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Health Indicators of Participation in Physical Activities for Children with Disabilities

Campa, M., Alifanova A., & Klavina, A.

Notes:

WS = workshop
PS = poster presentation
OS = oral presentation
KEYNOTE

Health and Social Indicators of Participation in Physical Activities for Children with Disabilities

Klavina, A.
Latvian Disabled Children and Youth Sport Federation, Latvia
president-elect of the European Federation of Adapted Physical Activities

Abstract
Physical activity (PA) is important to many aspects of child health and development. While one part of the evidence based studies indicate that for children with disabilities engagement in regular PA provides multiple health and social benefits (Fowler et al., 2007; Johnson, 2009), other part of studies show that children with disabilities participate in fewer physical activities, spend more time on sedentary activities, and are involved in limited social activities compared with children without disabilities (Rimmer, & Rowland, 2008; Hinckson & Curtis, 2013). However, the benefits of physical activity extend beyond health, motor skills, psychological well-being, cognitive development, socialization and emotional maturity.

Despite the recognized multidimensional approach of PA, in APA/APE research it is often defined and measured as performance of single dimension, for example, movement skills, intensity or/and energy expenditure, motor proficiency etc. This presentation will focus on interdisciplinary assessment approach of daily physical activities in children with disabilities from psychosocial approach. The main question is how to motivate children participate in daily PA and what measurement tools APA/APE professionals should use to describe dynamic, complex nature to adequately capture PA behaviors? The interdisciplinary model of health and social indicators for participation in PA for children with disabilities will be introduced as conceptual framework to support the process of defining PA for children with disabilities, to select appropriate PA measurement tools, and to understand the comprehensive descriptions of PA experiences of these children. This presentation will include partial outcomes of the EEA and Norway Grant 2009-2014 project “Health and Social Indicators of Participation in Physical Activities for Children with Disabilities” (nr. NFI/R/2014/070) which is implemented in collaboration between three Latvian scientific institutions and Norwegian School of Sport Science.
Paralympism, disability and everyday living

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Abstract
In this presentation I critically discuss the value basis of Paralympism, as set out by the International Paralympic Committee (McNamee, 2016). I shall offer an ethical and philosophical critique of their stated position but also reflect on how elite sports contexts alter the meaning and validity of disability (McNamee, et al, 2014). I also raise problems for our understanding of the place of technological assistance for those with impairments in both contexts

References
A Paralympic Sport unraveled: a 20 years scientific retrospective on the Belgian Wheelchair rugby squad.

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In Leuven (Belgium) in 1996, a unique group of individuals, all of them tetraplegics, some of them still in rehabilitation after their injury, decided to start playing wheelchair rugby. They were only six in total, just enough for one line-up of four players in the game. In 1996, these six individuals did not know they were at the start of a remarkable 20-year career in wheelchair rugby. It was an honor and privilege to work with these remarkable athletes throughout their career; first as a physical trainer and scrimmage partner, later as their scientific counselor and their biggest fan. This presentation digs into the scientific literature on wheelchair rugby, each aspect of the sport scientific counseling process as illustrated by the data collected in the National wheelchair rugby squad throughout the past 20 years.
Development, implementation, and evaluation research on national-scale community physical activity programs for persons with disability in Israel

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Abstract
Persons with disability comprise nearly 15 percent of the population in Israel, and have been reported to exhibit increased incidence of overweight, heart conditions, and reduced physical activity participation compared to the general population. In 2011 the Fund for Demonstration Projects and the Fund for Development of Services for People with Disabilities of the National Insurance Institute (NII) in Israel initiated a collaborative nationwide project to facilitate community programs for enhancing physical activity participation of persons with disability. The first phase was to write a literature review which assessed the current state of community programs, as well as principles and models for the development of community programs and for motivating persons with a disability to participate in physical activity. The second phase included a call for new and innovative programs, to which over 30 service providers responded. A thorough screening and review process generated resulted in the selection of 10 programs, all of which have received formative support and two years' funding for equipment and facility renovation as well as activity implementation, as needed. The supported programs included a variety of uni-disability and multi-disability programs, as well as uni- and multi-center programs and uni-and multi-activity programs. The participants encompass persons with severe physical disability, persons after stroke, persons with mental illness, persons with intellectual disability, and persons with autism. Activities funded include boccia, Nordic walking, outdoor fitness, archery, indoor fitness, "Rio Abierto" creative movement, and others. A research project has recently been established that will assess the impact of the interventions on physical and social aspects of the participating individuals and organizations. Preliminary outcomes of this evaluation research will be reported.
Adapted Activities for Elderly People to promote active aging

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Keywords: adapted activity, elderly, active aging, health promotion.

Background
The increase in the aging population has led to a public health issue of inactivity.

Objective
The aim this workshop is to promote the active and healthy aging for elderly people.

Methods
Being physically active for elderly people can be a challenge. However, there is always adapted activities to make it easier and much more suitable for all. Therefore, I will be using some adapted activities for elderly people to promote active life, and healthy aging.

Results
Physical activity offers one of the greatest opportunities for people to extend years of active independent life and reduce functional limitations.

Conclusions
In a conclusion, adaptation in activities can help to promote active and healthy aging.
Health Indicators of Participation in Physical Activities for Children with Disabilities

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Keywords: children with disabilities, physical activity, functional assessment.

Background
The researchers develop and implement innovative interdisciplinary education approach addressing challenges of health related participation in education process for children with disability. While the advances in medicine enable more children with disabilities to participate in the inclusive learning environment, there is evidence that these children have deficiency in daily physical activities. It increases the risk to develop secondary health conditions including heart disease, respiratory problems and emotional disorders that result in deterioration of health status, functional capacity and quality of life. To implement meaningful and safe APA programs, the first step is to assess the present level of functional skills of children with disabilities.

Objective
This study aimed to present multicomponent assessment battery to assess physical and moment development skills of children with different functional impairments. The innovative interdisciplinary assessment model was used based on theoretical framework of the International Classification of Functioning, Disability and Health (ICF) containing 3 domains of human function: body functions and structures, activities, and participation.

Methods
The movement development and physical skill assessment was done for 34 children with physical and intellectual impairments (age 7-12 years). The TGMD-2 and 5 physical skill test were selected after review of the literature.

Results
Data were obtained during the National sport festival for children with disabilities in November, 2015 followed by additional assessments during PE activities in special schools from January - February, 2016. From 329 participants 34 were included in the project group. The collected data are still under analyses of the project group. The presentation will include correlation of data between physical and movement development variables.

Conclusions
Data collection is still in progress. The study outcomes will provide significant contribution to knowledge on functional assessment of children with disabilities. Also, the project will increase competence level of human resources which will raise the potential for high added value product development leading to scientific evidence based knowledge.
The Application of Psychological Techniques in Disability Sport: A Qualitative Study with Elite Athletes

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Keywords: psychological techniques, elite, qualitative methodology.

Background
The importance of psychological techniques in the improvement of sports performance is widely recognized. However, research about how athletes with disabilities develop goal-setting, imagery, self-talk and relaxation is quite scant.

Objective
The goal of the study was to examine the application of psychological techniques (i.e., goal-setting, imagery, self-talk, and relaxation) in practice and competition settings by elite athletes with disability.

Methods
Semi-structured interviews were conducted on fourteen Portuguese athletes with physical and visual impairment. All participants were included in the in the Paralympic Project London 2012. Content analysis was the qualitative methodology used for data analysis.

Results
With the exception of relaxation, the athletes acknowledged the importance of the psychological techniques for the sport performance. A greater use of the techniques was stated in the competition setting.

Conclusions
The data suggested that athletes had a lack of knowledge about the benefits of the psychological techniques and were not familiar with its practice methods.
Differences in leg performance for evidence-based classification in CP-football players with hemiplegia

Campayo-Piernas, M., Urbán, T., Reina, R.
Miguel Hernández University, Spain

Keywords: evidence-based classification, CP football, hemiplegia, para-sport.

Background
Profile description between the FT7 class (moderate hemiplegia) and the minimum impaired class (FT8), leads sometimes to individual interpretations (Bicici, Vanlandewijck, & Tweedy, 2012). Also, it can modify the teams’ line-up, because teams are not allowed to play with more than one FT8 class player.

Objective
The aim of this study was evaluate how five tests can differentiate the performance of FT7 class players.

Methods
Depending on the test, a range of 53 to 79 CP Football players (24.90 ± 5.99 yr; 175.39 ± 7.47 cm; 69.09 ± 8.64 kg) took part on this study. Data collection was conducted at the 2013 CPISRA ICUP, with the participation of players from 11 of the 16 teams. Five tests were bilaterally performed: Heel-Toe, Triple Hop, Force Peak in leg extension, Side Step and one leg stance test. Percentage differences among performance of both legs and a t-test analysis were obtained.

Results
Differences between legs are significant in all the tests (p < 0.001), obtaining the highest differences in the Triple Hop (72.9%) and displacement in Y-axis (72.43%) during one leg stance. The lowest scores were achieved in the Side Step test (5.45%), probably caused by the involvement of both legs in the test performance and the requirements of range of movement. Power and balance tests, performed over one leg, showed the higher capability to differ between legs.

Conclusions
The battery test is able to differ between legs performance in all the tests. The differences between legs could be decisive in the decision making to give a class, and also to describe different levels of hemiplegia.
Application of test battery to evaluate eligibility of football players with hypertonia, ataxia and athetosis

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Keywords: impairment, evidence-based classification, CP football, eligibility.

Background
In Para-Sports, impairments that impact in the sport should be identified in order to determine eligibility (IPC, 2015). Identifying activities that are fundamental to perform a specific sport will help in the promotion and development of evidence-based classification systems (Reina, 2014).

Objective
The aim of this study is to examine the use of a battery test in the evaluation of the activity limitation required to be eligible in CP Football (Football-7-a-side at the Paralympic Games).

Methods
A range of 53-129 CP Football Players at the 2013 CPISRA ICUP (26.27 ± 7.09 yr; 175.57 ± 7.08 cm; 70.08 ± 9.01 kg; 11.42 ± 7.08 yr playing) and 12-36 Non-Impaired Football Players during trainings (19.44 ± 3.29 yr; 178.03 ± 5.86 cm; 72.59 ± 7.81 kg; 9.85 ± 5.17 yr playing) were examined. Both groups had a similar training load per week and games played per month. Nineteen tests were performed and were classified as coordination, change of direction ability (CODA), balance, power, and sprint test. One-way Anova and Cohen’s d were calculated.

Results
For coordination, CODA and balance, all the test performed showed significant differences (p < .005) with d values among 0.71-2.01, 1.48-2.42 and 0.09-4.05 respectively. For power tests, four of the five tests had significant differences (p < .001), with d values among 1.46-3.05; whereas for sprint tests, fifteen of the sixteen variables obtained have shown significant differences (p < .005), with d values among 0.55-2.29.

Conclusions
The tests applied are able to identify the activity limitation of CP football players. After being demonstrated as reliable (Campayo, Barbado & Reina, 2015), this test battery could be used in CP Football classification.
Exploratory study of Physical Educators’ Self-Efficacy toward Including Students with Physical Disabilities

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Keywords: inclusion, physical education teachers, physical disabilities, self-efficacy, reliability.

Background
Self-efficacy of teachers is a key factor in inclusive education as it predetermines the competence towards inclusion, particularly in the Physical Education class.

Objective
Thus, this exploratory study aims to assess the reliability of the instrument Physical Educators Self-Efficacy Toward Including Students with Disabilities - Physical Disabilities (PESEISD-PD) of Block, Taliaferro, Harris and Krause (2010), translated and adapted for the Portuguese reality by Campos and Ferreira.

Methods
Participants were 77 PE teachers, n = 55 males and n = 22 females, between 24 and 59 years (M = 34.68, SD = 8.99). The PESEISD-PD questionnaire explores the self-confidence, self-efficacy sources (mastery experiences, Vicariate experiences, social persuasion and physiological states), behaviours and perceived challenges toward the inclusion of students with physical disabilities.

Results
The Portuguese version of PESEISD-PD revealed significant values at the level of internal consistency and intraclass correlation coefficient. The results suggest that teachers have favourable self-efficacy beliefs towards the inclusion of students with physical disabilities.

Conclusions
The Portuguese version of PESEISD-PD is a reliable survey to assess self-efficacy of PE teachers towards the inclusion of students with physical disabilities.
Motivation to Physical Activity in Outpatients with Schizophrenia

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Keywords: schizophrenia, motivation, physical activity.

Background
Physical activity (PA) is beneficial for the health of patients with schizophrenia. However, most patients with schizophrenia are sedentary. One of the reasons pointed is the lack of motivation to PA. To identify the reasons why these patients adopt certain health behaviors is important to promote PA among this population.

Objective
The goal of this study is to describe the motives to PA expressed by patients with schizophrenia engaged in a PA program.

Methods
The sample comprised 25 outpatients, 15 male (45.73±4.00 years) and 10 female (45.60±8.96 years), diagnosed with schizophrenia. The participants were engaged in a regular PA program. The Portuguese version of the Behavioral Regulation in Exercise Questionnaire-2 (BREQ-2) was administered in an interview format. The questionnaire was adapted by replacing the term exercise with the term PA. The BREQ is a 19-item questionnaire composed of five motivation subscales from the Self-Determination Theory (i.e., Amotivation, External Regulation, Introjected Regulation, Identified Regulation, and Intrinsic Regulation). Each item scored on a five-point Likert scale, from 0 ("Not true for me") to 4 ("Very true for me"). Descriptive statistics was used to determine the motivation ranking.

Results
Globally, the most valued motivation types were Intrinsic Regulation (IntR) (2.87±0.62) and Identified Regulation (IdR) (2.66±0.92). The motivation ranking showed in the first place the item I get pleasure and satisfaction from participating in PA (IntR), in second the item I value the benefits of PA (IdR) and in third the item I find PA a pleasurable activity (IntR).

The most valued motivation types for both male and females were also IntR (respectively, 2.96±0.38; 2.77±0.86) and IdR (respectively, 2.58±0.97; 2.75±0.90). Both genders referred the item I get pleasure and satisfaction from participating in PA (IntR) in the top of the ranking. Differences were found in the second and third place of the ranking. Men referred the item I find PA a pleasurable activity (IntR) and I enjoy my PA sessions (IntR) in the second and third place respectively. While female patients valued the item I think it is important to make the effort to do physical activities regularly (IdR) in second place, and the item I find PA a pleasurable activity (IntR) in third place of the ranking.

Conclusions
Motivation to PA in patients with schizophrenia seems to be self-regulated which is known to be related with long term practice behaviors. Therefore, the knowledge about these self-determined types of motivation might be of added value in multidisciplinary lifestyle programs.
A trunk stability test to classify athletes with physical impairment in Wheelchair Slalom

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Keywords: trunk stability, classification, wheelchair slalom.

Background
A new program for wheelchair Slalom has been developed to integrate eligible athletes with different physical impairments. Trunk control is clearly limited in this population and should be taken into account for the development of evidence based classification.

Objective
The proposal of this study is to determine the reliability and accurate of a trunk stability test to be used in wheelchair slalom classification.

Methods
Twenty-five wheelchair athletes with cerebral palsy (n=8), other physical impairments (n=11) and non-impaired subjects (n=6) were evaluated. Participants were seated on a stable surface in three different balance situations, where the displacement required was modified, and each situation was performed twice. Mean radial error (MRE) and mean velocity of magnitude (MVM), were calculated as the average vector distance magnitude (mm) of centre of pressure (CoP) from a target point. Also, participants carried out two specific performance test. Reliability and Pearson correlations were calculated to assess inter-individual relationships among the different trunk test situations and between trunk and performance test.

Results
MRE and MVM showed high consistency between trials (ICC: MRE=0.87-0.93; MVM=0.89-0.97) and ranked individuals accurately (SEM: MRE=1.52-1.99; MVM=2.94-5.15) in the three different stability conditions. High correlations were found between the different situations in the trunk stability test (r=.675-.943; p<.01). Furthermore, one of the specific performance tests correlated positively to all of the stability situations (r=.484-.849; p<.05)

Conclusions
The variables measured in the trunk stability test showed reliable results. The data could allow simplify the assessment of trunk stability during the classification system based on the relation obtained in one of the specific performance tests.
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A questionnaire to evaluated attitudes towards inclusion based on the theory of planned behaviour

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Keywords: questionnaire, attitudes, inclusion, physical education.

Background
Acceptance by and interaction with peers without disabilities is one of the most important factors in determining whether a child with a disability has a successful experience in physical education. There is some controversy in the literature about dimensions and background of the scales used to measure attitudes towards inclusion.

Objective
This study establishes the construct validity of a questionnaire in the Spanish language on attitudes toward the inclusion of students with disability in physical education (GPE), using the background of the Theory of Planned Behaviour (TPB).

Methods
An integrated approach of exploratory and confirmatory factor analysis methodology (EFA and CFA, respectively) was followed to validate the construction of the scale. The design of the items has been developed by a review of different scales like as Children’s Attitudes Toward Integrated Physical Education-Revised -CAIPE-R- (Blok, 1995), Chedoke-McMaster Attitudes Toward Children with Handicaps -CATCH- (Bossaert & Petry, 2013), Attitudes Towards Disability Questionnaire -ATDQ- (Reina et al., 2011), Attitudes towards Inclusion of Students with Disabilities in Physical Education -AISDPE- (Reina et al., in review). A video-vignette has been used before responding to the questionnaire.

Results
Recent research examining beliefs and intentions in Physical Education has utilized Ajzen’s (1991) TPB, which argues expectations and values about performing a certain behaviour (e.g. interacting with a peer with a disability in GPE) are formed from behavioural, normative, and control beliefs. These beliefs in turn influence attitude, subjective norm, and perceived behavioural control, and ultimately children’s intentions and interactions with a peer with a disability. The scale was used with 450 GPE students for an exploratory analysis and it is currently being used for confirmatory analysis. Results of the confirmatory analysis and invariance to previous contact and ender will be presented at the conference.

Conclusions
A new tool, based on the TPB, for obtaining more information about the inclusion of children with disabilities in PE classes it is being developed. Evaluation of attitudes towards inclusion in GPE will be useful for Spanish professors to understand the impact of some awareness lessons conducted at the school.
Validity and Reliability of the Physical Self-Perception Profile - short clinical version in Old People

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Keywords: physical self, confirmatory factor analysis, older people.

Background
Older adults Physical Self-perceptions assessment is under discussion for quite some time (Ferreira et al., 2013). Fox and colleagues (2007) used the 18-items Physical Self-Perception Profile short clinical version (CPSPP) and reported good internal Alpha validity; however Ferreira and colleagues (2008) ran a preliminarily confirmatory factor analysis with limited results.

Objective
The purpose of the present study was to analyze the internal validity and reliability of a Portuguese language version of the CPSPP using a sample of Old Portuguese male and female individuals aged 65 or more years regularly attending clinical and rehabilitation settings.

Methods
Participants were 1002 Old Portuguese aged 65 or more years (74.39±7.11), 501 males (74.26±7.08) and 501 female (74.52±7.15 yrs.) from private and social security institutions or leaving alone but attending senior daily care centres in clinical, rehabilitation and occupational settings. CPSPP’s validity and reliability were evaluated by gender. Cronbach Alpha values, zero-order and partial correlation coefficients and linear regression (stepwise method) were used to assess internal consistency of each domain, to confirm the hierarchical organisation and the percentage of variance explained among constructs with Physical Self-Worth (PSW) functioning as a mediator. Factorial validity was tested using confirmatory factor analysis (CFA).

Results
Subscale mean values present a similar range found in other studies using the same instrument (Ferreira et al., 2008; Fox et al., 2007). Function and PSW showed the highest mean values for both males (7.84±2.71; 7.61±2.47), female (7.98±2.61; 7.56±2.44) and total sample (7.91±2.66; 7.58±2.46). Sport showed the lowest mean value for both males (7.03±2.32), females (6.88±2.29) and total sample (6.96±2.30). Function was the only subscale where females (7.98±2.61) presented higher mean values than males (7.84±2.71). Cronbach Alpha values ranged from .64-.80 showing adequate to good internal consistency. Linear regression results showed that Function was able to explain 62.2% of the total variance of PSW in males and 43.3% in females. Additionally, Function, Body and Strength were able to explain 73.7% of the total PSW variance in males and 60.1% in females. The analyzed model of five correlated latent variables showed a better goodness of fit for female than for male old participants, however the goodness of fit obtained for the total sample was satisfactory with NFI=.89, IFI=.90, CFI=.90 and RMSEA=.08.

Conclusions
The goodness of fit for the majority of the fit indices was good, in the total sample providing evidence for the psychometric properties of the CPSPP among old people in clinical, rehabilitation and occupational environments and supporting its future use.
The importance of the individualized support of the physical education teacher individualised students with cerebral palsy in an aquatic environment

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Keywords: cerebral palsy, water activities, individualized support and psychomotor factors.

Background
Physical activity emerges in society as a factor of the utmost importance for a healthy life. In patients with cerebral palsy it is even more important, stimulating the different capacities of the individual and helping them to feel useful.

Objective
In this context, the aim of this study is to verify the importance of individualized support of a physical education teacher on individuals with cerebral palsy in the aquatic environment.

Methods
In order to reach the goal, two case studies were conducted on two children with cerebral palsy, one with 9 years age and the other 11 years old. An individualized intervention plan was held in the aquatic environment and lasted six weeks. The weekly sessions were held twice a week with duration of 60 minutes. Self-esteem was assessed by the Susan Harter scale and the psychomotor profile of the children was studied through the psychomotor battery of Vitor da Fonseca.

Results
Results show that the practice of a program of water activities with individualized support, made a positive contribution in the development of self-concept / self-esteem and on the psychomotor profile of the children in this study. The items of the Susan Harter Scale showed an improvement, reducing the discrepancy between the domains; the sub-factors of the Vitor da Fonseca Psychomotor Battery also show an improvement throughout the intervention program.

Conclusions
Thus, we conclude that the sessions of physical activity, with individualized support, allow for a greater stimulation of the child, causing her to achieve better performance levels and improving self-concept / self-esteem.
Effective strategies used in inclusive physical education settings for overcoming inappropriate behaviour of students with emotional and behavioral disorders

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Keywords: children with EBD, inclusive PE, successful coping strategies.

Background
Physical education supposed to be appropriate environment for children with EBD as there they can learn to express their feelings and needs, develop adequate self-esteem in suitable way. But a lot depends on PE teacher, who has to be sufficiently qualified to manage inappropriate behaviour and to be ready for reality shock.

Objective
To investigate PE teachers personal features which help to apply effective strategies for overcoming inappropriate behaviour of students with emotional and behavioral disorders.

