance data, allowing objective, accurate and non-invasive physical activity monitoring. In particular, this type of detection allows to avoid all the interferences connected to the laboratory settings. Wearable devices using textiles with embedded physiological sensors are used in various applications involving monitoring, control and learning» (Helmer et al., 2010). In sport, wearable technologies allow detections that do not alter the "natural" scenario of the performance. This work presents the design and development of a wearable device for the collection of data relating to a fundamental of volleyball: the service. The device consists of a glove, wearable by the athlete, equipped with various ultra-thin sensors (such as not to affect performance). The sensors are operated by an Arduino Nano microcontroller, worn at the forearm level by an arm band. The basic sensor is a flexible and ultra-thin TekScan pressure sensor (<0.1 mm), able to detect the pressure exerted by the hand on the ball in a range between 0 and 100 kg with an accuracy of 100g and a sampling frequency of 100 Hz. Collected data are processed by a specially developed support software that provides elementary statistics and specific graphical representations and can be exported in the most common formats.

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# A brief review on physiological commitment in basketball: An interpretative key

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## ABSTRACT

The physiological commitment is widely investigated because is the basis of physical training methods and sports sciences. Every sport has a characteristic pattern of exercise and range of exercise intensities which determine the energy requirements in the sport. The review of the literature and scientific documents was conducted through the use of several databases: PubMed, MedLine, Google Scholar. Several studies carry out a lot of data and then they have applied to team sports such as soccer, basketball, handball, rugby. Performance analysis studies show that each team sport has the own and different characteristics and has unique profiles because the indicators are different. The physiological commitment may be different in the several situations analysed and be dependent on the type of mechanics of the running. The results, relative at the intensity, fatigue resistance and ability of to cover wide distances, in varied way, by basketball players during matches, can substantially affect basketball theory and practice. The purpose of this work is to analyse and evaluate the physiological commitment required of basketball players (linear and varied running with and without dribble), trying to extract relevant information from a series of research carried out in different countries of the world, for an interpretative analysis of theoretical and documental results.

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# Characteristics of strength in subjects with cardiovascular disease

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## ABSTRACT

The aim of our work was to estimate the maximum strength of the upper and lower limbs (quadriceps, gastrocnemius, biceps, triceps, deltoid) in a group of patients affected by various cardiovascular diseases and compare it with that of a group of healthy and sedentary subjects (n = 20). We also wanted to assess whether there were differences in the maximum strength between different groups of cardiovascular diseases. This study presents many innovative elements, primarily two ones: (a) to recognize the importance of muscle strength as a health component in heart patients; (b) to establish a method for the assessment of strength based on estimation of 1RM. Here are presented the patients recruited on the basis of the basic pathology: 45 patients had chronic heart failure (CHF) in clinical stability for at least 3 months, class NYHA II-III; 21 patients had peripheral obliterative arteriopathy with claudication (POAC, stage IIa of Fontaine); 22 patients had undergone coronary angioplasty (coronary artery disease - CAD); 6 patients had undergone orthotopic cardiac transplant (HT) for at least 6 months. Chronic cardiovascular patients are characterized by a muscular impairment that parallels the history of the disease.

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# Study of human muscle aging through fiber mechanical, molecular myofibrillar and proteomics analysis

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## ABSTRACT

Aging significantly influences the proteomic structure of the cell as well as the nervous component. The innovative aim of this study is to analyse the modifications of muscle tissue in aging both through a qualitative, quantitative and proteomics approaches of the whole muscle and of the single fiber compared between young and old were studied. A sample of muscle tissue from the vastus lateral was taken with an open technique by 16 volunteers, 8 young donors and 8 elderly. In the aging process there is a negative modification of all the components of the contractile system and of the systems connected to the translation of the force and to the stabilization of myofibers.