Methods
Qualitative method was used in our survey. The interpretative phenomenological analysis (IPA) was undertaken on verbatim transcripts of PE teachers’ (n=3) semistructured interviews. There were used open questions in the interview describing teachers’ experiences about behavior of children with EBD and strategies use to meet children’s needs during PE lessons. Participants were purposefully sampled. Their work experience should be at least 10 years in the integrative physical education system teaching children with EBD. One interview lasted from one to one and a half hour.

Results
The teachers’ interview revealed the main personal features which are mostly relevant working with children with EBD, such as self-management „it’s important not to shout on children , „I am always breaking myself – stop, wait, think before doing something , „I never take abrupt decisions , „try to calm down firstly before taking the decision , „try not to be nervous , sense of humour is also important „I try to make jokes , „I make children relax by saying some joke .

Teachers mainly highlighted such strategies for overcoming inappropriate behaviour of students with emotional and behavioral disorders as: recognition of child’s individual features „I know that I should be very calm while talking to him, otherwise he would become uncontrolled, „some children should be allowed to be on their own for a while. The positive attitude of the teachers during the lesson is very important. Very often the lesson runs not the way it was planned, that’s why it’s important to have the „plan B, „lessonplanned becomes „lessonlived , „when I am positively minded, I know that I will cope with everything . It was also mentioned the importance of help of other specialists, „When I don’t know what to do, I always go to special pedagogue , „our team is friendly and we always searching for most favourable decision together.

Conclusions
PE teachers have highlighted such mostly effective strategies for overcoming inappropriate behaviour of students with emotional and behavioural disorders as self-management, sense of humour, recognition of child’s individual features, positive disposition, cooperation between school team specialists.
Dilemmas of difference, inclusion and disability: International perspectives on placement and practice

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Keywords: teaching practices inclusion models of support Least Restrictive Environment.

Background
Inclusive education is a form of educational service offered to students with disabilities. However, it is difficult to discuss these services without reflecting on the practices that take place within a particular setting. This presentation will focus on international perspective on inclusive education for students with disabilities and the teachers who work with them. The presenters will consider the effects of culturally derived attitudes on educational decisions in relation to inclusion in the general education and physical activity settings.

Objective
1. To display how culture is carried through curriculum and educational practices for students with disabilities. 2. To demonstrate the impact of cultural orientations on inclusive practices. 3. To facilitate an international dialogue on inclusion.

Methods
Each of the presenters will provide an overview of inclusion. Michelle Grenier will introduce the concept of inclusion and the problematizing issue of the Least Restrictive Environment. Marty Block will present data on the need for improved pre-service and in-service teacher training to help teachers include children with disabilities into general physical education. Aija Klavina will present use of peer support and cooperative learning as a means of promoting inclusion for students with moderate and severe disabilities in elementary and middle school. The components of peer support instructional strategies will be presented using theory-driven and evidence-based research from Europe and the United States. Lauren Lieberman will present a new inclusion checklist that helps physical educators understand and assess best practices when including students with disabilities into general physical education. Maria Campos will present teacher preparation and challenges on meeting needs of students with disabilities in inclusive physical education: A European Perspective.

Results
The dilemmas of difference relevant to students with disabilities is about identifying difference, to what extent general education programming is available to them, and to what degree they are educated with their classmates. As we will demonstrate, the dilemma is dependent on a number of factors including teachers’ attitudes and the role they play in establishing an inclusive ethos. Presenters will focus on international practices in inclusive education. The inclusion rating scale, which provides a tool for evaluating the effectiveness of placement and instruction on children’s learning experience will be presented by Lauren Lieberman. Creating a support structure through teaching practices that include universal design, cooperative learning and peer supports will be presented by Michelle Grenier and Aija Klavina. Martin Block will discuss teacher education...
challenges within the US and Maria Campos will conclude by presenting a European perspective on inclusive practices.

**Conclusions**
The presenters will seek to demonstrate how these practices not only impact students with disabilities but also the way in which teachers can tackle inherent prejudices regarding disability and being disabled (Beckett, 2009).

**Acknowledgment**
Michelle Grenier is from the University of New Hampshire, USA. Martin Block is from the University of Virginia, USA Aija Klavina is from the Latvian Academy of Sport Education, Riga, Latvia Lauren Lieberman is from the College at Brockport, USA Maria Campos is from the University of Coimbra, Portugal.
Helping professions, families, people with disabilities: physical activities and sexuality

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Keywords: helping professions, sexuality, disability, physical activity

Background
The study is based on present research results to bring more understanding of the context that is necessary for families, people with disabilities, helping professionals where understanding their sexuality creates appropriate approach in physical and leisure time activities (with dignity and respect).

Objective
The aim of the study is to find the appropriate approach in the helping professions worker to the specifics of the sexual behaviours of individuals with disabilities during physical activities.

Methods
The study is based on the interviews and analysis of families´ stories.

Results
On the basis of interviews and families stories were creates some questions and recommendations how to communicate and interact with others.

Conclusions
Broadly-based sex education at all levels. Access to counselling where necessary (for individuals, families and helping professionals). Social skills training about appropriate behaviour (for individuals, families and helping professionals).
Development and evaluation of a new device for arm cranking ergometer test

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Keywords: arm cranking ergometer, oxygen uptake.

Background
We have developed a new designed device for arm cranking ergometer.

Objective
The purpose of this study was to compare oxygen uptake and heart rate (HR) on a new arm ergometer with performance on a conventional arm ergometer.

Methods
Nine healthy Japanese male (age 22±3 yr, height 172.8±2.9 cm, weight 69.5±2.1 kg) participated in arm cranking ergometer test. The arm test began with subjects cranking (60 rpm) at a work rate of 25 watts, and the load was increased until exhaustion. On one testing day subjects performed an incremental arm test using the new ergometer (Fixed condition) while on the other day the subjects completed a same test using conventional ergometer (Control). HR, rating of perceived exertion (RPE) and oxygen uptake were measured at rest and every a minute. Data were analysed using two-way ANOVA, and presented as mean±SD.

Results
Each subject finished the test using the new ergometer at early phase rather than that of using conventional ergometer. Final workload in fixed condition was lower than that of Control at exhaustion. No significant difference existed in HR between Fixed condition and Control. Oxygen intake 2 and 3 minutes before exhaustion in Fixed condition (2min: 20.9ml/kg/min, 3min: 23.4ml/kg/min) were significantly higher than that of Control (2min: 23.5ml/kg/min, 3min: 25.1ml/kg/min). However, there was no significant difference in peak oxygen uptake between the two tests (Fixed: 28.4ml/kg/min, Con: 29.1ml/kg/min). RPE in Fixed condition was reached 20 (very, very hard) earlier than Control. It is considered that the upper limbs reached the all-out state at an early stage, and it became difficult for exercise to continue.

Conclusions
We could show that arm cranking test using an adjustable arm ergometer could be monitor heart rate and peak oxygen uptake with accuracy, and measure with shorter time than conventional method.
NoLimits! – A framework for a sports festival to promote inclusion by shaping perceptions of disability in Germany and Ukraine

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Keywords: inclusive sports festival, reversed inclusion, perception of disability, attitude towards inclusion.

Background
Paralympic sports can act as an educational tool to promote inclusion especially by shaping perceptions of disability. Paralympic sports may therefore offer a social work perspective for countries like Ukraine with a successful Paralympic sports system but a less developed support of disabled people in the general population.

Objective
Aim of the study was to implement an inclusive sports festival and to evaluate its impact on the perception of disabilities and the attitudes toward inclusion in Germany and transfer this approach into a social work programme in the Ukraine.

Methods
NoLimits! - an inclusive sports festival was developed and organized twice by using Paralympic sports disciplines (e.g. blind soccer, wheelchair basketball) in a reversed inclusion approach. Attendants were actively engaged in these activities instructed by disabled athletes. Besides a basic questionnaire, a subgroup of sixth-graders (n=57) completed a translated and modified version of the CAIPE-r (2), while a subgroup of PE-students (n=38) completed the attitudes towards integrated education questionnaire (AIEQ, 4) pre and post the festival. A modified version of the festival was transferred to Lviv, Ukraine, in order to prove its feasibility in a different environmental and socio-cultural setting.

Results
From a total of more than 2000 attendants at both events n=180 completed the general questionnaire (age: 10-70 years, 58.3% male, 41.7% female, 11.7% people with disabilities). NoLimits! was rated as being interesting, enjoyable, dynamic, motivating, innovating by more than 90%. Curiosity (70.6%), Enjoyment (48.9%), Support of Inclusion (48.9%), Meeting Friends (25.6%) and Fitness (10.0%) were the most relevant aspects for attending, with Enjoyment and Fitness being significantly more important (p<0.05) for disabled people. A significant positive change (p<0.01) in the general part of CAIPE-r occurred in the small subgroup of sixth graders while attitudes toward changing sports rules for people with a disability remained stable. Similarly, a significant positive change (p<0.05) in PE-students’ general attitudes toward integrated education was detectable in the subgroup. A modified version of the inclusive sports festival could be successfully implemented by the department of social work at Lviv Polytechnic, Ukraine, together with a regional organization for disability sports and was attended by 200 children and adults enjoying the programme.
Conclusions
An inclusive sports festival using a reversed inclusion approach may help to promote inclusion by enhancing attitudes towards inclusion. An implementation in a social work program in order to promote inclusion in countries like Ukraine may represent a possible option.

Acknowledgment
Thomas Lurz and Dieter Schneider Sports Foundation, Federal Foreign Office of Germany, City of Wuerzburg, District of Wuerzburg, City of Lviv/Ukraine.
The level of coordination abilities of pre-school and young school age children, the possibility of influencing their movement targeted intervention.

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Keywords: children in pre-school age, children in young school age, motorics, movement coordination, joggling, football preparation, pre-sport preparation.

Background
The quality of human coordination abilities is a determining factor in his motoric development. For the basis of human motoric development the most important is development of coordination in the field of functional skills that are useful in everyday life and their quality must be cultivated from an early age (Livese, Coleman, Piek, 2007). Deficiencies in children movement coordination (dyspraxia) are also reflected in their quality of life and affect negatively, among others, the psychological aspect and position in the group.

Objective
In recent years, according experts, we can see increasing importance of testing the functional aspects of motoric, thanks to the learned facts that any motoric dyscoordination and inaccuracies in motion significantly correlate with cognitive, language, social and emotional difficulties of children (Pick, Hands, & Licari, 2012). Research is focused on evaluating the level of coordination abilities of pre-school and young school age children.

Methods
The test battery for identifying children who have motor function impairment, Movement assessment battery 2, was used for the evaluation. The MABC2 test is an excellent tool for determining the level of coordination skills. It is recommend for use to the therapists, health professionals, pedagogues and others. We note, however, some limitations of the test, especially its higher time and material demands.

Results
On the basis of the test results analysis we implement targeted movement intervention. It is based on general pre-sport preparation with gymnastic, track and field, combat and game elements, which is in the consensus with authors concerning with motorics of children in this age. This preparation is enriched with manipulation skills performed primarily by upper limbs (joggling) and manipulation skills performed primarily by lower limbs (football skill preparation) by children in young school age.

Conclusions
All groups of children will subsequently be compared from the point of view of influence of targeted movement intervention on the change in level of coordination abilities. The interesting finding out can be got by comparison of size of this change and individual test dimensions by groups of young
school age children (difference in development of coordination influenced by upper and lower limbs manipulation).

**Acknowledgment**
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A Case Study Examining the Effectiveness of Aquatic Rehabilitation Exercise in a Post-Stroke Patient

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Keywords: exercise in water, efficiency of movement, hydrostatic principles.

Background
Water-based rehabilitation activities are included in physical therapist education programs, adapted physical activities and exercise for people with specific needs. In common practice aquatic exercise are realized in straddle stand, ideally immersed in xiphoid-level water.

Objective
The presented problem is based on physiotherapy practice (Military Rehabilitation Institute in Slapy nad Vltavou in Czech Republic).

Methods
The therapist often demonstrates body position and movements on the pool deck in straddle stand. The effect of these exercise is different in aquatic environment and some movements from land are completely ineffective and impracticable in water. Some exercises require fixed points between feet and floor. Therefore, it is important to maintain the position of the lower limbs in a semi-tandem position. A body in water must make adjustments to cause the forces of gravity and buoyancy to be equal and directly opposite each other, resulting in balance. When these forces are not equal and opposite, the body becomes unstable.

Results
The client’s movement may not be efficient or safe for his or her impairments. The aquatic rehabilitation professional should know the physical properties of water and fluid dynamic principles. Aquatic practitioners can justify the use of the aquatic environment for rehabilitation only if they are fully able to comprehend and apply these principles in a plan of care developer for their patients.

Conclusions
With education and experience, more providers may come to understand the benefits of water-based rehabilitation and training.

Acknowledgment
PRVOUK P38
Attitudes of pupils with sensory disabilities in physical education classes

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Key words: physical activity, special education, deaf and hard of hearing, blind and partially sighted

Background
The key factor that affects the success of shaping positive attitudes towards regular life-long performance of physical activity (PA) is the pupils’ level of inner motivation. This is influenced, among other things, by their family background, the educational institution that they attend and the educator’s competencies.

Objective
The purpose of this study was to describe and analyse the attitudes among pupils with sensory disabilities in physical education (PE) classes.

Method
A structured questionnaire was used to collect the data. The sample was based on the following features: a) a participant had to be deaf or hard of hearing, b) a participant had to have a visual impairment, and c) had to have been educated in special educational settings. The data were quantified on the percentage basis. To carry out cross-group statistical testing of differences, a ratio analysis with the help of the Chi-square test was applied. The level of statistical significance was set to $p < .05$. We analysed the data of 70 pupils attending the second stage of two elementary schools in Slovakia: a) 37 pupils (22 boys and 15 girls, age 13.3 ± 1.45 years) from a school for the deaf, and b) 33 pupils (14 boys and 19 girls, age 13.4 ± 1.41 years) from a school for the blind.

Results
A comparison of the opinions of pupils with sensory disabilities pointed out a difference consisting in a higher percentage of positive attitudes among pupils with visual disabilities in indicators of popularity, importance, the pupils’ efforts and feelings towards education. A statistically significant difference was discovered only in feelings during PE classes. This result may be considered proof of the suitability of the educational environment for pupils with visual impairments.

Conclusion
Comparing the attitudes of pupils with sensory disabilities showed a difference in that pupils with visual impairment have a higher percentage of positive views in all studied indicators: popularity, importance, pupils’ efforts and their attitudes towards PE.
Physical Activity as Part of Psychiatric Treatment: SDT model of motivation

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Keywords: motivation, physical activity, psychiatry.

Background
Individuals with mental illness have an increased prevalence of physical comorbidity and mortality, in most cases caused by health problems that could be counteracted by physical activity. However, psychiatric personnel report that motivation for physical activity is a barrier for including physical activity in the treatment.

Objective
The aim of this presentation is to describe the Self-determination Theory model of motivation used in Norway in psychiatry practice for increasing physical activity by psychiatric patients and how we would like to use it in practice in Czech environment in the frame of Czech Norwegian cooperation.

Methods
On the base of SDT model we will create motivational intervention useful for psychiatric hospitals in Czech Republic. In the first phase of motivational intervention we will educate physiotherapists, who secure physical activity for psychiatric patients and then we will realize the research if this kind of motivational intervention supports physical activity by psychiatric patients.

Results
A core 20 hour course education for physiotherapists was outlined. We found out that there is a lack of education in this profession and there is a need to support them by increasing knowledge, self-esteem and practical methods how to motivate patients to physical activity.

Conclusions
Motivational intervention for increasing motivation for physical activity in psychiatric treatment seems feasible and promising.
Two different programs of trampoline training with children with autism spectrum disorders

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Keywords: motor proficiency, autism spectrum disorders, trampoline training, strength of the lower limbs.

Background
The Autism Spectrum Disorder (ASD) are neurodevelopmental disorders which limit individuals mainly regarding motor behavior. Trampolines allow for motor experiences that contribute to the development of coordination, balance and muscle strengthening.

Objective
This research aimed to evaluate the influence of two trampoline training programs in motor proficiency and strength of the lower limbs of children with ASD. Each program had different durations (20 and 32 weeks) and was carried out in different settings (school and gym) and with different equipment.

Methods
The initial sample consisted of 25 children with ASD (6.9 ± 2.3 years of age) who were evaluated in motor proficiency and strength of the lower limbs. To collect data related to the variables mentioned, we used: the Bruininks-Oseretsky Test of Motor Proficiency - second edition (BOT-2) brief form, to assess motor proficiency; we performed the horizontal thrust jump to assess the strength of the lower limbs in order to verify the effects of the intervention programs that were implemented.

Results
The results presented in this investigation show that the two training programs reveal the existence of significant improvements in motor proficiency (0.001) and strength of the lower limbs (0.001).

Conclusions
The results suggest that children subject to a trampoline workout program presented significant improvements in motor skill and strength of the lower limbs. Our results provide data showing that trampoline training is an important activity that should be implemented in children with ASD.
Physical Education and inclusion of students with disabilities in Brazil

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Keywords: physical education, inclusion, students with disabilities.

Background
Several countries have dedicated themselves to rethink education in the inclusive perspective. Physical Education (PE), as a compulsory curriculum component of basic education in Brazil, has been seeking alternatives to ensure access and provide full development to students with disabilities (S.W.D) in the regular school system.

Objective
This essay aimed to discuss the inclusion of students with disabilities in the context of Brazilian Physical Education, in order to analyze some points of tension between what is recommended by law and the existing services for this population.

Methods
Under qualitative approach, a theoretical study was developed based on the confrontation between documents from the Brazilian legislation and systematic review of literature coming from empirical research in inclusive settings. The documental research was based on legal documents available on the website of the Brazilian Ministry of Education. A systematic literature review was conducted on the electronic portal nominated Digital Bank of Dissertations and Theses (BDDT), using as descriptors (keywords) "Physical Education" and "Inclusion". As search refinement criteria, it was selected studies involving persons with disabilities and peers, carried out in regular schools in Brazil.

Results
The data were discussed and subdivided into four categories of content analysis: 1. Legal aspects related to the inclusion of students with special needs in Brazil; 2. Statistics and diagnosis of students with disabilities in Brazilian education; 3. Training of Physical Education professionals to work with this population; 4. Pedagogical practices and specialized services in Adapted Physical Education. A summary of the results showed that, despite the legal guarantees for the inclusion of students with disabilities in Brazilian educational system, was identified: the absence of an accurate diagnosis of their special needs, specifically in the context of physical education; insufficiency in initial and continued qualification process of Physical Education teachers; lack of material resources and support services tailored to the students; lack of professional support during lessons and practices in Physical Education; absence of indicating to adjust the curriculum frameworks in the area; and inadequate attitudes of under-qualified professionals. These factors showed a gap between what is recommended by law and the reality experienced in physical education classes in Brazil.

Conclusions
Law and national scientific production have moved in opposite directions: legislation has been insufficient to ensure quality inclusion of SWD in PE; researches have not been sufficient to engender necessary changes and inspire improvements in Brazilian policies and educational system.

**Acknowledgment**

Physical Education and Human Motricity Department; Post Graduation Program in Special Education.
Comparison of physical activity levels in adolescents with long term illnesses or disabilities across Europe

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Keywords: inclusion, HBSC study, institution.

Background
More adolescents have reported to have long term illnesses and disabilities (LTID) than before. More adolescents attend general school systems through inclusive education. Adolescents with LTID are at risk of not meeting PA recommendations for health.

Objective
To study amount of PA across Europe from adolescents that attend general schools with severe LTID and LTID.

Methods
A self-report question was completed by adolescents (n=70038) in 15 countries across Europe. Adolescents reported if they have a LTID (n=11938; 17.1%) and how often they had accumulated at least 60 minutes of physical activity in the last week. Adolescents with severe LTID reported their LTID affects the daily participation. Descriptive statistics were used to indicate the state of PA levels, T-tests were conducted between groups of severe LTID and LTID between countries to determine differences and similarities.

Results
Across Europe, a small proportion (18.1% and 19.9%) of adolescents with severe LTID and with LTID, respectively met the PA recommendations for health. While slightly more, but still low (39.2% & 45.1%) reported daily activity for at least 5 days a week. Countries with the least number of adolescents with LTID that met the PA recommendations included Armenia (12.8%), France (13.0%) and Sweden (13.1%). Differences between severe LTID and LTID groups were observed (p=0.39), however when analysed per country, differences were not statistically significant. Only in Sweden (p=.006), Poland (p=.020) and Macedonia (p=.004) where there differences in reporting at least 5 days of MVPA between the two groups. Countries with most number of adolescents with LTID that met the PA recommendations included.

Conclusions
Physical activity levels is inadequate for adolescents with LTID. For many types of conditions, physical activity needs to be prescribed for both adolescents with severe LTID and LTID.

Acknowledgment
HBSC Physical Activity Focus Group, HBSC Chronic Conditions Working Group, HBSC study that collected the data.
Increased Injuries from Sport in adolescents with LTID

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Keywords: HBSC Study, MVPA, sports club, organised sports.

Background
A risk from taking part in sports is the chance of injury. This is often a big concern for parents, particularly if their child has been diagnosed with long term illnesses or disabilities (LTID). However, there are also many health benefits from doing sports, particularly if the child has LTID.

Objective
Therefore, the purpose of this study was to examine the differences in rates of injuries as a result of training or playing sport between adolescents with and without LTID.

Methods
The 2014 Finnish school survey data (n=3771) from the WHO Collaborative study Health Behaviours in School Aged Children (HBSC) Study was divided into adolescents who have reported to have LTID and those that have not. Only grade 7 (13-yrs-old) and 9 (15-yrs-old) took part in this study. Logistic binary regression was used to determine the associations between daily physical activities (MVPA, Moderate-to-Vigorous-Physical-Activity), being in a sports club and injuries from training or playing sports after controlling for age, gender and SES.

Results
Injuries from sports occurred more often than in any other environment. One in eight (12.5%) adolescents reported injuries and a further one in six adolescents (15%) reported to have LTID. There were no statistically significant differences in injuries between adolescents with or without LTID in MVPA, sports club members nor injury rates. Taking part in a sports club is 10 times more likely to get an injury (p<0.001), while the odds for injury for MVPA was 1.58 (p<0.001). There were no statistically significant odds for adolescents with LTID.

Conclusions
Injuries from sports is a regular occurrence, and the risks are much higher when participating in a sports club. The risks of injury are no different between adolescents with and without LTID, therefore taking part in a sports club because of greater injury risk should not be inhibitor for adolescents with LTID. Management of injury and injury prevention training is needed to reduce the prevalence of injuries in sports.

Acknowledgment
HBSC Finland
Peculiarities of psychic reliability of the disabled athletes in the competition period

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Keywords: psychic reliability, disabled athletes, emotional states, self-regulation.

Background
It is well documented that psychic reliability and emotional state of the athletes is very important part of psychological preparation in able-bodied participants (Pensgaard et al., 1999; Campbell & Jones, 1994). Yet little psychic reliability and emotional state guidance is available for wheelchair sports participants.

Objective
To reveal the psychic reliability state of the disabled athletes and to identify the emotional state of the disabled athletes according to the classification of wheelchair basketball and sport experience in the competition period.

Methods
Questioning: 1) V. E. Milman questionnaire was designed to determine an athlete’s psychic reliability. 2) SAN scale was employed to evaluate athletes’ self-state, activity and mood. Thirty four wheelchair basketball players were examined during wheelchair basketball international tournament in Lithuania in 2014. Athletes aged from 19 to 56 years, sports experience of the players varied from 6 months up to 16 years. The results were processed using SPSS version 17.0 (SPSS, Inc., Chicago, IL). A paired t-test was used to compare psychic reliability and emotional state values according to classification and experience of athletes to determine statistical significance.

Results
The assessment of the disabled athletes of competitive psychic reliability according to wheelchair basketball sport classification recorded no significant differences among mild (3-4.5 classification players) disability and severe (1-2.5 classification players) disability groups. The examination data of the disabled athletes of competitive psychic reliability according to experience of the players recorded no significant differences among more experienced players (6 years and more) and less experienced players (less than 6 years) groups. The research data revealed that the emotional state before competitions according to the wheelchair basketball classification was shown better by severe disability players’ group in comparison with mild disability players’ group (p<0,05). The analyses of the research data revealed that more experienced players showed better values of emotional state before competitions in comparison with less experienced players’ group (p<0.05).

Conclusions
1. The observation showed decreased or minor psychic reliability in all groups. 2. The examination of the disabled athletes emotional states according to the classification of wheelchair basketball and sport experience showed a high level of emotional states of the athletes.
Keywords: students with EBP, social skills, physical education program.

Background
Students with emotional and behavioral problems (EBP) present complex challenges for schools and families (Cook, et al., 2003). Over the last several years, the improvements of educational opportunities for students with EBP have been made (Vannest, et al., 2011). But, little research has been conducted to enhance the social skills of these students in physical education.

Objective
To evaluate social skills development of students with emotional and behavioral disorders through participation in PE lessons.

Methods
35 students aged 11-13 years old with EBP participated in the study. The social skill development in PE program was applied for 15 weeks, two days per week for 1 hour in one PE lesson. Before and after the intervention students completed: 1) Self-assessment form, which consisted from accidentally listed words (Bulotaite, Davidaviciene, Gudzinskiene, 2005). Students had to describe their self by underlining the appropriate words for his/her personality, or striking out, 2) the survey about behavior and progress in school (Hartke, Vrban, 2009). The observation list for evaluation of behavior in PE lessons was filled in by PE teacher and students themselves.

Results
Students with EBP self-assessment in social skills development during PE program changed significantly (p<0.05), students concentrated better during the tasks, more often followed the rules, were more respectful to their classmates and teachers, acted more friendly and willingly helped them. The data analysis showed, that after participating in social skills development program students improved their ability to evaluate themselves more realistically, better understood their own strengths and weakness (p<0.05).

Conclusions
Students who participated in social skills development PE program improved their social skills significantly in comparison with those who haven’t participated in the program.
“Body language, as an extracurricular physical activity for the children with Autism Syndrome Disorder (ASD)”

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Keywords: body language, autism syndrome disorder, visual supports.

Background
APPLYING TO IVP. The body language is a contest that offers the possibility to communicate our feelings, moods and emotions. Unfortunately, people with ASD have problems in recognizing those and their own body schemes. For this reasons, it is very important to point out that a structured program of Body Language, it could be very useful to this group of people.

Objective
Verify if a structured physical program based in the Body Language’s discipline, can not only improve the body scheme from people with ASD, but also their social and communication limitations, and their motor skills.

Methods
The design of the extracurricular program focused on the Body’s Language discipline, has been conducted by the analyzing categories through a field diary, questionnaires and interviews that did the different professionals related to the public school where the program took place, students with ASD and their parents. The results obtained from these instruments, have been given way to a comparison process (triangulation) of all the data related to the subject of study (Cisterna, 2005). Regarding the participants, a total of thirty students from an inclusive public school took the program; ten out of this thirty have been diagnosed with this type of disorder.

Results
The extracurricular Body Language program offered a convenient results to the different difficulties that characterize this group of people, since it reduced their distraction and lack of attention caused by their visual and hearing hypersensibility, the adversities that they usually have to analyze where they have to go in an open space and the limitations of understanding the purpose of the environment in which they were and also, the behaviour that should be carried out in it. As a result of the design and the organization of the program, in which we created different areas that were called corners, work zones and effective learning environments, the main goals of the program have been achieved. Perhaps, the most significant results have been the decreasing of the distractions and the stereotypes, being totally independent since they knew what they had to do in each corner and the increasing of the social interactions with their peers.

Conclusions
The Body Language, as an extracurricular physical activity’s proposal in an inclusive public school has been very advantageous for the entire educational community. What is more, the students with ASD not only improved their social and communication limitations, but also their motor skills.
Relationship between five stable trunk tests and the trunk scale used by BisFed during classification in Boccia: Toward evidence based classification

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Keywords: boccia, classification, trunk stability, scale.

Background
Trunk function is an important performance component in Boccia and, therefore, it is taken into account when classifying boccia players. Currently, the Boccia International Federation (BisFed) uses a qualitative scale of 5 items as method to evaluate the activity limitation of the trunk.

Objective
a) to evaluate the strength association between five sitting stable tests that evaluated trunk stability and the scale used by BisFed; b) to study if this trunk test battery might discriminate between class BC1 and BC2.

Methods
Forty-two recreational boccia players BC1 (n=14) and BC2 (n=28) completed a battery of test to assess trunk stability using a force platform. Before performing the sitting stable tests, two international expert classifiers scored the BisFed trunk scale. The stable trunk battery consisted in five tests: two static tests (with and without visual feedback) and three dynamic tests: horizontal (right/left), vertical (front/back) and circular, all of them with feedback. Mean radial error (MRE) was calculated as the average vector distance magnitude (mm) of centre of pressure (CoP) from a target point.

Results
Pearson correlations were performed and results showed that stable trunk tests correlated with the trunk scale used by BisFed (r = -.393; p = .015). Positive correlation between static and dynamic situations were also found (r = .545; p< .001). Classes BC1 and BC2 were compared using a t-test analysis finding differences between classes in the stable trunk tests (t(40) = 2.85, p = 0.07), but not in the dynamic situations.

Conclusions
Dynamic situations are difficult for both BC1 and BC2 boccia players, due their level of trunk impairment. However, the static situations allow discriminating among classes (BC1 and BC2). Thus, the trunk scale used by BisFed could be a valid tool to assess trunk activity limitation during classification.
Does the PAPAI-model help matching question and sports opportunities of disabled children?

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Keywords: social inclusion, participation, youth sport, disability sport, adapted physical activity.

Background
Disabled children don’t have as good opportunities to be physically active as their non-disabled peers. To find solutions to this problem the model of PAPAI (Personal Adapted Physical Activity Instructor) was created in Finland. PAPAI-programme is part of SEDY-project (2015-17), which is coordinated by the Amsterdam University of Applied Sciences.

Objective
The goal of the Finnish pilot program is to find a physical hobby to children and young people with disabilities, test the new PAPAI-model (Personal Adapted Physical Activity Instructor), and map the current problems and solutions related to sports participation.

Methods
All children and young people with special needs aged 6-23 can apply their own PAPAI. The PAPAIs are students from the fields of physical education, pedagogics, rehabilitation and social welfare. They act as the client’s hobby friend, instructor, support person and consultant during an experimental period. Basic data such as client’s age, gender, disability/function, background, earlier experiences and hopes of the client is gathered prior to the experiments. The experimental periods are documented. Afterwards the family/client, PAPAIs and teachers will take part at the feedback survey. The theoretical framework of the research is based on the ICF.

Results
The application period for the programme is in the spring (1 February to 31 March 2016). The experimental period of 4-6 weeks will take place in autumn. Results and feedback are collected in November and findings published in 2017. Currently 18 universities and institutions of physical education are involved in 15 localities or cities. The network of adapted physical activity teachers met in November 2015 to integrate PAPAI into APA-training of the institute. PAPAI training is executed by VAU trainers. In each city one PAPAI coordinator is recruited to act as the supervisor of PAPAIs, solve any problems, connect with municipalities and help to find suitable try-out locations and sports associations. Some PAPAIs are planning to write their thesis in conjunction with the programme.

Conclusions
PAPAI is a promising method to foster physical activity and overcome social inclusion as well as develop APA training of future professionals. The profiles of PAPAIs and participants and experiences after the first steps of the programme will be presented in June.

Acknowledgment
The SEDY-project (Sport Empowers Disabled Youth) has received funding from the Erasmus+ Programme of the European Union.
Evaluation as a tool to facilitate inclusion in mainstream sports federations

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Keywords: valuation, disability sports, sports policy, integration, inclusion.

Background
Mainstream sports federations are moving towards inclusion. Since 2009 the Finnish Sports Association of Persons with Disabilities (VAU) has sought means to facilitate and coordinate integration processes. This presentation is based on author’s evaluation reports (Saari 2015; 2011a) which were financed by the Finnish Ministry of Education and Culture.

Objective
The purpose is to present an overview of current status of disability sports integration processes and discuss about the used method when assessing mainstream sports federations and the sports movement.

Methods
Inclusion is understood as a result of integration processes, and the ultimate goal of disability sports is under the roof of mainstream sports federations. Those 45 sports federations who reported that they run programs for persons with disabilities were sent an email survey, and 33 federations answered the survey. After an analysis a three-dimensional evaluation criteria (numbers, inclusion and disability sport) was created. First is based on participant numbers. Second is about quality of inclusion, participation and accessibility and third about disability sport success and quality in competition and training systems. The last two criteria are based on self-evaluation. Eventually the evaluation criterion with results was sent to federation for feedback.

Results
Systematic follow-up is a tool to find out where are we now, what works and what the keys to inclusion are. From competitive disability sports point of view almost 1/3 are moving towards inclusion, since 20 (out of 70 ministry financed federations) have taken the permanent responsibility of ruling disability sports. Altogether 39 sports federations have some programs for people with disabilities. The problem is that in most cases the focus is only in Paralympic sports and/or other competitive activities. Only judo, swimming and equestrian have taken full responsibility of disability sports and participation of persons with disabilities from grassroots to elite, including Special Olympics athletes. Deaf sports and transplant sports still show no signs of moving under the roof of able-bodied sports federation. The three-dimensional evaluation criteria (numbers, inclusion, disability sport) were assessed by federations as good method of doing follow-up.

Conclusions
There isn’t yet a reliable, systematic nor inclusive method to collect the participant numbers. Combination of objective numbers and self-evaluation gives a picture of inclusion status and stresses federations’ own responsibility of development.
Acknowledgment
The SEDY-project (Sport Empowers Disabled Youth) has received funding from the Erasmus+ Programme of the European Union.
Validation of the Self-Efficacy Scale for Physical Education Teachers towards Inclusion in Lithuania

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Keywords: self-efficacy, Physical Education Teacher, students with disabilities, regular physical education, inclusion.

Background
The positive attitude, knowledge and creativity of PE teachers in relation to students with disabilities are one of key factors for the successful inclusion in regular physical education settings. Sometimes the attitude can be influenced by lack of self-confidence of the educators to make appropriate accommodations for students with disabilities. In order to get a reliable insight on the PE teacher’s self-confidence and perceptions of inclusion possibility, it is crucial to use valid instruments.

Objective
The purpose of this study was to validate the Lithuanian version of a survey instrument the Self-Efficacy Scale for Physical Education Teacher Education Majors toward Children with Disabilities (SE-PETE-D), which could be used to investigate self-efficacy beliefs of physical education teachers toward the inclusion of students with intellectual, physical and visual disabilities in regular physical education in Lithuania. The English version of the scale was translated into Lithuanian language using back translation technique.

Methods
The participants in this study were 400 Lithuanian secondary schools and gymnasiums physical educators ages 22 to 62 years old, who teach students aged between 11 and 16 years old. The sample was randomly split, and exploratory and confirmatory factor analyses (EFA and CFA, respectively) were conducted.

Results
Our findings suggest that the SE-PETE-D provides a valid and a reliable scale to measure self-efficacy of physical educators toward the inclusion of students with disabilities in their classes in context of Lithuania. PE teachers indicated that mostly they have challenges including children with intellectual disabilities into their classes.

Conclusions
The comprehensive results and the conclusions of the survey will be presented during the conference.
Incluye-T: Training program for an inclusive physical education

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Keywords: inclusion, physical education, teachers, students, awareness.

Background
Lack of adequate training and low self-confidence of teachers is a recurring issue concerning the inclusion process of children with disabilities in Physical Education. To improve this situation a guide was developed with a special emphasis on knowing different impairments, materials and strategies to promote inclusion at regular school.

Objective
Incluye-T tries to a) inspire attitudes that encourages inclusion and equal participation for all students in physical education classes; b) to promote the Paralympic values and inclusive sport; c) evaluate the attitudinal change of the students on the basis of the Theory of Planned Behavior.

Methods
We combined the experience of teachers and instructors in various fields of education and adapted physical activity with the Paralympic Movement philosophy, in order to develop inclusive physical education materials. The initiation phase of the project involves a more theoretical approach, where it is carried out the development of the materials. Subsequently, the second phase seeks for a more practical knowledge, helping professors to develop a broad range of abilities to put in practice the material designed. This positive experiences help professors to increase their degree of self-confidence, in order to resolve any situation they might face in their lessons.

Results
The result of this Project has been the creation of a guide for Spanish primary school teachers with both theoretical as well as practical information on how to develop and adapt inclusive physical education classes. The content of the guide includes instructions for developing awareness to the different impairments and sport activity limitations, infographics about the classification and regulations of Paralympic sports, and also includes a package of training sessions.

Conclusions
The Incluye-T teacher training is assumed to have an important impact on Spanish primary school PE teachers concerning the self-confidence about the inclusion of children with disabilities in Physical Education and the importance of that process for the students.
39PS

The dancing actions of subjects/dancers

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Keywords: dance, quality of life, adapted physical education, occupational therapy.

Background
The study was conducted from reflections on studies of Occupational Therapy and Adapted Physical Education, along with the experiences in the Extension Project "Dancing with the differences." We found that dancing brings advantages and benefits to people with disabilities who are at the margins of society because they have different bodies or behaviors.

Objective
Create opportunities for people with disabilities to dance, include them socially, develop self-esteem, self-image and physical abilities.

Methods
The current Project occurs once a week, with three hours of duration. At each meeting, participants have the opportunity to leave home (private room), to live with other people, to make friends, to discover their potential and difficulties, to experience-dancing and thus exist in their own way, independent of their disability. We see the dance as an artistic work, it becomes therapeutic, a producer, transformative and reconstructive of life, when presenting meaning for that subjects/dancers begins to dance, taking into consideration their life story, the context in which it lives, concerns, limitations and abilities.

Results
We understand that the project "Dancing with the differences" has transformed the lives of the participants, it enables them to leave the place to be "wheelchair" and act as dancers with representative, as well as all other issues mentioned above that occur differently for each of them. We highlight the participation of a student who attends in the Project from 2012, that despite having severe sequelae from cerebral palsy and not talk at each pedagogical/artistic meeting but show through nonverbal expressions such as smile, your happiness of being in classes and willingness to participate in activities, at this time, it is the dancer who lives and interacts with other subjects/dancers.

Conclusions
The Subjects/dancers of the Project, regardless of their condition and limitation come to live better, increasing their quality of life, enabling them to be dancers and be seen differently by family and society, feeling accepted and valued.
Diagnostics of spine and pelvis posture in unilateral lower-limb amputees

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Keywords: amputation, spine, pelvis, motion capture technology.

Background
Lower-limb amputation is a big intervention into the body integrity and causes threefold loss in terms of function, sensation and body image. Body image has also direct connection with psychological adjustment. Amputation, even when using lower-limb prostheses, can lead to problems with postural alignment, muscle imbalances and strains, and gait abnormalities.

Objective
The aim of the study is to find out if there appear (negative) changes in locomotor system, the deviation in spine and pelvis posture of unilateral lower-limb amputees.

Methods
This is a pilot study in which 7 unilateral lower-limb amputees, intentionally chosen for the diagnostics of spine and pelvis posture, were involved. Spine and pelvis orientations of each amputee were measured by motion capture technology Qualisys which has shown us the spine and pelvis posture in unilateral lower-limb amputees and allowed 3D movement analysis. A short survey was also a part of the study, the participants answered questions connected to their actual physical and mental state.

Results
Five of all seven unilateral lower-limb amputees were characterized as having a major deviation in spine and pelvis posture. 1 of all seven was characterized as having small deviations in spine and pelvis posture and 1 of all seven was characterized as having evident marks of spine and pelvis adjustment which can influence other body segments which were already compensated.

Conclusions
There’s big evidence of negative changes and deviations in spine and pelvis posture in unilateral LL amputees. It’s expected that these negative changes might be reduced by regular physical activities (PA), incl. compensation PA, considering the actual physical and mental condition of each individual.

Acknowledgment
We thank Hana Kohoutová, the Rehabilitation Clinic in Prague-Malvazinky physiotherapist, for professional supervision. I would like to inform you that I am applying to International Volunteer Program as well.
Physical Activity as Part of Psychiatric Treatment: A Czech-Norwegian Research Cooperation

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Keywords: collaborative research, physical activity, psychiatric treatment.

Background
Individuals with mental illness have an increased prevalence of physical comorbidity and mortality that may be counteracted by physical activity. A collaborative project between The Czech Republic and was therefore designed to increase the use of physical activity in psychiatric treatment, funded by The Norwegian Research Council through «Norway Grants».

Objective
One aim is to develop educational courses to qualify therapists and sport science professionals to work with physical activity for individuals with mental health problems within existing treatments. Another aim is to do collaborative research between the two countries by carrying out interventions using physical activity as part of treatment.

Methods
The project will have an educational part and a research part. After development of a common model for the content and aims for the physical activity, a common framework and a manual for educating instructors/therapists have been developed. The research will be carried out with a time series design (Norwegian arm) where the individual patient will function as its own control. The Czech arm will do a randomized-controlled study. The intervention period is suggested to last 3 months. In addition qualitative interviews will be performed with both participants and personnel. Different models for the intervention will be compared.

Results
The physical activity in the project is defined as: A variety of movement activities with a potential to stimulate physical, emotional, cognitive and social resources in the individual.

- Represent physical activation above resting level (increase in pulse and breathing)
- Demand some muscular effort in order to build strength
- Induce positive affect, pleasure, at least eventually
- Give experiences of mastery of tasks related to the activity, increase skills and feelings of competence
- Take place in a positive social setting, give experiences of relatedness
- Be carried out in a autonomy supportive fashion

Through these characteristics the activities should improve the physical health, the perceived quality of life, the self-concept and the social abilities and skills of the individuals taking part. The educational part of the project has resulted in a coach manual and a 20 hours educational course focusing on increasing motivation for physical activity. More experiences from the collaboration will be presented.
Conclusions
A collaborative project between The Czech Republic and Norway to develop models for using physical activity as part of psychiatric treatment is well under way.

Acknowledgment
The project was funded by Norwegian Grants.
Physical Activity as Part of Psychiatric Treatment: Construction of a motivational intervention

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Keywords: motivation, physical activity, psychiatry.

Background
Individuals with mental illness have an increased prevalence of physical comorbidity and mortality, in most cases caused by health problems that could be counteracted by physical activity. However, psychiatric personnel report that motivation for physical activity is a barrier for including physical activity in the treatment.

Objective
The aim of this presentation is therefore to describe the development of a motivational intervention for therapists and physical activity instructors in order to enable them to use it within a physical activity program for psychiatric patients.

Methods
The motivational intervention was theoretically based on The Stages of Change Model and Self Determination Theory. The intervention had three main components: A knowledge component about psychiatric illness, and about physical activity and the physical and psychological health effects thereof. The second component was about the motivational theories, and the third component consisted of practical exercises in how to apply these theories in a physical activity program. This part will be presented in more detail.

Results
A core 20 hour course education was outlined. Both practical and more formal considerations contributed to the shape of the course. The therapists with background in medicine and psychiatry received more knowledge about physical activity, and the physical activity instructors with background in sport science were to spend more time learning about psychiatry in the first component, otherwise they did the rest of the course together. Central in the practical exercises was the exchange of ideas between the professionals with experience with the patient group, and those from sport science with their broader experience with various forms of physical activity. The next stage of the intervention is that the physical activity instructors will run an activity program twice a week at the psychiatric ward for 10 weeks, with the therapists taking part and gradually taking over the leadership. Experiences from this process will be presented.

Conclusions
A collaborative model between psychiatric health personnel and sport science professionals for increasing motivation for physical activity in psychiatric treatment seems feasible and promising.

Acknowledgment
The project was funded through The Norwegian Research Council by Norway Grants.
Coaches and players perception of factors influencing Boccia participation in Portugal

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Keywords: factors, players with disability, boccia, coaches.

Background
Nowadays is observed low rate of participation in sports among people with disability. Identification of the factors that influence that participation is essential. Few studies explored and compared the perception of coaches and players: considered main stakeholders of sport participation.

Objective
The goal of the present study was to identify the main factors that influence Boccia participation in Portuguese players, based on the perception of coaches and players.

Methods
Participants were 16 coaches (13 male, 3 female; aged between 20 and 68) and 36 players (29 male, 7 female; aged between 14 and 60) of Boccia in Portugal.
A survey was built based on a previous survey (Jaarsma, Geertzen, de Jong, Dijkstra, & Dekker, 2013), ICF’s model (WHO, 2001) and literature review. The instrument was composed by 23 items, grouped in 5 factors (displacement, transports, time, people support, and assessment). Researchers explained the aims of the study and received consent from each participant. Descriptive statistics (mean, standard deviation and frequency) and inference statistics (Wilcoxon-Mann-Whitney test) were used.