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# Practice motivation and life satisfaction of athletes of team sports: Comparative study between adapted and regular sport

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## ABSTRACT

Introduction: Sports practice provides not only physical but also psychological and social benefits. Objective: The subject of Adapted Sport is still very scarce and according to that in this study we evaluated and compared Self-Determined Motivation, Basic Psychological Needs, Life Satisfaction and Affects among Athletes of Adapted Sport and Regular Sport, in Handball and Basketball. Methodology: A total of 183 athletes (N = 183) participated in which 80 were athletes of adapted sports and the remaining 103 were regular athletes, aged between 16 and 69. We used four questionnaires that evaluate the variables described: Behavioral Regulation in Sport Questionnaire (BRSQ), Basic Psychological Needs Exercise Scale (BPNES), Life Satisfaction Scale (SWLS) and Positive and Negative Affects Schedule (PANAS). Results: Our results were positive that sports practice has a significant positive effect on life satisfaction in regular athletes, who have more hours of weekly practice than athletes in adapted sports. We have proved the Auto-determination Theory, with the positive correlation obtained in the adapted sport athlete's, between the autonomous motivation and the basic psychological needs, as well as the life satisfaction and the positive affections. We observed that basic psychological needs and positive affects were good predictors of life satisfaction in athletes of adapted sport. In terms of size effect magnitude of adapted sport practice, the number of years of practice showed a reduced to moderate effect in the variables under analysis.

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# Attention in physical education classes: Differences between different individual modalities

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## ABSTRACT

Introduction: Sport activities demand a focused and polarized attention, as necessary condition to learning process. Described as an essential condition to the learning process, attention is considered a powerful mediating variable, because we can notice its influence on the teaching-learning process, as well as its influence on the teacher's behaviour, the student's behaviour and the learning results. According to this fact, the focused attention arises as a fundamental condition to the learning process, since the greater the power to keep the focus on a certain object or task, the better the chance of success. Objective: We intend to know the aspects to which the students pay attention during the different moments of the Physical Education class, in individual sportive activities. Methodology: The sample consisted of 156 students from the 3rd Cycle of Basic Education, of both genders (84 female and 72 male). We applied the questionnaire ATEST-EF (Petrica 2003), in which the students signalized what they were thinking of at certain moments of the Physical Education classes, more precisely of Athletics and Gymnastics classes. The results indicate that there are no significant differences, because after the application of the test of "Chi-Square" to associate the variable "Attention" and the variable "Signal" for the individual activities, we can verify the value of ( $p = .373$ ). From the analysis performed, we can infer that in relation to students' attention profile study in individual sports, athletics and gymnastics, there are no statistically significant differences.

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# Recreational physical activity participation among women in Saudi Arabia

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## ABSTRACT

Background. Despite that Kingdom of Saudi Arabia places emphasizes on importance of protecting female population, with the absence of physical education for girls in schools that only ceased till very recently, limited number of fitness centres and gyms for women, a particular body image and prevalence of women staying at home and having rather passive or static life have created a somewhat unhealthy lifestyle among women. Methods. Participating women (161; ages 17–44), from Saudi Arabia, completed the survey that assessing fitness environment in the physical centre which are layout, aesthetics and personnel as well the intangible like social interaction and gym experience can be positively influence attendees' motivation and increase the numbers of the fitness clubs. Therefore, motivation factors could have positive influence on willingness to come back to the gym among females. Results. SPSS showed tangible attributes of the fitness were not significant while social factors were significantly affected motivation to attend the female centres ( $p < 0.001$ ). On the other hand, the influence of motivation is showing to be significant in willingness to come back to the centre ( $p < 0.001$ ).