Results
Generally, players perceived more facilitators than coaches. More precisely there were significant differences on these variables: transport schedule (U=421.50; W=1087.50; p=.050), number of transports taken (U=432.00; W=1098.00; p=.003); time needed to reach the sports facilities (U=480.50; W=1146.50; p=.000); time needed to prepare for training (U=403.00; W=1069.00; p=.016); time needed to get from the dressing room to the playing field (U=424.00; W=1090.00; p=.005); time required to exit the training for your next appointment (U=412.00; W=1078.00; p=.009); access to sport facilities (U=383.00; W=1049.00; p=.039) and parents support (U=384.50; W=1050.50; p=.032).
Just in the factors (4) related with the use of the dressing rooms players have means lower than coaches, though without significant differences.
Results show that in some variables coaches and players were in agreement. Namely, the cost of transport was perceived as the most negative factor by coaches (m=2.63±1.26) and players (m=3.19±1.41). On contrary the support of sport assistant was perceived as the most positive factor for coaches (m=4.31±0.87) and players (m=4.61±0.64).

Conclusions
Boccia coaches perceived the factors in a more negative way when compared with players. Although they all rate the transport’ cost as the factor with the lowest score and the support of sport assistant as the biggest facilitator.

**Acknowledgment**
The first author was supported by a doctoral grant of the Portuguese Foundation for Science and Technology (SFRH/BD/76838/2011).
What are we talking about when we talk about inclusion?

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Keywords: inclusion, physical education, scoping review, theory.

Background
Inclusion has been an important research topic in the APA context for over two decades. The amount of research produced over these decades has been summarized in several reviews. Yet, what precisely is meant by the concept inclusion is often not made clear.

Objective
The purpose of this study is to bring more clarity and specificity to the concept of inclusion.

Methods
A scoping review of Norwegian research on inclusion in physical education was performed. We included empirical studies of the physical education context that were at a minimum on the master degree level or higher, concerned the topics disability, gender, social class or ethnicity, all of which are categories where pupils might experience exclusion. All steps in the review process where discussed by the two authors.

Results
The majority of the research is on pupils with disabilities. Methodologically, there is a spread between qualitative and quantitative approaches. The most important finding, however, is that inclusion is a somewhat a-theoretical and political concepts. In other words, the research is to a large extent not based on theory (the exception is studies of attitudes). Rather, it takes the politically driven understandings of inclusion as starting points. Based on this finding, we further investigate how we can turn inclusion into a more researchable. Following Haug (2010), we suggest that inclusion can be divided into four aspects, namely participation, fellowship, democratization and learning outcome.

Conclusions
1) The findings in Norwegian research reflect the international literature on inclusion in physical education. 2) A more theoretically grounded concept of inclusion has the potential to further develop research efforts.

Acknowledgment
This research is supported by Norway grants from EEA.
Sports pedagogues in rehabilitation: what are they doing?

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Keywords: rehabilitation, professional practice, sports pedagogues.

Background
Rehabilitation institutions in Norway have been employing professionals known as sport pedagogues, with a sport or physical education degree for many years. Despite this, we have no research driven knowledge about what these professionals are actually doing in their job.

Objective
The purpose of this study was to generate knowledge about what sports pedagogues in rehabilitation are doing in their daily work and how they understand their job.

Methods
We have performed a case study at five rehabilitation institutions, where three or more sports pedagogues. Group interviews were performed with the sports pedagogues, while their leaders were interviewed individually. In addition, we have analyzed relevant documents such as job descriptions and web pages. The material has been analyzed thematically.

Results
Drawing on literature from sociology of professions our analysis suggests three dimensions to the everyday job performed by sports pedagogues, namely a certain struggle to find their position in relation other professions in rehabilitation, a fairly strong value-orientation towards the purpose of their job, but a certain insecurity about the knowledge base of their profession.

Conclusions
Although this study gives valuable insight into the professional practice of sports pedagogues in rehabilitation, more research is needed to determine the content and extent of their professional occupation.
How to improve the wellbeing of people with addiction

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Keywords: qualitative research, Five ways to wellbeing.

Background
Feeling good and function well are the two most important concepts of general wellbeing. A new methodology (Five ways to wellbeing) was developed by the New Economics Foundation in the United Kingdom (UK) to increase the well-being of the population in the UK.

Objective
The objective is to present results of a qualitative study that used the "Five ways to wellbeing" methodology to improve the well-being of people with addiction in the Czech Republic.

Methods
The “Five ways to wellbeing” methodology was used to follow ten clients that were selected from after care and counselling services for alcoholics and drug users. The only inclusion criteria for the clients selection was that each client had to be in the service for minimum of the six weeks. The data collection method included semi-structured interviews. The research categories that were explored were: (a) experience in relationship with the others; (b) experience with physical activities; (c) mindfulness experience; (d) learning activities and (e) altruistic behaviour. Theoretical, as well as descriptive content analysis were used to analyse the qualitative data.

Results
The methodology Five ways to wellbeing to improve the wellbeing of our clients from after care and counselling services for alcoholics and drug users was used for the first time. The content analysis are not finished yet; however, we will have all the results ready at the end of the spring semester 2016.

Conclusions
The methodology Five ways to wellbeing is for the clients easy to understand and to follow. However, we found some difficulties especially in the category "relationship with others". More research studies are needed to correctly access the possible impact on clients with addiction.

Acknowledgment
The study was inspired by "Build on Belief (BoB), the service for drugs users in London, the United Kingdom which is using the methodology. The study was based on cooperation of the Palacký University (the Czech Republic), the Valdosta State University (the USA), the P-Centrum Olomouc (the Czech Republic) and Build on Belief (Great Britain).
Blow darts recreational training programme for people with SCI: effects on respiratory function.

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Keywords: blow darts, adapted physical training, spinal cord injury, pulmonary function, respiratory muscle strength.

Background
In the continuum of care for people with spinal cord injury (SCI), respiratory complications are the primary cause of morbidity and mortality. Thus, breathing exercises should be carried out to protect respiratory function. Among the respiratory training options, blow darts games are safely, suitable and funny for every condition.

Objective
The purpose of this study was to assess the influence of a blow darts recreational training programme upon respiratory muscle strength (maximal respiratory pressures) and pulmonary function (flows and volumes) in residents with SCI of a Spanish State Reference Center.

Methods
17 individuals with SCI of both genders from a Spanish State Reference Center for persons with severe disability were divided in 2 groups. One group (Training Group, TG, n=9) underwent a 16-week blow darts recreational training programme consisted of four weekly one-hour sessions, blowing over 80 darts/session. All were novice blow dart players. Activities were individualised to provide correct intensity. The other group (Control Group, CG, n=8) received no training and served as controls. Data from spirometric and maximal respiratory pressures measurements were obtained prior to and after the training programme. Data was analyzed using a paired-sample t test.

Results
The following spirometric variables were measured: slow vital capacity (SVC), forced vital capacity (FVC), forced expiratory volume in one second (FEV₁), FEV₁/SVC ratio and peak expiratory flow (PEF). Our results showed significant difference in the TG for the PEF (p=0.037) between pre (mean = 6.18 (SD = 2.48) L/s) and post-training (6.81 (2.47) L/s) values. No significant differences were obtained for all other spirometric variables between pre and post-training values in both groups. However, changes were greater between the pre- and post-training values in the TG compared to CG: FVC (TG = +2.41%, CG = -0.95%), FEV₁ (TG = +1.96%, CG = -0.60%), FEV₁/SVC (TG = +4.17%, CG = -2.82%) and PEF (TG = +10.19%, CG = +1.30%), whereas SVC was unaffected in the TG and increased by 2.16% in the CG. Moreover, in the TG there were no significant differences between the pre and post-training values for MIP (87.75 (31.03) vs. 97.25 (36.50) L/s; p= 0.188) and MEP (70.38 (40.44) vs 76.38 (44.35) L/s; p= 0.185). MIP and MEP decreased by 0.29% and 10.69% respectively from pre-training MIP and MEP in the CG.
Conclusions
A blow darts recreational training programme is useful to prevent a decline in respiratory function in SCI patients. We also highlight the significant improvements in the PEF, an aspect of effective cough, suggesting a positive effect to increase airway clearance.

Acknowledgment
Support from the Functional Assessment Unit, Institute of Biomedicine, University of León; and the support from the State Reference Centre for Severely Disabled People and for the Promotion of Personal Autonomy and Care for Dependency in San Andrés del Rabanedo (León).
Preliminary investigation of traditional games on motor skills of children

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Keywords: traditional games, motor skills, MABC, children, motor assessment.

Background
Physical play is integral to the development of the whole child. Physical play has revolved through many forms such as traditional games in the past to technological games at present. Traditional games played in Singapore were common childhood games which are currently used only for cultural awareness. However, how traditional games influence the motor skills of young children, including those with special needs is not well documented.

Objective
Therefore, a preliminary investigation was conducted to evaluate if traditional games improve the motor skills of older pre-schoolers.

Methods
Forty-eight older pre-schoolers (control: n = 24, intervention: n = 24; age range: 5 – 6 years) were recruited. The intervention group, in addition to normal play, played traditional games consisting of bola tin, congkak, five stones, kuti-kuti and zero point over five weeks (20 sessions, twice weekly, 30 minutes/session). The control group only participated in normal play. The Movement Assessment Battery for Children – 2nd Edition (MABC-2; Henderson, Sugden & Barnett, 2007) was used to evaluate their motor skills at pre-test and post-test. Results were analysed in three ways (All: 24 vs 24; Best: 12 vs 12 & Worst: 12 vs 12) using mixed ANOVA, independent and dependent t-tests.

Results
Pre-test results revealed non-significant differences between control and intervention groups (p > .05). Although there was no interaction effect between all pre-schoolers, significant improvement was seen within intervention group and significant differences were seen between groups at post-test (p ≤ .05). Further breakdown analysis of the best and worst performers showed contrasting results. No improvement was seen among the best performers (p > .05). Instead, significant improvements were seen among the worst performers of both groups (p ≤ .05).

Conclusions
It is unclear if playing traditional games promotes significant improved motor skills of older pre-schoolers with varied motor proficiencies. However, it is rather evident that traditional games do have some positive effect on the development of motor skills especially for those with poorer motor proficiencies. It is then proposed to extend similar traditional games play to younger pre-schoolers or even children with special needs as these games could be played within the classroom premises.

Acknowledgment
Projects grant [14RIGO02]: The Development of Motor Skills of Young Children – using Traditional Games.
**49OS**

Comparison of the gross and fine motor skills of HI and non-HI adolescents in an inclusive PE setting

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**Keywords:** motor skills, hearing impairment, balance, inclusion, MAND, adolescents.

**Background**
Many studies reported delayed motor development in children and adolescents with Hearing Impairment (HI). With the exception of balance, studies have shown that children and adolescents with HI and Non-HI could have similar motor proficiency traits. However, their motor proficiency traits were unclear under an inclusive Physical Education (PE) setting.

**Objective**
This study compared the gross and fine motor skills of HI adolescents and their Non-HI peers in a regular school.

**Methods**
Twenty-four female adolescents without pre-existing medical or health conditions were recruited from the same regular school in Singapore (HI group: n = 7 & Non-HI group: n = 17; age range: 13 – 16 years). Ethics approval with voluntary participants’ assents and informed parental consents were obtained. Participants completed a self-reported physical activity (PA) questionnaire and their level of PA ranged from mild to moderate with no significant difference (p > .05). Ten Motor Tasks (MAND; McCarron, 1997), were used to measure their Neuromuscular Development Index (NDI), gross motor performance (GM), fine motor performance (FM), kinaesthetic integration (KI), muscle power (MP), persistent control (PC) and bimanual dexterity (BD).

**Results**
The HI group scored significantly lower KI factor score than the Non-HI group (p ≤ .05; McCarron, 1997). However, no significant difference was found in overall gross and fine motor skills (p > .05).

**Conclusions**
The results suggest poorer balance abilities of HI group as compared to Non-HI group despite being in an inclusive PE setting. It is recommended that more balance-focused physical activities could be incorporated at PE lessons to improve the balance of HI group and promote inclusivity.

**Acknowledgment**
Project grants [14RIGO02]: The Development of Motor Skills of Young Children – using Traditional Games.
50PS

Characterisation of exercise abilities in a local youth soccer team-Focus on developmental coordination disorder

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Keywords: children, developmental coordination disorder, soccer, injury prevention.

Background
Many children participate in sports activities, including local sports teams and club activities at school. Sports teams often ask that participants use certain social and/or movement skills, but some participating children may have difficulty performing them.

Objective
The purpose of this research was to evaluate the relationship between what a child’s guardian considers the child’s weak areas to be and the child’s actual movement abilities among children on a soccer team.

Methods
The subjects were 24 boys (average; 11.33 years old) belonging to a local soccer team. They read and signed a consent form to participate in this study. The Japanese Version of the Developmental Coordination Disorder Questionnaire to evaluate children with developmental coordination disorder (DCD) was provided to the children’s guardians. The cut-off values were made of each grade. Postural control was analysed with a double- and single-leg squat. Posture during squatting was recorded by an iPad placed in front of and to the side of them. Four therapists estimated movements.

Results
Three of 24 participants were excluded from analysis because of incomplete questionnaires. Four of the remaining 21 (24%) had scores below the cut-off value. It was clear that some of the children on the local soccer team had DCD. Children with a low score, especially those with DCD, displayed more improper joint motion during squatting. Children with high scores below the cut-off value had results similar to those of a child without DCD. Children with coordination disorder of activity of daily living had a weak point of the motion coordination of lower limbs it was necessary for acquiring of the soccer skill.

Conclusions
Children with DCD were not able to perform movement precisely. It may be necessary to appropriate guidance method for such children to provide a less injuries in a game or practice of soccer, and enabling a wearer to enjoy playing.
Fitness of Special Olympians - comparison of selected case studies

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**Keywords:** Fun Fitness program, fitness developmental trajectory, low level events, high level events.

**Background**
Czech Special Olympics is included in international program Healthy Athlete. The program is oriented on various aspects of fitness and health related variables. Systematic assessment can compare developmental trajectories of fitness variables of athletes participated in "low level" or "high level" athletic races.

**Objective**
The main aim is to describe individual performance in athletic races (50 m up to 400 m) and compare it with fitness variables and competition results in several last years (2012 – 2015).

**Methods**
Standard FUNFitness tests included in Healthy Athletes program, results in athletic races achieved during last three years in national competition with camera system. Participants of the study are selected from participants in low level events – 50 m run, standing long jump, softball throw (3-cases) and high level events (100/200 m, long jump, shot put).

**Results**
Not completely processed, yet.

**Conclusions**
A responsibility of coaches in involvement of athletes is crucial point of view for performance success as so as for athletes "satisfaction". Preliminary findings seem to be challenging - fitness variables show the athletes can be competent to achieve high level events.

**Acknowledgment**
Special Olympics Europe/Eurasia - Expanding Health Grant.
52OS

About APA: outside official reports

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Keywords: APA, experience, reminiscence.

Abstract
Recent development of APA is connected with former issues:
- background of physical activities and sports for persons with disabilities (and study programs) before official inclusion in European Union context,
- first attempts and attempts for APA development in 90s,
- inclusion in European networks: CEEPUS, later MD-APA, THENAPA, Erasmus-Mundus APA.

The basic information are based on real facts but accomplished with information outside of official reports: comments of good – bad points of this development up to these days - including “funny” but important remarks (out of official reports).

“Old - historical documents” will be prepared for friendly discussion outside the program.

Acknowledgment
Special Olympics Europe/Eurasia - Expanding Health Grant.
Effects of classwide peer tutoring on the motor performance of pupils with Down syndrome in inclusive physical education classes

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Keywords: classwide peer tutoring, inclusive education.

Background
The reason for carrying out this study has been that pupils with a disability attend more and more the regular classes in Belgian schools. The positive effect of classwide peer tutoring has been demonstrated by studies that were carried out in regular PE classes (Ayvazo & Ward, 2009; Ward & Johnson, 2001) and in inclusive PE classes (Ward & Ayazo, 2006).

Objective
The purpose of this study was to examine the effects of classwide peer tutoring on the motor performance of pupils with Down syndrome and their peer tutors during inclusive physical education classes.

Methods
The study is a quasi-experimental research, in which a pre, post and retention test design has been used. Ten classes from different school throughout Flanders (Belgium) were engaged in the study. In each class, a pupil with Down syndrome participated. The GPE classes, taught by preservice PE teachers were organised twice a week. Five classes formed part of the experimental condition, implementing classwide peer tutoring. All pupils were trained as peer tutors by the preservice teacher. The five other classes formed part of the control condition, characterised by traditional teaching without peer tutoring. Data have been collected over a period of eight weeks.

Results
The analysis of the results will be ready by the end of January.

Conclusions
The analysis of the results will be ready by the end of January.
Parental involvement in inclusion of children with disabilities in physical education

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Keywords: home-school collaboration, parental involvement, inclusion, physical education, disability.

Background
The interdependency between family and school life have been of substantial interest in international educational policies and research. However, parental perception of and involvement in home-school collaboration in relation to inclusion of children with disabilities in physical education are scarcely accounted for in the research literature.

Objective
Based on a socio-ecological framework and interactional understanding of disability, this presentation explores parental perception of home-school collaboration related to inclusion of their children with disabilities in physical education.

Methods
The data is based on inductive semi-structured individual interviews with 25 purposively selected parents of elementary school children with physical, developmental and hearing impairment. The interviews took place while the families were attending a three-week stay at a regional rehabilitation centre specialized in adapted physical activity. Sixteen mothers and nine fathers participated in the interviews. Three parents were born, or had a spouse, born in another country. The duration of the interviews ranged between 25 to 60 minutes and was transcribed verbatim. We have used thematic analysis to identify, analyse and report patterns within the data.

Results
Two overall themes were generated in the primary analysis of the interviews. The first theme relates to the formal communication between home and school and the various patterns and content of this communication. Within this first theme, three subthemes emerged, namely physical education as the forgotten chapter in school-parent communication, the consistent good dialog, and no news is good news. The second overall theme relates to the informal parental involvement in facilitating improved inclusion in physical education. The four subthemes within this theme were structuring activities, advocating children’s rights, sharing information and monitoring allocated resources.

Conclusions
This study illuminates how the importance attributed to the core subjects in the Norwegian school culture influences the school’s and parents prioritizations in terms of communication, shared information, educational focus areas and allocation of resources.
Camp Spinal 2015: The Experiences from Youth with Spinal Cord Injuries Participating in an Active Rehabilitation Camp

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Keywords: active rehabilitation, youth, spinal cord injury, peer support, camps.

Background
The idea of active rehabilitation is to let people with a spinal cord injury (SCI) reclaim their lives through active training with a focus on possibilities. Key components are use of peer support and camps. However, limited research exists of the concept, especially from the young person’s perspective.

Objective
With these concerns in mind, the purpose of this inductive qualitative study was to explore the expectations, experiences and perspectives of youth and young adults with SCI attending an active rehabilitation camp.

Methods
The research took place during a five-day Nordic active rehabilitation camp, organized yearly in June in Norway. The primary results presented are based on inductive semi-structured interviews with ten purposively sampled youth with SCI. The participants were one female and nine male participants in the aged 15 to 20. The participants were from Norway, Sweden and Iceland and included persons with both complete and incomplete spinal cord injury, all injury levels. The duration of the interviews was between 14 to 25 minutes. The interviews were transcribed verbatim and analysed using qualitative content analysis.

Results
The primary results indicated that the participants expected to meet and share experiences with peers in similar situations from different countries as well as to be able to try out new sport activities not easily available for them in their local communities. However, according to the participants’ experience, the camp proved important in more ways than expected. Four themes emerged as to the participants’ experiences during the camp. These were: 1) individual skill development, in terms of trying out new activities, sports and equipment that they might make use of in the future, experiencing mastery as well as pushing themselves to try new skills in a safe environment; 2) peer learning and sharing of knowledge with the other participants and young leaders at the camp; 3) socializing and networking with peers in similar situation; and 4) reflections on outcome, such as increased mastery of everyday life activities, increased independence and seeing new opportunities for physical activity participation in the local community.

Conclusions
Youth are vital partners in rehabilitation, in research and in intervention development. This study indicated that the active rehabilitation camp was an important arena for the youth to network, learn and share experiences with other people in similar situation.
Characterization of functional independence, physical capacity, body composition and physical activity level of wheelchair handball players with spinal cord injury

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Keywords: functional independence, physical capacity, body composition, physical activity, wheelchair handball, spinal cord injury.

Background
The loss of some member’s functionality, required for locomotion, can cause changes in physical, environmental and social level of spinal cord injury (SCI) subjects. The use of wheelchair, physical inactivity, incidence of overweight/obesity and physical capacity, become relevant aspects to SCI subjects, which can interfere in their functional independence.

Objective
The aim is to characterize functional independence, physical capacity, body composition and physical activity level of subjects with spinal cord injury that practice wheelchair handball.

Methods
Four men and two women players’ wheelchair handball with SCI (practice twice a week, 40±11,31y), with injury level between T1 and L1 where tested. Functional Independence was assessed in manual wheelchair skill performance during a Wheelchair Circuit. Physical capacity was assessed through a performance VO2peak incremental wheelchair exercise test on treadmill, measuring the oxygen consumption through a portable gas-analysis system (K4b2, Cosmed, Rome, Italy). Body Composition was assessed on the absorption method of dual energy x-ray absorptiometry, being calculated the body mass index (BMI). The physical activity level was assessed through wrist worn triaxial ActiGraph accelerometer.

Results
The Wheelchair Circuit allowed to obtain ability score of 7,8 (close to the maximum score of 8), and time score, also a performance time, of 18,2 s (range 15,5-19 s). However, this time was always lower than 25% of the time limit for the maximum score. Concerning the Physical Capacity, the VO2peak obtained was 1,85±0,33 (l/min) on all group, being the men a VO2peak higher than women tested (1,95±0,35 l/min and 1,62±0,20 l/min, respectively). The body composition results of teste subjects were: 18,99±6,09kg fat tissue (17,69±6,49kg and 21,59±6,25kg to man and women, respectively), 40,65±7,34kg lean tissue (44,19±1,87kg and 33,56±10,41kg, to man and women, respectively), 21,38±4,46 BMI on all subjects, 20,96±4,43 BMI (normal weight) on men and 22,21±6,21 BMI (normal weight/overweight) on women. The physical activity obtained was positive, since all group complied the daily recommendations of moderate to vigorous physical activity, showing a weekly time of exercise of 165,20±28,03 min.

Conclusions
The results obtained were mostly positive when compared to the literature, although women point out concerns about overweight. This results favour positively the functional independence of tested subjects as well as, their life quality

Acknowledgment
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Play-way: an approach to understanding and supporting children’s play.

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Keywords: Playwork specialist, play, games, outdoor activities, leisure time, adapted physical activities, freely chosen play

Abstract
This presentation introduces the basic structure and the possible prospect of a training course Play-Way, which was implemented at the Faculty of Physical Culture UP Olomouc in 2015. Participants in Play-way courses learn the principles and methods of Playwork, to become playwork specialists. The course was created as outcome of project Volunteers in Play - Employment Routes Project Number: 2013-1-GB2-LE005-10638. Prepared materials were created based on the processing of experience and good practice of all participating project partners. These materials are available in seven languages (textbooks for lecturers and participants are available in English, German, Italian, Portuguese, Bulgarian and Turkish languages).
The course includes theoretical and practical lessons. Lecturer’s manual provides background for the leadership of lessons and theoretical chapters relating to games, play specialists and technics and philosophy of PLAYWORK. The courses fulfil the idea of equal opportunity and counting on the support of participants with specific needs.
Based on the positive feedback already implemented pilot courses which were trained 16 trainers and 47 volunteers, we believe in good preconditions for the inclusion of these courses into life-long learning educational system.

Acknowledgment
PA and lifestyle as determinants of health and quality of life persons with disabilities (IGA_FTK_2015_007).
Structured and challenged-based APA and sports as preventive and rehabilitative tools for at-risk youth

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Keywords: At-risk youth, sports, special needs, adapted physical activity, rehabilitation.

Abstract

Many children and youth who are defined as at-risk display special needs such as LD; ADHD; mental, emotional, and behavioral problems; and other challenges (Casey & Keiliz, 1990; Moffitt, 1990; Murphy, 1986; Quinn et al., 2005). In most countries, these youngsters are legally entitled to adapted physical education services within formal education frameworks, as well as to rehabilitative sport programs within informal and residential settings and institutions (Hutzler & Sherrill, 2007; Kudlacek, Morgulec-Adamowicz & Verellen, 2010; Winnick, 2011). This presentation highlights: how active, structured, and challenged-based participation in adapted physical activities and sports can contribute to biological and behavioral changes; what research says about the systems responsible for those changes; how to successfully reach at-risk children and youth through unique sports and physical activities; and how participation in these activities constitutes a potential substitute for anti-social behavior. Examples and suggestions for implementing effective, research based programs and interventions will be offered.
Active reviewing techniques for use at inclusive or segregated Outdoor Adventure Activity A.P.A. sessions.

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Keywords: Facilitation Techniques; Inclusive Outdoor Activities; Curricular Physical Education

Abstract
Whilst many written sources describe the use of post-activity review and reflection techniques to enhance learning from physical activity programmes (Ringer, 2002; Priest & Gass, 2005), little discourse is available on how to tailor such interventions to meet the needs of people with disabilities in segregated or inclusive settings. Review and reflection post-activity is a common construct in experiential learning settings (Hogan, 2005; Schenck & Cruickshank, 2015) and particularly so where those sessions involve Outdoor Adventure Activities. The use of such techniques can be linked to a social constructivist approach to learning. In this form of learning, the social and cultural context of the learning frame are key influencers of the learning outcomes; as are the social interactions between the participants with and without disabilities. Each person becomes an agent in their own learning and in the learning of their fellow participants. From an epistemological point of view, knowledge is acquired through a form of interpretativism rather than a reductionist approach. Here, the learners are substantially involved with the content rather than engaging purely in repetition or imitation (Kroll & Laboskey, 1996). In this OUT-of-DOORs active workshop, we will explore through practical experiential learning activities and discussions how a variety of different approaches may be made to help learners with disabilities to engage with and benefit from review and reflection sessions in both segregated and inclusive settings. Where the mix of participants at the proposed workshop is less diverse or inclusive, some role-play may be involved. However, role-play will be limited, controlled and placed in context for the participants.

References
Attitude scales in relation to integrated physical education at Faculty of Physical Culture, Palacký University Olomouc

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Faculty of Sport Sciences, Masaryk University, Czech Republic

Keywords: review study, attitude, questionnaire, Faculty of Physical Culture, integration, physical education, disability

Background
The purpose of this article is to build on the systematic exploration of the attitudes of teachers, students of physical education and intact pupils toward inclusion process at primary schools in the Czech Republic. These studies were conducted at Faculty of Physical Culture in Olomouc since the 1990s.

Objective
Summarization of the characteristics of the questionnaires which detect attitudes in relation toward inclusion in physical education. Description of results of bachelor and master theses which were conducted on Faculty of Physical Culture.

Methods
Analysis of document (bachelor and master theses of students of Faculty of Physical Culture) was used for data collection. All theses incorporating attitude scales PEATH, ATIPDPE or CAIPE-CZ were included in the study. Theses were found in the electronic catalogues of the Library of Palacký University in Olomouc in April 2014. We used six keywords: integration, physical education, attitudes, ATIPDPE, CAIPE, PEATH.

Results
We included 20 theses to the study (4 bachelors and 16 masters). ATIPDPE scale was administered in 7 theses (2 bachelors and 5 masters), CAIPE-CZ was administered in 10 theses (2 bachelor and 8 master), PEATH scale was administered in 3 master theses.

Conclusion
This review study supported the contact theory, which says that opinions or attitudes could be influenced only in contact with the real situation. CAIPE-CZ questionnaires was elaborated and verified for using in the Czech environment.

Acknowledgment
PA and lifestyle as determinants of health and quality of life persons with disabilities (IGA_FTK_2015_007).
Interventions to promote physical activity among individuals with disability: A scoping review

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Keywords: disability, physical activity promotion, scoping review.

Background
People with disabilities are at increased risk for obesity, as well as other secondary conditions that lead to further decline in health and functional status. Physical activity can help to reduce the incidence and severity of preventable conditions, yet approximately half of all adults with disabilities get no regular physical activity.

Objective
To conduct a scoping review of the literature to examine the published literature on physical activity promotion interventions among people with disabilities.

Methods
The methodological framework for performing scoping reviews was provided by Arksey and O’Malley (2005). Electronic databases (Medline, PsycInfo and Cinahl), reference lists and key journals were searched to locate articles. Inclusion criteria was defined, including conceptual and operational definitions for key terms in the research question. The International Classification of Functioning, Disability, and Health (ICF) provided the conceptual definition for disability. Two independent reviewers are currently applying the selection criteria to the articles, having finalized the abstract level of review. Of the 1,715 studies initially identified through the search, 211 met the criteria for full-text level of review.

Results
As an ongoing project, in regards to this section just basic information about upcoming steps can be offered at this point. Once the study selection will be finished, two reviewers will chart the data from the final set of publications, summarizing and reporting key findings afterwards. Added to provide primary descriptive information from the trials (e.g.: study populations, intervention characteristics, outcome measures, main results), the analysis expects to be focused on the reported motivational methods to change physical activity levels, using a published taxonomy of behavior change techniques (Michie et al., 2011).

In relation to anticipated dates of completion, the scoping review will be finished by April 2016. In the way that the present project is a master's thesis, its fulfillment is required before graduation. The main author is also applying for the International Volunteer Program.

Conclusions
A scoping review of the literature being currently undertaken within the field of people with disabilities and physical activity promotion has been introduced. Findings in form of implications for practice and suggestions for future research are expected.
Benefits of and Recommendations for Inclusive Dance Experience

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Keywords: dance, disability, inclusion.

Background
Positive and successful dance experience in an inclusive setting relies on the pedagogical ability and practice of the teacher. Teaching and performing experience had shown that inclusive dance pedagogy has the potential to contribute to the quality of life of persons with a disability and that similar additional benefits could be identified for participants without impairments as well.

Objective
The main challenge in teaching inclusive dance relates to expanding and modifying teaching methods and materials that facilitate the accommodation of a wide diversity of students within the same classroom environment.

Methods
The main goal needs to be ensuring enjoyable, safe, and challenging participation opportunities for all students (Stran & Hardin, 2002). Openness to explore the varied ways in which activities, instructional methods, or the environment can be adapted to facilitate full meaningful participation for all students is essential. In order to assess the presumed benefits of an inclusive dance experience – like improved self-confidence, self-efficacy, and self-reported satisfaction with the level of achievements in dance, mobility, independence, social relations, and mastery of daily living – eleven participants of the inclusive dance group „Ich bin O.K“ were asked by semi-structured interviews about their opinion. Furthermore, some considerations from practical teaching experience are depicted and highlighted as pedagogical advices

Results
Combining adapted teaching considerations with practical suggestions and the results of the interview inquiry the presentation will aim to give a picture of the optimally desired dance experience in inclusive dance for persons with and without a disability. Depending on different abilities with respect to answer questions, to self-assessed feelings, and to mastery of verbal expression it can be confirmed that positive experience in dance can influence positive personal development in life.

Conclusions
Inclusive dance enables students of all abilities to experience dance while being accepted for who they are and what they can contribute to the creative and learning process. Benefits of participation in dance include psychomotor, cognitive, affective, and social domains of development. Participation in inclusive dance can contribute to an enhanced quality of life, when students are able to make choices regarding activities and adaptations based on their individual needs and capacities.
References:
Mechanical parameters of initial maximal push-rim propulsion in elite wheelchair basketball players

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Keywords: wheelchair, basketball, push-rim, propulsion, force, classes.

Background
Wheelchair basketball (WB) involves periods of high-intensity intermittent activities (Coutts, 1988) in which the acceleration and velocity obtained during initial maximal push-rim propulsion (IMPRP) are, most of the times, decisive factors of performance. However, very little is known about the mechanical parameters of IMPRP in elite WB players.

Objective
The aim of the study was to analyse the mechanical parameters of IMPRP in elite WB players taking into account the functional classification.

Methods
Eighteen male wheelchair players (31±7.32 years, 69±16 kg) participated in this study. Players were grouped into four functional ability classes (Vanlandewijck, 2004). During IMPRP, displacement and velocity data, sampled at a frequency of 100 Hz, were measured by using a linear encoder (Chronojump, Barcelona, Spain) and analysed by Chronojump software v1.5.4.0. The linear encoder was hooked on the horizontal axis between push wheels. The best out of three IMPRP trials was considered for further analysis. A one factor ANOVA assessed differences between IMPRP mechanical variables of class groups. Correlations between variables of interest were calculated using Pearson’s correlation coefficient.

Results
Class 1 players demonstrated significantly lower mean force (F) values than Class 4 players (p=0.029). Maximum force values (Fmax) of Class 2 players were significantly lower to Class 4 players (p=0.052 and p=0.047 respectively). Mean force (F) was highly correlated with V (r=0.69; p=0.001), Vmax (r=0.68; p=0.002), P (r=0.93; p<0.001) and Pmax (r=0.83; p<0.001). Acceleration was highly correlated with P (r=0.66; p<0.002) and F (r=0.61; p<0.007). Maximum acceleration (Amax) also demonstrated a high correlation with P (r=0.67; p=0.002) and Pmax (r=0.77; p=0.001). Mean power (P) was highly correlated with maximum velocity (Vmax) (r=0.88; p<0.001) and mean velocity (V) (r=0.82; p<0.001). One of the main findings was that P also had a high correlation with F (r=0.93; p<0.001) and Fmax (r=0.82; p<0.001). Additionally, the punctuation of classification demonstrated a high correlation with F (r=0.75; p<0.001) while body mass correlated with Fmax (r=0.78; p<0.001). Significant differences were found among different groups in IMPRP, F and Fmax.

Conclusions
Our data suggest that mean force and maximum force are good indicators of differences among the groups. The initial maximal push-rim propulsion could be a high-quality test to assess performance in wheelchair basketball players.
Triple jump parameters in international level male F47 athletes with upper limb malformation

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Keywords: Paralympics, horizontal jumps, upper limb malformation, biomechanical analysis, performance.

Background
The use of a proper arm swing technique when triple jumping is considered to be beneficial for maintaining balance, power and horizontal speed throughout the jump, and thus being a defining element of the event. Therefore, T46/47 Paralympic triple jumpers are confronting an absolute disadvantage for optimizing their performance.

Objective
Scarce evidence exists in the literature concerning triple jump technique and performance structure for athletes with upper limb malformation. The purpose of the present study was to indicate the parameters associated with performance in international level class F47 triple jumping.

Methods
The male participants in T46/47 triple jump events at International Paralympics Meetings were recorded with a panning video camera (sampling frequency: 300 fps). Analysis was conducted for participants who had upper limb malformation. Fourteen legal attempts, including the achievement of the currently standing European Record, were analyzed. The APAS 13.3.0.3 software (Ariel Dynamics Inc., Trabuco Canyon, CA) was used to calculate the triple jump phase ratios, the approach step parameters (step frequency, step length, average step velocity) and the onset of step regulation. Correlation analysis was utilized to examine the relationship between the extracted parameters and triple jump performance.

Results
Triple jump official distance ranged between 10.40 and 14.52 m (12.87 ± 1.79 m, mean ± standard deviation). Toe-to-board distance was 0.13 ± 0.08 m. The examined class T47 athletes executed the triple jump with an almost even distribution between the hop (38.9 ± 1.5 %) and the jump (38.2 ± 2.5 %). The majority of the attempts were accomplished with a balanced technique (71.5%), while less jumps were accomplished with hop (21.4%) and jump (7.1%) dominated techniques. In less than the half attempts (42.3%), the “larger penultimate-shorter last step” pattern was applied. Step frequency at the approach phase peaked at the third to last step (4.57 ± 0.20 Hz). Average approach velocity (8.2 ± 0.5 m/sec) was significantly correlated (r = .78, p = .001) with the jumping distance. No laterality effects (take-off vs. swing leg, p > .05) were detected for the approach step parameters. Finally, step regulation commenced for the vast majority (67%) at the third to last step of the approach.
Conclusions
Results indicated that the present findings were in agreement with published data for non-impaired athletes of equal performance level. Additional research is required for predicting triple jump performance out of the biomechanical parameters measured for athletes with upper limb malformation.
Dare to Blog: Transformational learning through critical self-reflection

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Keywords: blogging, undergraduate students, qualitative, transformational learning.

Background
In an effort to promote transformational learning, we examined blogging as an educational learning space for critical self-reflection. Journal writing as a solitary forum for self-expression is a common tool for professional reflection however; it has been criticized for its descriptive qualities and inability to break habitual modes of thinking.

Objective
To understand the function of blogging on critical self-reflection, we explored undergraduate students’ experiences of blogging on engagement with course materials, the disruption of habitual assumptions, and reflections on the socio-cultural actualities of disability following a community exercise practicum experience.

Methods
A descriptive qualitative study was undertaken. A cohort of 20 undergraduate students participated in the study (4 male, 16 female, range 20-24 years, mean age 22). Data were comprised of on-line interactive blogs (6 per student, 60 overall entries) and reflective end-of-course notes. The data were thematically analyzed. The theory supporting the interpretation of the findings was Transformational Learning Theory. It provides an approach to teaching based on promoting change, where educators challenge learners to critically question and assess the integrity of their deeply held assumptions about how they relate to the world around them.

Results
The themes reflected the transformational benefits of educational blogging. The themes were (a) assumptions of (dis)ability on expectations, (b) new points of view, and (c) learning through relationships. The students’ assumptions of (dis)ability were brought to wakefulness through their shared writing, critical self-reflection, and commentary on others’ experiences. As they underwent the ethical work of examining their belief systems, the students came to realize that the structure of their assumptions was limiting to their professional effectiveness. The theme ‘new points of view’ reflected a disruption of their historically embodied and culturally embedded understanding of (dis)ability. The students gained new insights through critical reflection-in-action (actions during the practicum) and critical reflection-on-action (validity of their presuppositions through blogging) that broadened their understanding of their engrained and habitual understandings of ability. The students ultimately reflected on the importance of ‘learning through relationship’ building. The consequences of assuming an expert role were broadened as they reformulated their assumption base, discriminating and integrating the meaning of their experiences through an interactive and shared blogging forum.
Conclusions
Blogging created a space for shared critical self-reflection. By exploring life histories (culturally embedded assumptions) with others, the students became aware of numerous interpretations of ability, some of which may be more insightful than their own.
Correlation between emotional experience, Facial Expression Recognition, and emotion intelligence at special physical education class among Intellectual disability students

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Keywords: intellectual disability students, special physical education, facial expression recognition, emotion intelligence.

Background
Through the physical education activity, chances which recognize the student's face will be provided and by the experienced emotion, student can understand other people's emotion and express the emotion based on the situation.

Objective
The purpose of this study is to figure out causality between emotional experience, Facial Expression Recognition, and emotion intelligence at special physical education class among intellectual disability students.

Methods
To attain the goal, this researcher selected 211 intellectually disabled elementary, middle, and high school students attending special and general school and participating in special physical education class or the program. The data collected went through mean value, standard deviation, and correlation analysis as well as analysis with a structural equation model by using SPSS 18.0 and AMOS 18.0.

Results
It has been found that positive emotion such as joy not only helps them to figure out emotion appearing in others' facial expression but also improves all the subareas of emotion intelligence. Emotion of sadness influences positively the subareas of emotion intelligence, for example, emotional awareness, emotional control, other emotion, and interpersonal relationship. Emotion of fear influences interpersonal relationship positively. Emotion of anger influences emotional awareness positively but emotional control negatively. Emotion of hatred influences other emotion and emotional control negatively.

Conclusions
In conclusion, various emotional experiences that intellectually disabled students get to have in special physical education class either develops or suppresses their emotion intelligence.
A novel method to train handwriting motions by using a calligraphy brush:
a single case study

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Keywords: handwriting, handwriting motions, training method, clumsy children, calligraphy brush.

Background
Handwriting is one of important activities in daily life. Since clumsy children have difficulties in handwriting motions, a training method is necessary to overcome them. Using a calligraphy brush makes it possible to easily get the visual feedback of handwriting motions. So it may be useful for the training.

Objective
We developed a handwriting motions training method using a calligraphy brush to improve handwriting skills and handwriting motions of clumsy children. This study aims to examine the effectiveness of the training method.

Methods
The participant was an 8-year old girl diagnosed with autism spectrum disorders (ASD). She had poor handwriting skills and difficulties in handwriting motions. We required her to do the training for 20-minutes once a week for a month. The training was to draw some lines of various thicknesses, tints, forms (straight, wavy) and speeds with a calligraphy brush. The drawing features and the handwriting motions were evaluated both before and after the intervention as a pre-test and a post-test, respectively.

Results
The drawing tasks was to draw a line between two paralleled ruled lines spaced 3 mm apart in regular triangles whose length of each edge of the outer triangle is 10cm. The total length of run over from the ruled lines (run over) and the speed of the stylus movement (speed) were calculated. The run over became shorter (pre-test; 3.2 cm, post-test; 0.0 cm), while the speed were similar in value (pre-test; 2.2cm/sec, post-test; 2.5 cm/sec). Her handwriting motions during conducting the task were recorded by a video camera placed right of her to evaluate her motions. She operated the writing instrument only at the fingers in the pre-test but at the shoulder and the elbow in the post-test. Furthermore, she disclosed that she had tension in her shoulder during handwriting motions in the pre-rest, but she got to know how to relax in the post-test. And she enjoyed doing the training because it was the first time for her to use a calligraphy blush.

Conclusions
Using a calligraphy brush makes it possible to learn control of movement of the upper limb and the writing instrument because the visual feedback can be easily obtained. Clumsy children may enjoy the training method to improve their handwriting skills.
Resilience determinants of athletes with and without disabilities

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Keywords: resilience, athletes, disabilities, sports, adapted, physical activity.

Background
Resilience is understood as unique articulation of psychological processes with social processes closely linked to the way a person perceives the obstacles and adversities faced during life. Some authors claim that the context is fundamental to the development of resilience (Fergus & Zimmerman, 2005; Masten & Coatworth 1998; Rutter, 1999).

Objective
We intend to investigate some of the determinants of resilience in athletes with and without disabilities, seeking to explain the influence of variables as gender, age, competitive level, practice time, educational background, type of disability and athletic identity.

Methods
A sample of 75 athletes was used (Mage = 26.94, s = 10.95) of both genders (male= 61; female= 14), of different sports, with and without disabilities (disabled, n = 33; without disabilities, n = 42). We used the Athletic Identity measurement scale (AIMS-plus: Cielak, 2005; validated for the Portuguese population by Cabrita, Rosado, Leite & Sousa, 2012) and the Resilience Scale (Wagnild & Young, 1993) and developed to assessing the degree of individual resilience. We use a multiple linear regression model to evaluate the variations of resilience that can be explained by the variables included as determinants.

Results
The multiple linear regression model for resilience, depending on age, gender, time of practice, competitive level, grade level, type of disability and athletic identity, proved to be statistically significant [(R²ajust = .26, F (8.66) = 2.90);p=.008]. However, analysis of the regression coefficient and its statistical significance revealed that considering the seven predictors, only age (β = 12.31; t (66) = 2.07; p = 0.04) and athletic identity (β = 12.38, t (66) = 3.39; p = 0.001) were significant predictors of resilience. As regards type of disability we found similar levels of resilience between the two populations (practitioners with and without disabilities). Increasing age was accompanied by increases in the perception of resilience.

Conclusions
The level of resilience was similar considering the two different groups (practitioners with and without disabilities).
Innovative approach to monitoring the determinant affecting the lifestyle of children and youth with disabilities and long-term illness


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Keywords: adapted physical activity, disHBSC.

Abstract
The promoting physical activity and overall health for persons with special needs must respect their special needs. Some of the activities and strategies are effective in this area among the general population, children and youth with disabilities or long term illness, totally failing. Unfortunately, few of the internationally accepted documents, type the minimum recommendations for physical activity (eg. The WHO) does not reflect on the situation of children and youth with disabilities or long-term illness.

On the initiative of the WHO, the international working group that addresses the Health behavior in school-aged children (HBSC) decided to modify and extend the methodology for monitoring the determinant affecting the lifestyle on the issues of right of persons with disabilities and long-term illness. In the year 2015, has completed the initial pilot phase, which will build the collection for groups of children and youth with visual, physical, hearing and intellectual disabilities, like the oncological diseases. The aim of the paper is to present the initiative and introduce disHBSC as a new approach.
Developing Adapted Physical Activity For neurologically disabled adults - the needs for collaboration and education from the sports club’s perspective

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Keywords: adapted physical activity, neurological disability, development, collaboration, education

Abstract
The support for this thesis has been provided by “Neuroliiikkuja paikallistasolla 2013-2015”, a consulting and development project funded by Turku University of Applied Sciences and the Finnish Ministry of Education and Culture. The thesis aimed to 1) identify sports clubs’ needs for collaboration and education when developing adapted physical activity (APA) for neurologically disabled adults and 2) reflect the effects of diverse collaboration during the development project on sports club facilities and instructor skills in APA.