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# Correlation between vestibular and spatial system in vertical dance performance

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## ABSTRACT

The aim of this study is to evaluate how the vestibular response intervenes in the adaptation of the body in a different support plan than the usual one (walls). Method The experimental group (EG) was 10 subjects (M=30,8; SD=± 10.00). For each test time, T0 (before training) and T1 (after training), the experimental group underwent with 3 stabilometric evaluations considering only the best. The Cyber Sabots™ stabilometry was used in open/closed eyes (OE/CE) for evaluation the effects of a vertical dance training. Descriptive analysis compares the postural profile variables between experimental and control group (CG) (Rossato et al, 2013). The T-Student analysis was significance in: Wz (.5-2Hz) (CE) (p=.05) and Wz (2-MaxHz) (OE) (p=.006). One-way ANOVA underlined statistical significance in: Ym (OE-CE/T0-T1) (p=.02), SURFACE (OE-CE/T0-T1) (p=.06), VARVIT (OE-CE/T0-T1) (p=.05), Wz (0-.5Hz) (OE-CE/T0-T1) (p=.002), Wz (2-MaxHz) (OE-CE/T0-T1) (p=.00), AVD (OE-CE/T0-T1) (p=.007), TalD (OE-CE/T0-T1) (p=.007). Variables considered were confirmed by post-hoc Bonferroni test. The EG shows a statistical significance on the Wz frequencies (0,5-2Hz; 2-MaxHz) related to vestibular system in the Fourier Transform (FFT). The significance in open eyes postural profile variables may strengthen the interdependence of visual and vestibular system.

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# Postural evaluation in young skaters: Effect of two proprioceptive training

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## ABSTRACT

The roller skating involves developing of motor and artistic skills from an early age. The aim was to evaluate the effects that an ocular a podalic proprioceptive training cause to postural control and stability in a sample of young skaters. A total of 25 skaters aged between 9 and 15 ( $12 \pm 2.14$ ) divided into two groups: the eyes group (EG) aimed at exercising visual proprioception, the feet group (FG) aimed at exercising podalic proprioception. The participants were subject to through electronic stabilometry in static mode, open (OE) and closed (CE) eyes, in a time T0 (pre-training) and T1 (post-training), without and with skates. The results through the two paired t-test showed that both variables Wz (TotHz) to CE within the EG ( $p < .05$ ) and Wx (TotHz) to CE within the FG ( $p < .05$ ) were statistical significance. The unpaired t-test showed that the FG obtained a greater statistical significance than the EG for the VarVit and Wx (TotHz) variables in CE ( $p < .05$ ) and Wz (TotHz) in both CE and OE ( $p < .05$ ). The two-way ANOVA found statistical significance ( $p < .05$ ) on the Wx (TotHz) variable in open/closed eyes of the FG (T0/T1). We concluded that in roller skating it could be useful to integrate athletic training with a visual proprioceptive training.

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# Balance and posture: Effects of a proprioceptive training on a group of sedentary subjects

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## ABSTRACT

**Introduction** The object of this study was to evaluate the effects of proprioceptive exercises on the parameters associated with stability and posture and how these changes following the stress offered by a proprioceptive insole, placed under the plantar surface during the evaluation tests in pre (T0) and post- training (T1). **Methods** Participants was 19 sedentary subjects (12F; 7M) aged 25-40 years (M = 31.4) divided in experimental group (EG=10 persons) and control group (CG=9 persons). The first (EG) performed a proprioceptive training for the system podalic; the second (CG) performed only postural exercises. The training was done daily by the subjects, for a duration of 10 weeks. The stabilometric parameters taken into consideration for our study were: Xmoyen/Ymoyen, Surface, VarVit, AVG/TALG, AVD/TALD, IVV, ROMBERG as they are variables that allow an immediate interpretation of a person's stability. **Results.** The t-test in the experimental group (open eyes) with the insole, showed statistical significance in the VarVit parameter ( $p=.03$  -  $r=.94$ ); with eyes closed, the significance was found in the parameter surface ( $p=.01$  -  $r=.7$ ) with a further reduction of the variation in velocity/VarVit ( $p=.07$  -  $r=.6$ ). The control group significantly improved the speed-variance/VarVit in closed-eyes at dynamic mode ( $p=.04$  -  $r=.06$ ). **Discussion** The results of this study indicate that "stresses" provided represent a type of activity capable of effectively activating the proprioceptive control aimed at reducing disequilibrium.

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