Diverse collaboration was initiated by the author, a neurologically-oriented physical therapist. Volunteer sports clubs (n=5) were signed into the study via web questionnaire in October 2014. These five local sports clubs functioning in Turku region had either no or only minor experience in APA. The development groups (n=5) consisted of one to two sports club staff members, physical therapist (author), and representatives of public APA services and the Finnish Society of Neurological Disabilities. The purpose of the collaboration was to merge the knowledge of specific sport coaching, rehabilitation and APA into new physical activities for the target group. Collaboration took place from October 2014 till May 2015. Adapted sports were dance aerobics, table tennis, ball games, curling and skating. Data were collected using pre- and post-questionnaire, interviews and focus group. Data were analyzed using qualitative content analysis.

Results of this study suggest that sports clubs need external support to adapt their usual activities for neurologically disabled adults. Concrete support and education were needed in adapting specific sport and exercises, addressing the safety issues, and in marketing. Contact to public APA services was seen important in promoting accessibility, sporting resources and to increase knowledge of funding possibilities. National sport governing bodies were asked to take a stronger role as an educator and to increase both national and local awareness of APA’s possibilities. In addition, sports club staff members experienced, that diverse collaboration improved their facilities and instructor skills. Within the collaboration with five different sports clubs, there were 41 APA groups and sport exhibitions in Turku region and 51 disabled participants accounting for near up to 300 sporting visits during the Spring 2015. The results can be beneficial for organizations that aim to promote collaboration and education within adapted physical activity in Finnish sports clubs and for the sports clubs that aim to develop APA for disabled children, young or adults.
APA and peer-tutoring unlocking N’s potentials

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Keywords: Teaching, Peertutoring, International networking

The student group
During the few years we have been using APA at Center for Deafblindness and Hearingloss, Aalborg, Denmark, we have been teaching five students with deafblindness and nine deaf students with an additional disability. Each group has consisted of approx. six students - two deafblind students and four deaf students with an additional disability.

We put the student groups together based on their individual communicative and physical potentials and competences.

Case study: Unlocking N’s potentials
When we started the APA group, one of the students was a shy boy of 12 with CHARGE syndrome (N) who had a low self-esteem, found social relations difficult, did not benefit much from, nor found much pleasure in, PE and was very dependent on his main teacher as his only route of communication and trusty adult. Through the sporting and social elements, which are the central principles of APA teaching, N developed slowly but surely. He started to expand his routes of communication, to interact with the other students, express the activities in words and signs. His self-esteem was increased through experiences of success and thus he gained the energy to help the other students in the group. N felt at ease with the exercises and himself. In the end he took on some sort of leadership role in the group. This made us realize the potential of a positive role model. We found literature concerned the peer tutor concept. Through that we felt inspired to test the peer tutor concept on N. We focused on giving N. the skills to structure and present a topic in the APA-class. This he now brings in to his everyday life. We have now been working with N. for two years now with great success. We see that N grows with the role and gains good competences in selecting information and preparing, presenting and carrying out the lessons - though still with the guidance and support by us as teacher. We evaluate each lesson with N and the result of the evaluation is used by N in the next lesson.
We will through videos and theory show the remarkable development of N.
Experiential pedagogy as a form of movement education in Romany children

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Keywords: norms acceptance, motor release, time factor, play, spirituality, catholic community.

Background
Romany children in the school age can have problems in social learning and development. While cognitive development may reasonably be stimulated in the family, social learning requires also different kind of experiences.

Objective
The main aim is to encourage the educational dimension of outdoor experience in the sense of social learning in the field of controlled physical Activities.

Methods
The paper is oriented on outdoor education possibilities in Romany children aged 8 - 15 years. It is presented evaluation of author's four years experiences in this area. Interventional movement programs are organized in the form of a three-day weekend courses starting on Friday and ending on Sunday. During the course of development indicators are examined Roma child in relation to the motor learning. The methods applied at the beginning and end of each course:
- Motoric tests (Měkota, Kovář 2009)
- Test unfinished sentences (Válková 2000)
- PedsQL - Paediatric quality of life questionnaire (Varni, Burnwinkle, Seid 2004)

Results
It was found significant positives changes in markers of social health results of PedsQuel. Next positive which can be taken as a social progress was a rapid progression in motor learning of males and females participants. Significantly increased acts of modesty and decreased significantly acts of aggressiveness in male participants.

Conclusions
Intentionally and properly chosen physical activity experiential educational nature outdoor during the integration courses for Roma children very well proved, as they lead Roma children spontaneity in movement and speech desirable sense of freedom, fulfilment and respect in the community of children.
Knowledge and practical tools to improve accessibility in sporting facilities in Finland

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Keywords: accessibility, sporting facilities

Abstract
Accessibility and equal rights are well known terms in law, but in practice they are not implemented sufficiently in most sporting facilities. It has been discovered that in Finland, especially in new and renovated sporting facilities, accessibility has been taken into account to some extent. However, these environments remain physically challenging for some people to use. (1, 2, 3). In Finland the Ministry of Education and Culture (OKM) guides and funds building and renovation of sporting facilities. Together with the Regional State Administrative Agencies (AVI) the ministry grants subsidies of which majority are directed to main sporting facilities for example swimming halls and ice stadiums where user groups are broad. In the latest alignments about the construction of sporting facilities made by OKM, accessibility is emphasized. (4)

During the years 2013-2015 Satakunta University of Applied Sciences (SAMK) carried out two projects aiming to raise the level of accessibility in sporting facilities in Finland. The projects were funded by OKM and SAMK. The results showed that there is a need for actions in accessibility in sporting facilities. Also, a need for practical examples and information about unbroken chain (5) of accessibility was discovered. A good example of this is a project where authorities were given a short introduction to accessibility in sporting facilities and possibly due to that accessibility was more extensively taken into consideration in building construction plans. According to surveyors in AVI it was also easier to process the project’s accessibility plan because of the detailed report.

To meet the needs an information package was gathered and an accessibility check-list was developed for the construction project planners and for surveyors who evaluate the project plans (6). The package includes list of existing Finnish literature about accessibility in sporting facilities and a check-list of factors that surveyors consider when observing the project plans. The aim of these actions is to give enough knowledge to project planners about the required accessibility and offer the surveyors in AVI more detailed and easy-to-use tool which streamlines and unifies observing the project plans from the accessibility point of view. As a result the checklist for planners became a mandatory form for everyone who applies a subsidy for a sporting facility from the state. Planners have to fill in the form and show that they have taken accessibility into consideration extensively in their project plans. The information package was published on OKM’s website.

References:
Sex Differences in Static and Dynamic Balance Among Adolescents with Intellectual Disability

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Keywords: The Bruininks-Oseretsky Test of Motor Proficiency, adolescents, balance, intellectual disability.

Background
Sex specific norms for static and dynamic balance (SDB) have been established to insure that normal differences in motor development between sexes are not interpreted as motor impairment. Although sex specific SDB norms of adolescents without disabilities have been reported, little research in this domain has been performed for youth with intellectual disabilities (ID).

Objective
The objective of this study was to determine if sex difference exist for SDB in adolescents with ID.

Methods
Six evaluations from The Bruininks-Oseretsky Test of Motor Proficiency (BOT-2) were used to evaluate the SDB capacities of 123 males and 78 females with ID but without Down syndrome (DS) matched in age groups 12 through 17 years. Items tested were: standing with feet apart on a line â€“ eyes open (secs); walking forward on a line (steps); standing on one leg-eyes open (secs); standing with feet apart on a line-eyes closed (secs); walking forward heel-to-toe on a line (steps); and standing on one leg on a balance beam-eyes open (secs). An independent sample student t-test was used to determine if significant differences (p<0.05) between scores of age matched sexes existed.

Results
Number of assessments that were performed per age group per item ranged from 8 to 22. Males scored significantly higher for standing with feet apart on a line- eyes open (16 yrs; 9.9±0.4 v 9.0±0.4 secs), walking heel-to-toe on a line (17 yrs; 5.0±2.0 v 2.9±2.0 steps)) and standing on one leg on a balance beam-eyes open (17 yrs; 5.3±3.1 v 3.1±2.5 secs). Near significant (p<0.07) higher scores were seen for males in walking forward heel-to-toe (13 yrs; 4.7±1.9 v 4.5±2.3 steps) and standing one leg on a balance beam (13 yrs; 5.7±3.4 v 3.8±2.7 secs).

Conclusions
Although this study suggests that sex differences may be present for balance, more data is needed (i.e., more participants per age group) to substantiate these findings. Additionally, other BOT-2 tests of motor proficiency including bilateral and upper limb coordination should be performed to determine if sex differences also exit in these motor competencies. Future research should include children (5-11 yrs) with ID and children and adolescents with DS.
The Effects of Parent Participated Aquatic Exercise on Adaptive Behavior and Motor Coordination of Children with Developmental Disability

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Keywords: parent participation, aquatic exercise, developmental disability, adaptive behaviour, motor coordination.

Background
The child with developmental disability (CDD) often experiences repeated failure and rejection from other due to adaptive behavior problems (Taylor, 1985; Hong&Kang, 2007). This adaptive behaviour is closely related with level of motor development such as gross motor proficiency skill and motor coordination skills (Choi&No, 2011). Aquatic exercise is a safe and effective way to improve social and motor skills of CDD. The benefits of parent’s participation in CDD program is not only parent is good role-model to observe appropriate behavior, but also motivates child to participate in program. Through the guidance and role-model by parent, aquatic exercise and gym environment provide the great opportunity for CDD to develop motor skills and learn appropriate adaptive behavior.

Objective
The purpose of this study was to verify the changes in the adaptive behaviour and motor coordination of child with developmental disability by applying 8 weeks of parents participated aquatic exercise program.

Methods
Total of 25 children with developmental disability were conveniently selected from S province in South Korea. 14 pairs of parent and their child with developmental disabilities were assigned into Parent-Participated Aquatic Exercise (ExG) group (n=14), whereas 11 individual child with developmental disability were assigned into Regular Aquatic Exercise (ComG) group (n=11) in absents of parent participation. Both of experimental and comparison group performed the 90 minutes of aquatic exercise once a week for 8 weeks of period at the swimming pool located in S University.
The KNISE-SAB(Korea National Institute for Special Education-Scales of Adaptive Behavior) was used to measure adaptive behaviour and KTK(Körperkoordinationstest für Kinder) was used to measure motor coordination of CDD. Lastly, qualitative research was conducted through in-depth interview and analyzation of program log at the end of the study to support quantitative result.

Results
First, the changes in conceptual, social, practical, and total adaptive behavior did not represent the statistical significant difference(p<.05). Adaptive behavior was observed that slight decrease in ExG, whereas slight increase in ComG. Second, the changes in motor coordination KTK which were walking backward on balance beam, hoping, jumping sideway, moving sideway on boxes and total KTK did not represent the statistical significant difference(p<.05). However, both group represented
a significant difference of motor coordination within group (*p<.001) after intervention. In qualitative study, the benefits and positive effects of parent participation were founded. The role modeling of parent initiated child to learn adaptive behavior. Also, participation of parent provided physical, psychological and emotional comfort to child in unfamiliar environment such as swimming pool which lead child to exercise in efficient way and practice motor skills. Last but not least, through the interaction between parent and child provided an opportunity for parent to understand a need of child.

Conclusions
In conclusion, due to several critical limitations such as having no control group, difference in level of disability of children, short intervention period, and small number of participants did not represented statistical significance of intervention. However, qualitative research data supports the improvement in adaptive behaviour and motor coordination of children with developmental disability. Overall, parent participated program is valid teaching method for CDD which ables the continuation of education from facility to home or to other social environment, as parent understands and experiences educational needs of CDD and apply what they have learned.
Factors influencing wheelchair basketball players’ hand grip strength

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Keywords: hand grip, wheelchair basketball, BMI.

Background
Wheelchair basketball players need good hand grip strength when performing a game. Some researches show that hand grip strength could depend on level of spinal cord injury, on players’ body mass index, on players’ position in the wheelchair basketball game, on how long he plays basketball and on some other reasons.

Objective
In order to find out if wheelchair basketball players hand grip strength depends on his disability level, on his body mass index (BMI) or time spent in playing basketball, we collected data from hand dynamometry in professional wheelchair basketball players.

Methods
Grip strength was measured using a Jamar Adjustable Hand Dynamometer with participants seated, their elbow by side and flexed to right angles, and a neutral wrist position. The mean of three trials of grip strength for each hand has been documented. Participants BMI was calculated following the measurement of each participant’s weight and height. Statistical analysis was made using SPSS 17.0. Mean and standard deviation of grip strength in kilograms were calculated, Mann-Whitney Test, T-Test were used to calculate relations in both hands grip strength and game position, BMI and hands grip strength, players’ time in playing basketball and grip, with a significance level of 0.05.

Results
Overall, 32 men aged 20 years and over participated in assessment. Hand grip strength (left and right average) and players’ scores (the first group of 1-2.5 points, the second group of 3-4.5 points) - the differences are not statistically significant. Hand grip strength and how long time are playing wheelchair basketball (one group - up to 5, the second group - over 5 years) - the differences are not statistically significant. Hand grip strength and the game position - the differences are not statistically significant. BMI and hand grip strength in right arm significantly higher in individuals with normal BMI, compared with those who are overweight and obese.

Conclusions
Investigation showed that the wheelchair basketball players who are overweight have less hand grip strength than with a normal weight. Arm strength was not affected by the player’s position in the game, disability duration or players’ scores.
Assessment of therapy based on “Xbox 360 Kinect” system effectiveness for the patients after the stroke

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Keywords: stroke, virtual reality, rehabilitation, Xbox 360 Kinect system.

Background
Stoke is among the most common disorders which has a significant impact on psychosocial-functional activity of the patients. Scientists are searching for effective strategies for rehabilitation of these patients. Virtual-reality games are promising rehabilitation options because they involve motivating, full-body movement practice, however, their clinical relevance need to be proved.

Objective
To evaluate the efficacy of the therapy method based on a Xbox 360 Kinect system to the functional capability of the stroke patients.

Methods
24 patients after stroke (12 women and 12 men) 44-85 years old were involved in the research. Patients were assigned into two groups: experimental and control. In addition to regular conventional rehabilitation, experimental group received an additional half-hour active exercising via Xbox 360 Kinect for three weeks. The Barthel index, Fulerton test, Functional Independence Measure, coordination tests were used at baseline and post intervention. Also, a questionnaire was used to assess motivation and enjoyment.

Results
The application of system Xbox 360 Kinect to the stroke patients had positive influence on patients' balance, coordination, self-support functions, functional independence, patients were positive to using video games in rehabilitation.

Conclusions
Pilot trial of video games for rehabilitation of patients after stroke has shown that video games may improve function while also increase motivation and enjoyment in stroke patients. Kinect for Xbox 360 games are acceptable, motivating, and potentially challenging options for a variety of rehabilitation clients.
Training methods for paravaulting athletes

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Keywords: Adapted physical activity, paravaulting, horse, handicap, sport, training

Abstract

Paravaulting or acrobatics on horseback is one of the rehabilitation methods based on therapeutic horseback riding and Equestrian sports discipline for persons with disabilities. Paravaulting is still a new worldwide field and was built on the therapeutic benefits of three-dimensional movement of the horse back. Paravaulting consists of many different approaches that vary in terminology, background philosophy and methods. It is necessary to explore the common ground among these approaches and propose the basic preparation for inclusive training units. Training units included elements of the rhythmic, sports gymnastics and workouts were designed in order to improve orientation, balance and overall coordination. A sample of 10 analyzed respondents with various disabilities we observed for a period of 6 months. The level of regular performance increased. It turned out that the lack of long-term training, whether for any reason, unmistakably reflected in the results. This study has shown that it is good to be devoted to each individual according to disability. In developing a training program, it is important to consider the capabilities of individuals but all should be encouraged to learn forms that are more difficult. We also had to choose an appropriate order of kinetic movements to achieve other partial results that can be used for routine practice. The training unit was formed to match the general requirements for construction and training tailored to the specificity of work with horses and work with individuals with disabilities. For our sample, it was important that the schedule of training remained consistent. They remembered what came next and what the content of training model was which greatly contributed to a faster and smoother workout. In the application of gymnastic exercises, we concluded that the focus must match the mental capabilities of individual respondents, their state of health and disability.
Slow Motion and Sensory Soccer Balls

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**Keywords:** slow motion, sensory soccer, Vigotsky, remains in play, age appropriate.

**Background**
Slow Motion Soccer Ball was created the fall of 2010 as an innovative approach to teaching independent ball skills for students with disabilities, students with coordination issues. Slow Motion is a weighted ball which allows the ball to remain in play, allowing opportunities for repetitive trials.

**Objective**
The concept of slowing a ball which would enable students with disabilities, coordination issues and those on the autism spectrum to easily track was the criteria. The slow motion of the weighted ball allowed the ball to remain in play creating opportunity for repetitive trials. Because of the nature of how the ball rolls it also stays within the zone of proximity (Vigotsky) which affords children a greater propensity to play.

**Methods**
Inserting 283 grams of sand into a regular soccer ball created a unique feature which allowed the ball to move slower and remain in play. Experimenting with various weights over a three month time period, 170 grams, 226 grams and 283 grams, demonstrated 283 grams of sand was a successful weight for independent ball skill activities. Children on the Autism Spectrum specifically gravitated to the ball with 283 grams of steel bird shot. The weight of the ball, slow motion of the ball, and sound of the ball are successful strategies for engaging children on the autism spectrum in ball skill activities.

**Results**
Experimenting with various weights over a three month time period, 170 grams, 226 grams and 283 grams, demonstrated 283 grams of sand was a successful weight for independent ball skill activities. *Sensory Soccer* with 283 grams of steel bird shot demonstrated a successful strategy for students with visual impairment and students on the autism spectrum.

**Conclusions**
Research trials conducted by David Ratsakatika in 2012 demonstrated significant increase in soccer style dribbling for students with disabilities, specifically students on the autism spectrum. Students with disabilities have the opportunity to practice independently.

**Acknowledgment**
Slow Motion Soccer; Research conducted by David Ratsakatika (2012; 2013) University of Chichester, London proved Slow Motion (Developmental Ball) to be consistently beneficial for object control and soccer style dribbling for students with disabilities, especially for students with ASD (Autism Spectrum Disorder).
“Sensory Soccer Ball with its nice balance of auditory feedback, resistance and speed (slow!) providing the blind and visually impaired person with an opportunity to experience the same excitement with a ball sport that their sighted peers enjoy.” John C., Alaskan TVI/O&M Instructor
The persistent primary reflexes in school age children (6-11)

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Keywords: primary reflexes, specific learning difficulties, movement program.

Background
Primary reflexes play a crucial role in the earlier month of a child’s life. However in the course of the development of the nervous system these reflexes are gradually inhibited or transformed. The persistence of primary reflexes after one year of life may disrupt the development of sensory perception.

Objective
To determine the occurrence of the persistent primary reflexes: the asymmetrical tonic neck reflex and the tonic labyrinth reflex in school age children in different classes. To establish the relationship between persistent primary reflexes and the occurrence of symptoms of specific learning disorders.

Methods
A total of 175 children at the age of 6 to 11 from different classes were involved in this study. To find the occurrence of persistent the asymmetrical tonic neck reflex (ATNR) and the tonic labyrinth reflexes (TLR) standardised tests were used. To compare the results of our research and possible difficulties at school skills, we conducted unstructured interviews. For statistical purposes, frequency analysis and test of independence χ² in contingency table were used.

Results
The results revealed the occurrence of persisted TLR in 47% of tested children. Concerning ATNR the data showed almost the same level of persisted reflex in right (33%) and left (34%) side of the body.

The highest number of TLR was found in children in 1st class – 55%. In 2nd class the number of persisted reflexes lowers to 40%. The continued decrease of this indicator is registered in children in 3rd year – 31%, whereas in children in 4th year the results indicate a slight rise in occurrence of TLR to 33%.

Regarding ATNR, there is no difference between right and left side in children in 1st (39%), 2nd (40%) and 4th (17%) years of studies. The biggest diversity between right and left side we can see in 3rd year - 31% left and 19% right side.

χ² test confirmed the hypothesis about relationship between TLR x ATNR-R and ATNR L x ATNR-P.

The results of our testing correspond to the actual difficulties described by interviewed teachers.

Conclusions
Most of the methods dealing with persistent primary reflexes focus only on solving the consequences of these disorders. In our further researches we will focus on possibilities of application of neuro-developmental therapy addressing the cause of given difficulties.
Barriers and facilitators of sports participation for Portuguese wheelchair handball players

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Keywords: barriers, facilitators, wheelchair handball, players with disability.

Background
The research about sports participation of people with disability shows that barriers and facilitators of sports participation depends on characteristics of the activity (Jaarsma, Dijkstra, Geertzen, Dekker, 2014). However, until now, we are not aware of any research conducted in the specific area of the wheelchair handball.

Objective
The objective of the present study was to identify the main barriers to and facilitators of sports participation, referenced by the Portuguese wheelchair handball players of the national championship.

Methods
Participants were 53(49 male, 4 female; aged between 15 and 69) of 82 Portugal wheelchair handball players. A survey was built based on a previous survey (Jaarsma, Geertzen, de Jong, Dijkstra, & Dekker, 2013), IC’s model (WHO, 2001) and literature review. The instrument was composed by 23 items, grouped in 5 factors (displacement, transportes, time, people support, and assessment). The teams who participated in the national championship of handball received an invitation to participated in the study. Researchers explained the aims of the study and they received consent from each athlete. Descriptive statistics (mean, standard deviation and frequency) were used.

Results
The results show that, globally, the wheelchair handball players perceived more facilitators than barriers. Transport (namely its cost) was perceived as the most negative factor (m=2.66±1.308) to the participation in the Portuguese wheelchair handball championship. The explanation may be related with the fact that most athletes used their own transport (74.6%). Besides that, all the other items related with transports received the lowest values. On the other hand, the factors perceived as facilitators for the participation were mostly related with the support and access to sport facilities. About the concerning support the most important ones were: team colleagues (m=4.54±0.75); coaches (m=4.34±0.86); friends (m=4.22±0.83); parents (m=4.19±0.88). In relation to sports facilities access (m=4.25±0.84) considered it as a major aspect to their participation.

Conclusions
Participants identify the cost of the transportation as a barrier. The support of some people and the access to sport facilities were identified as facilitators. Overall the Portuguese wheelchair handball players perceived facilitators outweighed the perceived barriers.
Acknowledgment
The first author was supported by a doctoral grant of the Portuguese Foundation for Science and Technology (SFRH/BD/76838/2011).
The Effects of 3-Month Recreative Exercises Applied to Individuals with Mental Disability on Their Electromyogram (Emg) Changes and Balance Performance

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Keywords: mental disability, balance, electromyogram, exercise.

Background

Disabled individuals encounter health risks resulting from their sedentary lifestyle. Some researchers suggest that the sedentary lifestyle among the children with mental disability may result from inadequate motor activity and physical fitness. Being able to carry out daily life activities and moving without being dependent to other people are important, and it has been suggested that the incidence of walking and balance problems is higher among individuals with mental disability.

Objective

The objective of the present study is to determine how three-month recreative exercises effect the balance performance of individuals with mental disability and to evaluate the electromyogram (EMG) changes following exercises.

Methods

Eleven educable individuals with mental disability who attend the school for children with mental disability and to the vocational school were included in the study. Before the study, the values for Age (14.18±1.94), Height (156.63±11.85), Weight (50.68±16.51)and BMI (20.34±4.71) were obtained. In the study, the subjects were applied a recreative exercise program (60 minutes/3 days/12 weeks) and their performances were evaluated by means of the pretest-posttest model. The Balance Scores of the individuals during the dynamic balance (Balance 1) and their EMG values during balance (EMG1) before and after the recreative exercise practices; then their EMG values during 30-second anaerobic exercise (EMG2) and their dynamic balance (Balance 2) and EMG (EMG3) following the exercise; and then, their EMG (EMG4) values during a 3-minute aerobic exercise and dynamic balance (Balance 3) and EMG (EMG5) values after this exercise were determined. The exercises were performed in Wattbike bicycle ergometer. Vastus Lateralis (VL) and Rectus Femoris (RF) muscles were included in EMG values.

Results

When the EMG values in our study were examined, differences were found in terms of EMG3-VL muscle variable (p=0.075/2= 0.038), EMG3-RF muscle variable (p=0.080/2=0.040), and EMG5-RF muscle variable (p=0.066/2=0.033). The exercise program decreased the EMG values significantly. When the balance scores were evaluated, significant differences were found in terms of the variables of Balance 2 (after 30 seconds) (p=0.077/2=0.039) and Balance 3 (after 3 minutes) (p=0.084/2=0.042). The exercise program decreased the EMG values significantly. When the balance scores were evaluated, significant differences were found in terms of the variables of Balance 2 (after 30 seconds) (p=0.077/2=0.039) and Balance 3 (after 3 minutes) (p=0.084/2=0.042). The exercise program significantly decreased the balance values.
Conclusions
Consequently, it was determined that 3-month recreative exercises applied to individuals with mental disability lowered the EMG and Balance values during and after the exercise. Performance of the daily life activities in a controlled way is closely associated with the balance. The functional independence of individuals can be possible only with the systematic and proper functioning of all body parts. In this context, it is thought that the people working with the children with mild mental disability need to consider the parameters constituting the balance in a detailed way in their exercise practices and to include activities improving their balance skills into their programs, and that recreative exercises can also provide contribution in this term.
Experiences of career development and transition among elite para-athletes

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Keywords: career transition, retirement, educational and vocational support.

Background
The number of professional para-athletes has recently increased in Japan. To reach and remain at the top of their field, elite para-athletes must invest at multiple levels (e.g., physical, psychological, and social). They therefore need a range of support throughout their career development and transition.

Objective
This study examined the psychological and social problems of the career transition process for Japanese para-athletes. We examined experiences throughout the career (from initiation to retirement) and focused our discussion on the provision of proactive support.

Methods
We used a qualitative design to explore the psychological and social problems of the career transition process in para-athletes. After obtaining ethical approval, we conducted semi-structured interviews with seven male and seven female elite para-athletes. Among these athletes, four had congenital disabilities and ten had acquired disabilities. One athlete had already retired from sport. The data were analyzed qualitatively, focusing on the problems the subjects experienced and how they coped with those problems.

Results
We needed to distinguish between specific types of career transition because the process of initiation was different for para-athletes with congenital disabilities and those with acquired disabilities. Some participants suggested that it is crucial to provide children with disabilities with the opportunity to recognize their abilities through sports experience in the early stages of career development. The participants also felt that para-athletes with acquired disabilities need to be aware of the environmental challenges of starting and continuing sports (e.g., controlling life factors such as employment, money, and support from family). Most participants wanted government and the Japanese Paralympic Committee to enhance the scientific support system for para-athletes during career development. They stated that educational and vocational support is important to build future second careers while athletes are still competing. The participant who had retired expressed the psychological, emotional, and social consequences of athletes’ retirement from sport.

Conclusions
The identification of problems experienced by para-athletes during career transition would provide a foundation from which to create a support system for elite para-athletes that includes help with career development and second career development after retirement.

Acknowledgment
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Factors Affecting Physical Education in Special Needs Education Schools: A Qualitative Case Study of Schools for the Visually Impaired in Germany and Japan

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Keywords: physical education, Japan, Germany, schools.

Background
Like Japan, Germany has adopted an educational system that separates regular and special needs education, but undertook new efforts when it ratified the United Nations Convention. To obtain detailed data from international comparisons, these studies need to look at the actual educational content in schools.

Objective
The purpose of this study was to elucidate, through a qualitative analysis, the differences in impressions of German and Japanese teachers on education, including physical education, in special needs schools.

Methods
The study was conducted at a school in Berlin, Germany and a school in Tokyo, Japan. In 2015, teachers from each of the schools visited the other country. Afterward, commonalities and differences in the respective teachers’ impressions on the educational environment and class content, including physical education, at the visited schools were compared. The teachers who visited each school were in their 40s to 50s, and had long experience in education for the visually impaired. The visits to each of the schools were recorded with a video recorder. The video and interview contents were analyzed based on the system theory.

Results
The system analysis examined local environment in the school neighbourhood, school environment, school and class management, and other items. Commonalities indicated in the results included school neighbourhood environment, overall school atmosphere, teachers’ attitudes in class instruction, and physical education class activities and content. In the Berlin school, cooperative relationships with local schools and others were seen. Efforts toward more inclusive education and formation of an inclusive community at the Berlin school were also pointed out, and relationships between sports classes and local sports clubs were seen. At the Tokyo school, greater independence in physical education classes and activities related to traditional occupations for people with visual impairments in Japan (acupuncture, moxibustion, massage) and other classes were indicated as characteristics within the school.

Conclusions
Despite the large differences in social background in the respective countries, many commonalities were discovered. At the same time, differences related to attempts for inclusion were also seen.
The influence of upper limb characteristics on wheelchair basketball technical skills

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Keywords: wheelchair, basketball, upper limb, skills, Wingate.

Background
Wheelchair basketball is one of the world’s most popular sports for people with disabilities. To this end, a growing number of studies examine the physiological requirements and the impact of somatometric characteristics on the technical skills of those participating at this event.

Objective
The purpose of the present study was to evaluate the effect of upper limb characteristics on: a) the technical skills and b) the anaerobic capacity of wheelchair basketball players.

Methods
Fourteen high-level basketball players (mean age 39.79±6.6yr; six with amputation, six with spinal cord lesion, one with spastic paraplegia and one with polio). Anthropometrics measured: body height when sitting and at supine position, body mass, length of arm and forearm, dynamometry of both hands, palm circumference and length of fingers. Eight technical skills assessed: 5m sprint velocity, 20m sprint velocity, shot accuracy following penetration, free throw accuracy, shot accuracy from four positions, speed when dribbling with the ball, short range pass accuracy and long range chest pass accuracy. Peak and mean anaerobic power were measured on a treadmill by Wingate.

Results
Results demonstrated a statistically significant correlation on the following parameters: body height with the length of the forearm (r = 0.726, p <0.005); arm length with long range chest pass accuracy (r = 0.535, p <0.005); long range chest pass accuracy with left and right hand dynamometry (r = 0.536, p <0.005 and r = 0.535, p <0.005 respectively); speed at 5m with was positively correlated with speed at 20m (r = 0.858, p < 0.005) and negatively correlated with shot accuracy following penetration (r = -0.563, p <0.005); free throws accuracy with shot accuracy following penetration (r = 0.560, p <0.005); long range chest pass accuracy with shot accuracy following penetration (r = 0.583, p <0.005). There was no correlation between peak anaerobic power and any of the upper limb characteristics. In addition, athletes with more severe disabilities achieved the lowest scores.

Conclusions
The results suggest that only the length of the arm and strength of hands influence performance on long range chest pass. Probably wheelchair basketball skills and anaerobic power are not affected by inherent but by acquired upper limb properties.
Effects of water activities program on aquatic skills in children with autism spectrum disorders- ASD

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Keywords: water activities, aquatic skills, children with autism spectrum disorders.

Background
The ASD is a developmental disorder must be present to three years of age. Participation in physical activity programs is a challenge for children with ASD in terms of lower levels of motor development, low motivation, difficulty in planning and generalization and self-monitoring activities. The therapeutic effects of water seem to moderate the level of excitement and anxiety, and reduce stereotypic behaviours and self-stimulation.

Objective
The aim of this study was to analyze the effects of an activities program on aquatic skills in children with ASD.

Methods
This exploratory qualitative study had a sample of two boys (4 and 5 years) and two girls 4 years old. Data were collected from footage of water activities undertaken twice a week for 36 weeks, totalling 72 sessions of 1 hour. Evaluation was performed before and after the intervention program using the evaluation matrix of aquatic skills (Winnick, 2004) and the embodiment of the same.

Results
The participants demonstrated improvement in inflows and outflows by ramp from the pool refuses to do to accomplish after verbal instruction and gestural and even autonomy - spontaneously entering the pool. As for respiratory control, the girls had significant advancement in the ability of freediving and a boy carried with him driving physics teacher handles the subject's body through the specified task. As the ability to move in the pool floating students evolved in different skills evaluated, each in their own way. The children have evolved in both inputs and outputs by the pool ramp, as in respiratory control and the displacement fluctuation. The pool, with well-defined physical boundaries may favour concentration and activities to help students identify and recall the activities in each area and the actions become more autonomous. (Reid & O Connor, 2003; Schultheis, Boswell, & Decker, 2000), showing positive responses regarding the initiation of swimming activities and improvement in task orientation Aquatic (Yilmaz, Yanarda, Birkan, & Bumin, 2004).

Conclusions
The therapeutic effects of water seem to moderate the level of excitement and anxiety, and reduce stereotypic behaviours and self-stimulation.
Effectiveness of the adapted aquatic intervention for balance in children with special needs

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Keywords: pediatric balance scale, body balance, adapted aquatics, children with special needs.

Background
The physical properties of the aquatic environment, together with aquatic exercises and therapeutic swimming can fulfil most of the objectives of comprehensive rehabilitation programs for children with special needs. Although, adapted aquatic intervention programs have many appealing qualities, there is a substantial lack of evidence-based research on effectiveness and potential merit of such interventions in children with balance deficits.

Objective
The purpose of this study was to develop safe, reasonably inexpensive and easy to implement and replicate adapted aquatic intervention for addressing balance dysfunction in children with neuromotor and developmental disabilities and to evaluate its effectiveness.

Methods
Nineteen children (11 males, 8 females) aged 4 to 15 years with mild to severe documented balance problems participated in the study. The baseline assessment of children was performed with the Gross Motor Function Classification System – Expanded and Revised (GMFCS-ER) and Functional Ambulation Classification (FAC). Balance was assessed with the Pediatric Balance Scale (PBS) at the beginning and at the end of the intervention program. The intervention consisted of 45-minute adapted aquatics sessions twice per week for 6 months in a community sports center which has aquatic facilities for children with special needs. As most of the children (18/19) did not have swimming skills, the initial phase of the intervention was designed to teach children basic aquatic skills and water safety instruction. The main phase of the intervention consisted of individualized therapeutic swimming and water activity program with inclusion of aquatic exercises that challenge balance.

Results
All children in the study group had baseline PBS scores below cut-off values for age- and gender matched typically developing children. Most of the children (17/19) showed improvements in the PBS scores after the intervention which resulted in a statistically significant \( t=7.233, p=0.000 \) mean increase of 10.1±5.8 points from 30.7±13.2 points to 40.8±10.8 points with a large effect size for the PBS scores \( d=0.837 \) after the intervention. Analysis of covariance between the total postintervention PBS score and individual item scores revealed that the improved performance of more challenging and novel tasks such as standing on one leg, turning 360 degrees, forward reach contributed more to this overall change in the PBS score in the study group than the performance of more simple and routine tasks (i.e., standing unsupported, sitting to standing, standing to sitting). Further analysis of covariance revealed statistically significant correlation between absolute changes
in the overall PBS scores and balance impairment level (F=36.752, p=0.000), GMFCS-ER level (F=35.503, p=0.000), and FAC category (F=17.704, p=0.000) which suggested that improvements in balance after aquatic intervention were related to the severity of the baseline deficits.

Conclusions
The study results suggest that adapted aquatic intervention incorporating therapeutic swimming and aquatic exercises may be a viable strategy for reducing balance deficits in children with various disabilities and mild to severe balance deficits.
Observation of walking activities in visually impaired persons in regions of Ústí nad Labem and Karlovy Vary

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Keywords: physical activity, inactivity, visual impairment, locomotion, walking volume, pedometers, GPS.

Background
Visually impaired person’s lifestyle is in large measure formed by specific possibilities of adapting the information around and their possibilities of interfering in outer environment. Problems connected with spatial orientation and manipulation with objects are reflected in their participation in physical activities. The potential of applying the suitable physical activities that could help in keeping or even improving their life quality is not used. Walking is one of the best available activities and beneficial for the health.

Methods
This survey presents data from observation of incidence of basic locomotion during several-week application of pedometers YAMAX-SW 700 and GPS device POLAR RS 800.

Results
Probands usually showed very low values of attended locomotion which often was under the level of recommended criterions of health. There is shown a positive connection between locomotion values and the existence of employment. Walking characteristics for possible cultivation of health are changed in case of the presence of guides – trail leaders.

Conclusions
Visually impaired persons reach very low values of locomotion. Recommended integrating into physical activities would be suitable to realize through engaging the guides.
If you do not see me here next year, it’s because I am dead; First time participants experience of taking part in a winter sports camp for adults with visual or physical impairments

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Keywords: sports camps, disability, winter sports, experience, physical activity.

Background
What might participation in a winter sports camp for adults with impairments mean to the participants? The research was conducted at Ridderrennet in Norway. Ridderrennet is the world’s largest annual international winter sports camp for people with visual and physical impairments. It has 400-500 participants and an equal number of guides, volunteers and organisers. The event which has been organised for more than 50 years is unique of its size and kind, however, the research presented is the first to be conducted concerning Ridderrennet.

Objective
The aim of the study was to explore what participation in a winter sports camp for adults with visual or physical disabilities means to first time participants. In which ways might it influence their experience of own ability, as well as influence their engagement in physical activity in their local community subsequently.

Methods
12 Norwegian participants with a visual or physical impairment were interviewed about their thoughts and experiences concerning their first participation in Ridderrennet. They were interviewed before their first participation, a few weeks after and one year subsequent their first participation. The transcribed interviews were analysed in order to find central common themes.

Results
Findings stress that although the event is well-known in Norway, only one applied to take part after having seeked information on his own. All other participants had been directly encouraged by a close friend, a family member or a professional. Although the majority hesitated and worried whether they would fit in , it turned out that all of them appreciated their participation. While some participants main aim was to participate in winter sports and improve their skills, others main aim was to socialize. Although several participants excelled what they thought possible, including competing for the first time ever, what seemed to make the biggest impression was experiencing others, with other impairments master.

Conclusions
Potential participants seem to need personal encouragement in order to apply for participation. Meeting other participants with a variety of abilities and disabilities, made a significant impression on the participants view on what is possible, both for others and for themselves.
Acknowledgment
Thanks to the first time participants for sharing their experiences, thanks to the association Ridderrennet for supporting me and thanks to the Ekstrastiftelsen for funding the research.
Physical activity of an individual with multiple disabilities

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Keywords: multiple disabilities, scoliosis, schizophrenia, physical activity, psychomotority, attention deficit hyperactivity disorder.

Background
This paper presents a case study which deals with the theoretical knowledge of selected types of disabilities. Those informations we used as a basis for creating motion support programs which serve the overall development of the personality of individuals with multiple disabilities.

Objective
The goal of the research was to create a supportive exercise program for overall personality development of an individual with a combination of defects. We proceed from the practical experience of everyday observation of the behavior of individuals and work with combined type of disability, their reactions in various situations and activities.

Methods
It is a qualitative research- a case study. We processed the research outcomes by means of the following techniques: analysis of documentation of the observed individual, analysis of technical documents, direct observation of personal evolution, life and social situations, interview with former assistant and coach/physiotherapist.

Results
On the basis of the acquired and processed materials, in cooperation with the former assistant and coach we present specific methods and recommendations that contribute to the improvement of quality of life of people with multiple disabilities.

Conclusions
The aim of the paper and the research project was to analyze the possibilities of physical activities of an individual with a combination of disabilities, physical and mental. After processing the materials available we provide options of how to compensate for these limitations in the best way and how to continue to support the overall development of individuals with multiple disabilities.

Acknowledgment
The research was conducted within the master thesis completion at the Faculty of Sports Studies, Masaryk University, Brno, Czech Republic.
Selected determinants of participation in physical activities for children and youth with physical disability on the second level of primary school (pilot study)

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Keywords: HBSC, adapted physical activity, lifestyle, health.

Background
The contribution presents the preliminary results of the pilot survey included in the international system of longitudinal Health Behaviour in School-aged Children (HBSC). It introduces the concept of so-called "disHBSC research focused on the target group of children and youth with physical disability. The basis for creating adaptations of HBSC questionnaire was in cooperation with Slovak partners from the Department of Public Health, University of Pavol Jozef Safarik in Kosice developed and pilot tested.

Results
The obtained results are noticeable differences in many of the determinants influencing the lifestyles of children and youth with and without physical disability. For some of the parameters we have reached alarming results and offer plans to address them. A total of 14.8% of the interviewed students do not operate physical activity in the weekly mode even one day. Including the fact that 18.5% of students with disabilities do not rehabilitate even once a week. Paradoxically, the physical activity is very important for 70.4% of pupils as a prerequisite for improving health is for the remaining 29.6% is then important. Other reasons to run physical activity is a respite from everyday worries (88.9%) and increased self-esteem (67%) pupils. These responses show that 77.8% of respondents performs physical activity only in school. While 14.8% of students stated that they do not participate in physical activities in school because of health reasons. The most frequent operated in leisure surveyed pupils is playing computer games. Often operated activity is also music, singing and playing musical instruments. For physical activity is dominating swim, exercise and games in the water.

Conclusions
The results, which were identified in this research suggests a very worrying fact. Children and young people with physical disability are far not only far from failing the standards and recommendations of the WHO, but in general are a very little engaged in physical activities. Unequal conditions (barriers) in its implementation affect, and often impossible, this involvement.
Satisfaction with quality of life domains of people with disabilities: Differences between disabilities from sport participation point of view

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Keywords: people with physical disabilities, people who are deaf and hard of hearing, the subjective quality of life analysis, sport participation.

Background
Quality of life (QoL) is very strongly influenced by an individual’s health. The lack of studies measuring the satisfaction with QoL domains (QoLD) of people with different kinds of disabilities encouraged us to consider conducting this research.

Objective
The aim of this study was to compare the satisfaction with QoLD scores between members of the people with physical disabilities and people who are deaf and hard of hearing from sport participation point of view.

Methods
The study included 315 individuals with different disabilities: people with physical disabilities (PPD, n = 150, male = 76) and people who are deaf and hard of hearing (PD/HH; n = 165; male = 85). The second part of the Subjective Quality of Life Analysis (SQUALA) between PPD and PD/HH who participating in sport and between PPD and PD/HH who not participating in sport was use. The Pearson chi-square test was used to determine the differences in 5 QoLD (health, physical and psychological health, social relations and environment) between PPD and PD/HH from sport participation point of view.

Results
We found that the scores show very high significant differences (p<.01) between PPD and PD/HH who regularly participating in sport in all 5 QoLD. PD/HH who are participating regularly in sport presented significantly higher satisfaction with all evaluated QoLD. Very similar results we found in satisfaction with QoLD also between groups of PPD and PD/HH who are not participating in sport. PD/HH showed significantly higher satisfaction with health (p<.05), psychological health (p<.01), social relations (p<.01) and environment (p<.01). On the other hand PPD who are not participating in sport are significantly higher satisfied with physical health (p<.01).

Conclusions
This evaluation of the satisfaction with QoLD measured by S.QUA.L.A. shows that it is a suitable tool to asses QoL in people with different kinds of disabilities. The results of our study confirmed that PD/HH have significantly higher QoL comparing PPD no matter if they participating in sport or not.
Keywords: oncological disease, lifestyle, physical activity, leisure time.

Background
Everyday activities of children and youth represent important developmental opportunities, which serve them as an instrument for socialization and acquisition of cultural knowledge and skills. Lots of children and youth spend their leisure time with sport activities or other kind of physical activity. There is no difference in children suffering from oncological disease. Sport preferences survey has a great importance for creation of physical activity programs serving for resocialization of our target group – children’s oncological patients.

Objective
The main aim of this survey was to analyze the sport preferences structure in children’s oncological patients. A secondary aim was to determine the degree of association between the identified sequence of activities and the range of activities within the camp.

Methods
For the purpose of this investigation were used questionnaire preferences sporting activities, which is standardized and used by majority of Center for Kinanthropological Research of Palacký University Olomouc. The structure of the preferences of sports activities was evaluated in eight different areas. The research group consisted of children with cancer (aged 6-15 years) treated at the Clinic of Pediatric Oncology Brno (n = 63). Data processing was realized in the statistical programs Statistica 6.0 CZ and SPSS 17.0.

Results
Team sports (165 points) were assessed as the most preferred activities within all surveyed categories. The order of other activities was as followed: individual activities (135 points), water activities (105 points) and outdoor activities (91 points). In the area of individual sports activities in the first place went swimming, followed by cycling, downhill skiing, badminton and table tennis.

Conclusions
There were small discrepancies between detected sport preferences structure and the program content of the camp. The potential of increasing of the adherence towards particular physical activity can be enhanced by respecting of the wishes and preferences of target groups the camp lectures/teachers work with.
Measuring bocce skills and knowledges of athletes: Using coaching manuals and diagnostic of Special Olympic international

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Keywords: Special Olympics, intellectual disability, bocce, sport, diagnostic, coaching evaluation, skills measurement

Background
The coaches of athletes with intellectual disability competing in the field of Special Olympics have to pass educational system of qualifications done by organization Special Olympics Czech Republic. The first step is usually general basic training course for instructors, than training of coaches in chosen sports. This procedure potentially ensures quality of training process in the field of Special Olympics.

Objective
The importance of evaluating and testing the outcomes and training process to help planning and managing improvement of skills, technique and overall behaving as athlete in intellectually disabled is visible and clear. Our presentation is focused on how to evaluate bocce skills and sport knowledges of athletes participating in Special Olympics discipline BOCCE. Also the experience with use of Bocce Coaching Guide and Bocce skills Assessment Card (specialolympics.org) is presented.

Methods
Bocce skills Assessment Card (specialolympics.org) (translated into Czech language) is used to evaluate improvement in bocce skills and understanding the game in 16 athletes with intellectual disability, observations. Testing period is 6 months (4 measurements), training 1 a week, 90 minutes, results and suggestions for coaching are given. Interview with 3 coaches inform about quality and usefulness of the coaching material.

Results
The result shows, that all the participants get in 6 months some improvements in skills or understanding the game. The differences between scoring and level of improvement, of course, visibly depend on severity of mental and physical impairment, but also temperament and experiences from previous sport events, tournaments, activities and membership in sport club. The quality of coach is anticipated variable, but these prove was not the aim of our work.

Conclusions
The systematic work with athletes with intellectual disability (with MR) in our group of participants leads to improvement in bocce skills and understanding of game of bocce. The results vary due to
severity of impairment and previous experiences in sport. The bocce skills assessment is more sensitive to evaluate beginners in some items. The quality of coaching materials is evident.

Acknowledgment
Thanks to Special Olympic Czech Republic for organising educational courses for coaches. Extension due: PA and lifestyle as determinants of health and quality of life persons with disabilities (IGA_FTK_2015_007).
Database of sport assistants for handicaped people

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Keywords: sports assistant, assistance, adapted physical activities, disability sport

Abstract

Based on the previous research, the on-line database of sport assistants for handicapped people was created. Purpose of this database is to interface handicapped people as "users" with "assistants". Because of the fact, that most of the handicapped people do not have a person with whom they could do sport activity as often as they wanted. Database reflects the needs of “users“ as much as possible and simultaneously respects "assistants" real possibilities.
Bachelor students’ feedback related to APA studies in physiotherapy education – case SAMK Pori/Finland.

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Keywords: evaluation, higher education, physiotherapy, adapted physical activity

Background
Bachelor studies in Satakunta University of Applied Sciences (SAMK) include five credits of APA. These studies base strongly on preliminary seven sports pedagogical credits taught earlier during the studies.

Objective
The aim of this presentation is firstly to describe the APA course more detailed – particularly the section related to modifications of physical activity and various sports (1,5 cr). Secondly, the student feedback will be presented according to the evaluative data collected in the end of the course.

Methods
In all 100 bachelor students participated in this specific part of the APA-course between spring 2013 and spring 2015. Anonymous feedback data were collected through the electronic institutional system. Qualitative data were gathered through three open-ended questions. Finally, the overall numeric evaluation was given by the students (1=very unsatisfactory, 5=excellent). The response rate was 89% (N=89 students).

Results
The course was implemented in four phases. During the introduction the lecturer marketed tasks for the students. The task selection was based on student’s interests. In the planning phase the individual students or a group of students familiarized themselves for example with the game of boccia, wheelchair rugby, wheelchair dancing, goalball for persons with visual impairment, multi competition for persons with physical impairment, or bowling. The final implementation phase was carried out through teaching practices within the student group. Teaching practices were evaluated by group discussions with students moderated by the lecturer. Afterwards, the students gave their anonymous feedback through the electronic system. In the qualitative evaluation they presented their appreciation particularly with the diversity of the course implementation, with the importance of sharing multiple ideas in practice, as well as meaningfulness of the course. Moreover, they reported having become more confident with instruction and the skills would transfer well to their future profession. They wanted the course to cover more credits in future. Furthermore they would like real clients to be integrated in this section as well. The numeric means given by various student groups (five groups, N=89 students) for the course implementation in general varied from 4.2 to 4.7.

Conclusions
Physiotherapy students value APA studies highly. The implementation of the course doesn’t need much development according to the numeric evaluation. However, students presented valuable
developmental ideas. The next part of APA studies includes working with real clients in practice. Furthermore, ideas presented in the APA course can be transferred to real life in clinical training during the end of the studies.
The pilot verification of disHBSC study by students with visual impairment

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Keywords: HBSC, lifestyle, adapted physical activity, visual impairment, health.

Background
Research focuses on pilot verification of new created questionnaire disHBSC for a population of students with visual impairment based on origin of HBSC questionnaire.

Objective
The aim of study is to upgrade the standardized international Health Behaviour in School Aged Children questionnaire. Base on analysis of school environment and the specifics of groups of students with visual impairment.

Methods
Contribution will be based on the methodology of international HBSC study - Health Behaviour in School Aged Children questionnaire. The actual treatment questionnaire for visual impairment participants is implemented in cooperation and coordination with Palacky Univerzity (Faculty of Medicine) and Pavol Josef Šafárik Univerzity in Košice. DisHBSC study is a modified version of questionnaire in the concept and management HBSC study. The philosophy of this innovative technology is the inclusion of previously marginalized groups of people with special educational needs while respecting their specificities and needs. Breadth of issues incorporated in the questionnaire disHBSC also contains demographic particular school environment, participation of students and parents, health promotion, nutrition, physical activity, violence and bullying and risky behaviour (smoking and alcohol), peer relationships, school and life aspirations.

Results
The results submitted differences observed in a number of determinants influencing the lifestyles of children and youth with visual impairments. Some of the parameters we have reached alarming results and offer plans for solution. Next results will submit information on daily physical activity, reasons, causes, options and locations of physical activities. Leisure time for people with visual impairments is not only active motion mode, as well as other monitored parameters of the sample. The exact date will be specified later.

Conclusions
The study clearly presents very disturbing facts. Children and young people with visual disabilities far fall short of the standards and recommendations established by the WHO and general physical activities devoted little time.

Acknowledgements
PA and lifestyle as determinants of health and quality of life persons with disabilities (IGA_FTK_2015_007).
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The pilot verification of disHBSC study by students with visual impairment

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Keywords: active lifestyle, wheelchair user, semi-structure interview, accelerometer, surveys.

Background
The basis for the creation of a self-report physical activity measure for people with spinal cord injury PARA-SCI.CZ was an administration and scoring manual of semi-structured interview Physical Activity Recall Assessment for People with Spinal Cord Injury. PARA-SCI.CZ aims to measure the type, frequency, duration, and intensity of physical activity performed by persons with spinal cord injury who use a wheelchair as their primary mode of mobility.

Objective
The aim of this study was to perform a process of the standardization of the semi-structured interview PARA-SCI.CZ focused on the subjective perception of the amount of physical activity of persons with spinal cord injury.

Methods
The actual physical activity of eight wheelchair users (four paraplegia, four quadriplegia) was monitored during three days by using accelerometers Actigraph GT3X fixed on the non-dominant wrist, and semi-structured interview PARA-SCI.CZ. During the PARA-SCI.CZ interview, participants were asked to recall activities they had done over the past 3 days, starting with the previous day. The interview was structured by dividing each recalled day into nine periods: Morning Routine, Breakfast, Morning, Lunch, Afternoon, Dinner, Evening, Evening Routine, and Night.

Results
The results were presented in the form of case reports. PARA-SCI.CZ captured frequency, duration, and intensity (low, moderate, and heavy) of two categories of physical activity (leisure time physical activity and activities of a usual day). Accelerometer Actigraph GT3X captured duration and intensity (all, and moderate + heavy) of physical activity during three days and nights. The data obtained from accelerometers was overestimated in all cases.

Conclusions
This is the first step to support the development of monitoring of the quality and quantity of physical activity of people with spinal cord injury in the Czech Republic. This study is essential to critically approach issues of health and active lifestyle of persons with spinal cord injury. Standardized PARA-SCI.CZ can be used in practice by physiotherapists and sports pedagogues from the field of adapted physical activities.

Acknowledgements
PA and lifestyle as determinants of health and quality of life persons with disabilities (IGA_FTK_2015_007).
An Exploration of Community Based Disability Sports Provision

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Keywords: Disability sports, community, programmes, inclusive sports programmes

Background
In 2008, the Irish Sports Inclusion Programme was established to provide opportunities for people with disabilities to participate in a variety of sports and physical activity. It is facilitated by 20 Sports Inclusion Disability Officers located within Local Sports Partnerships across Ireland. Initial reports on the programme were positive (Smyth, 2009) but regular monitoring has been sporadic and disparate.

Objective
This project explores current provision of community based sport for people with disabilities, by engaging with but not exclusively limited to the Sports Inclusion Disability Programme. The research will discover current strengths and future potential for the sector.

Methods
The exploration employs a mixed methodology (Mason, 2006) and the overall framework for the research is situated within an appreciative inquiry approach. Data will be collected using a series of surveys and focus groups with facilitators and participants of the programme as well as linked outside agencies.

The appreciative inquiry process will realise the programme’s strengths, beneficial processes and positive impacts so as to further develop and fortify the programme’s efficacy and will establish what constitutes best practice in the sector.

Results
The project is currently at literature review stage, and is engaging conceptually with; exploring barriers and facilitators to participation, planning and strategic frameworks for universal access for people with disabilities, international practice models in the sector and sport as a mechanism for social inclusion. Data collection is expected to begin midway through 2016, with further findings expected upon analysis.

Conclusions
The project will establish best practice models for the sector, and utilising a strong positive psychology approach, will strengthen existing organisational structures. Commentary and counsel on the project is welcomed.

Acknowledgements
The researcher would like to acknowledge the CARA Centre for Adapted Physical Activity, Sport Ireland and the Institute of Technology Tralee for their continued support and assistance.
Active ageing and quality of life measurements

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Keywords: elderly, seniors, nursing home, physical activity, SQUALA, SEIQoL, IPAQ, quality of life

Background
One of the topic addressed at the Department of APA at Faculty of Physical Culture in Olomouc is the quality of life of seniors. This topic is certainly very timely and is offered for solutions to students within the theses. We deal with the evaluation of the quality of life of elderly in relation to the amount of carried physical activity, type of housing, age, gender and other variables.

Objective
The aim of the presentation is to present the results of several years of concern about the quality of life of elderly with connection to participation in physical activities, summarize the basic findings and offer for thought the question arose.

Methods
In the project have participated over 400 participants, aged 60 plus from different surroundings (seniors living in nursing homes, living independently, and living in the town/village). Techniques used for quality of life measurements: SQUALA (Subjective Quality of Life Analysis) (Dragomirecká et al., 2006); SEIQoL (Schedule for the Evaluation of Individual Quality of Life) (Křivohlavý, 2002); IPAQ (International Physical Activity Questionnaire – short version); questionnaire of own construction. The results are evaluated by Mann-Whitney U test and Kruskall-Wallis ANOVA test (\( p \leq 0.05 \)).

Results
The results of the project can be divided into two areas towards the main outcomes of two sides of our interest: The quality of life and usability of used research methods. Evaluation the quality of life of older people in general practice folds mainly for evaluating the offered services or programs. Our research shows that generally the results of evaluation of subjective quality of life does not affect the information on the level of participation in physical activities (determined by questioning), quality of life affects the environment in which people live (especially dependence and independence on the others), age and in some studies gender women tends to show higher perceived quality). Application of the methods SQUALA and SEIQoL in the elderly population seems appropriate, we are still stuck in obtaining information regarding the quantity (frequency and load) carried physical activities and their quality, used techniques do not meet our expectations (IPAQ, Questions about frequency and type of physical activity).

Conclusions
The subjective evaluation of quality of life of elderly population is an important part of the evaluation process, especially used to evaluate satisfaction with offered services and programs by founder and operator of the service. We have used to measure quality of life of our participants two types of techniques SQUALA and SEIQoL and both gave us the desired outcomes. We are looking for techniques to evaluate the quality and quantity of participation in physical activity in elderly. Results of evaluation of quality of life show a relationship to the type of housing, age and, in some cases, the gender of participants, not to physical activities. Which we believe is primarily due to the fact that used techniques do not correspond to our ideas and do not reflect the real state in physical activity measurement.

**Literature**


**Acknowledgment**

PA and lifestyle as determinants of health and quality of life persons with disabilities (IGA_FTK_2015_007). Thanks to students of Faculty of Physical Culture, Palacký University in Olomouc participating in the projects.
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Golf- Access for All? An analysis of golf from a universal access perspective, towards the development of exemplary case studies and a functional map of best policy and practice

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Keywords: inclusion, golf, Ireland, policy, UNESCO, disability.

Background
Irish golf clubs have experienced a 55% decline in memberships between 2007-2010, whereas golf course maintenance costs have exploded by 270% from 1999-2009 driven by international standards. Golf has the image of being an elitist/aristocratic sport. In light of economic developments, golf can no longer afford to maintain its selective practices.

Objective
The aim of this research is to design a guide for best policy and practice in order to make golf more accessible to the 13% of the Irish population who have a disability.

Methods
This investigation conducts a systematic review and mixed methods research into the field of international golf, extrapolating evidence of inclusive/exclusive practice. The approach assists in identifying knowledge gaps and serves as a platform for surveys directed at golf clubs and People with a Disability (PWD). Semi-structured interviews from both cohorts will augment a deeper understanding and quality of the social construct describing inclusive-golf. Non-probability sampling will complement the method design.

Results
The research is still in its early stages. Survey is in the design stages and most work focuses currently on the Literature Review. Consequently, no research data results are available to date. This however will have changed by the time the conference has started.

Conclusions
This study envisages developing a knowledge and guidance platform for golf clubs and PWD to become familiar with inclusive golf. Therefore this research advocates UNESCO’s and IT-Tralee s philosophy of promoting sport and fitness for social inclusion for people with a disability.

Acknowledgment
I would like to acknowledge the IT-Tralee and the UNESCO Chair for giving me the opportunity to take part in this exiting project. Furthermore I would like to give thanks to my supervisors Edel Randles and Therese Conway who are of great support.
Study courses from Adapted Physical Activities area and their impact and effectiveness in relation to the attitudes and perceptions of own competence to teach inclusive physical education

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Keywords: inclusive physical education, teacher education, self-efficacy.

Background
The dissertation project aims to improve conditions of pupils with disabilities inclusion into physical education lessons in Czech Republic. The project is going to work with the self-efficacy concept and it aims to improve the future PE teachers perception of own competence to include pupils with disabilities into PE lessons.

Objective
Find out the impact of study courses from the area of APA to attitudes and perceptions of own competence in relation to inclusive physical education by students of PETE programs at Faculty of Physical Culture at Palacký University in Olomouc.

Methods
Mixed method is going to be used. The Czech translation of questionnaire Self-Efficacy Scale for Physical Education Teacher Education Majors towards Children with Disabilities (Block et al., 2013) is going to be used as the quantitative part. It contains Likert-type scale 1-5 in 3 parts about inclusion of particular pupil with different disability into PE lessons. The semi-structured questions in focus groups are going to be used as the qualitative part. Three different experimental groups seem to be enough for comparison of data.

Results
The results are going to be used for analysis of effective items and design the most suitable type of study course. It should support the innovation of study courses from the APA area included in PETE at Faculty of Physical Culture, Palacký University in Olomouc and promote creation of general design of study course from the APA area for PETE at other universities in Czech Republic.

Conclusions
The dissertation project should promote education of future PE teachers, their self-efficacy for the part of inclusion pupils with disabilities into their own PE lessons and finally provide all pupils the opportunity to participate in general PE with their peers.

Acknowledgment
PA and lifestyle as determinants of health and quality of life persons with disabilities (IGA_FTK_2015_007).
Cognitive profiles of athletes with intellectual impairment according to sport

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Keywords: Sport, Intellectual Impairment, Cognition, Evidence-based classification.

Background
Previous research has shown that cognitive and motor skills are related. However, little is known about the exact impact of cognitive impairment on sport proficiency.

Objective
The aim of this study is to investigate if well-trained athletes have a different cognitive profile depending on the sport they are practicing.

Methods
A large cohort of track and field athletes, basketball players, swimmers and table tennis players with intellectual disabilities (ID) (N = 468) and without ID (N=162) participated in this study. The athletes performed a generic cognitive test (GCT), consisting of eight subtests assessing executive functions and cognitive abilities relevant to sport. Four ‘speed-based’ tests (Simple Reaction Time, Complex reaction Time, Simple Visual Search, Complex Visual Search) and four ‘content-based’ tests (CORSI, Tower of London, WASI Block and WASI Matrix) were included. A one way Anova was used to investigate differences in cognitive ability according to sports.

Results
For athletes without ID no differences in cognitive subtest performance were observed according to sport. For athletes with ID, significant differences were found for five out of eight subtests. Basketball players have the fastest reaction times on three ‘speed-based’ subtests. Post hoc comparisons show that they are faster in comparison with athletes on simple reaction time, complex reaction time and simple visual search. Swimmers have better simple reaction time than athletes. On three out of four ‘content-based’ subtests the swimmers achieve the highest scores. Post hoc comparisons reveal significance between swimmers and athletes for both WASI subtests, and between swimmers and table tennis players for Matrix Reasoning. In both tests the swimmers achieve the highest points.

Conclusions
The GCT is administered as part of the eligibility procedure for athletes with ID to participate in the Paralympic Games. Future research could investigate if there is a need to adapt this test to the specific demands of each sport.
Validation of an adapted sprint test for the evaluation of anaerobic capacity in manual wheelchair users

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Keywords: anaerobic capacity, Repeated Sprint test, wheelchair athletes

Background
Anaerobic capacity is a key performance factor in various wheelchair sports. Through analyzing the anaerobic capacity, one can evaluate the fitness level of athletes, compare athletes’ sprint performances and offer training advice to athletes and coaches. In this regard anaerobic capacity also has an important role in talent identification programs.

Objective
The validation of the “Repeated Sprint” field test (RST) by comparing it with the standard Wingate Anaerobic laboratory test on an arm crank ergometer (WAnT).

Methods
A sample of 30 manual wheelchair athletes with a various range of impairment levels is recruited. The total sample consists of five groups: tetraplegics (1), paraplegics with low trunk function (2), paraplegics with moderate trunk function (3), athletes with full trunk function (including amputations, polio and spina bifida) (4), and wheelchair users with cerebral palsy (5). They all have at least 3 years of experience in a dynamic wheelchair sport. Anaerobic capacity is assessed with the WAnT and the RST and their correlation is assessed by a Spearman correlation test. Differences in anaerobic performance according to level of impairment will be analysed using the non-parametric Kruskall Wallis test.

Results
Preliminary analyses on the results of the first 12 participants revealed that RST and WAnT were moderately correlated (Spearman \( \rho = .59, p = .056 \)). The athletes had an average fatigue index of 29.10 (SD = 11.65) on the WAnT and an average fatigue index of 6.63 (SD = 3.05) on the RST. It is expected that this correlation will be significant when calculated on the full sample. The differences between the levels of impairment will be analysed after the assessment of the full sample is completed. The hypothesis is that anaerobic capacity will be lower in athletes with higher levels of impairment.

Conclusions
When the final results of this study confirm the preliminary findings, the RST could be considered a useful tool to implement in field settings such as clubs, schools and rehabilitation centers. This will optimize talent identification of wheelchair athletes.
The relationship between adaptive behaviour and motor proficiency from infants through to adulthood – a review

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Keywords: intellectual disability, social maturity, physical activity, sport.

Background
Adaptive behaviour (AB) and intellectual function are the essential criteria in the diagnosis of Intellectual Disability (ID). AB is included within the primary eligibility criteria for athletes with ID, however sport related AB is not considered within the current ID-classification system. In order to evaluate the necessity of AB inclusion within the classification system, a more thorough understanding of the relationship between motor proficiency and AB is required.

Objective
The aim is to provide an outline of current literature that investigates both AB and motor proficiency, and relationships between them.

Methods
A narrative review approach, with a literature search for original articles conducted on databases Medline (1950-2016), Cinahl (1981-2016), Web of Science (1955-2016) and PsychINFO (1872-2016) using search terms ‘AB’ and ‘movement’ or ‘motor’ or ‘exercise’ or ‘sport’ or ‘physical education’.

Results
Empirical evidence pertaining to the interaction between AB and motor proficiency is scarce, with limited literature often pooling limited sample sizes. There is evidence to suggest that visual-motor and gross motor functioning predicts variance in AB, and that this prediction of variance is stronger for AB than IQ. In addition, there is a weak insignificant correlation between the specific motor skills AB domain and IQ. Hippotherapy intervention resulted in significant improvements to overall AB, with significant domain specific improvements in communication and socialization. However, non-significant relationships or changes in overall and domain specific AB have also been reported.

Conclusions
Within the current literature the nature and strength of the relationship between AB and motor proficiency is unclear. Further fundamental research is required to explore this relationship.
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International Master in Adapted Physical Activity (IMAPA)

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Keywords: Education, Master, Adapted Physical Activity

Abstract
The International Master Programme of Adapted Physical Activity (IMAPA) is a 2 year Master programme in partnership between KU Leuven (Belgium), Palacky University Olomouc (Czech Republic) and a number of associate partner institutions, combining the expertise of more than 20 universities and organizations throughout Europe and the world. The programme offers students state-of-the-art research and teaching methodology in adapted physical activity (APA) and the social, pedagogical, and technical aspects of physical activity adapted to the needs of persons with a disability. IMAPA is a flexible programme, allowing students to custom design the content of their curriculum depending on the competences they wish to acquire. Students can follow the entire programme as KU Leuven students, or fit a number of selected courses within their home university programme, while remaining registered at their home university. IMAPA graduates will have the competences to work with persons with impairment in career domains such as education, coaching, personal training, physical therapy, occupational therapy, medicine or other health care professions. Program graduates can also pursue a research career through the knowledge and expertise acquired in adapted physical activity and a kinesiology related scientific discipline.
The cognitive-motor dual task ability of athletes with and without intellectual disability

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Keywords: Dual tasking, intellectual disability, eligibility, evidence-based classification

Background
The simultaneous performance of two tasks with distinct goals (dual tasking) is an integral part of many daily-life activities. Sport is a real world environment where cognitive and motor tasks are often performed simultaneously. Since the 2012 Paralympic Games, athletes with intellectual disability (ID) practice sport at the highest level.

Objective
To assess the effects of impairment on the ability to successfully combine a cognitive task in conjunction with a balance task.

Methods
A sample of 102 athletes with ID and 102 able-bodied athletes (AB) – matched for age, sport, and training volume – were recruited. Balance was assessed via a modified Flamingo Balance Test, while the Multiple Object Tracking (MOT) task was used to assess perceptual and dynamic attention. All participants performed each test in single condition first and then simultaneously (dual task). Statistics were performed using a 2 (impairment: ID vs AB) x 2 (condition: single vs dual) MANCOVA with training volume as covariate to assess the dual task cost for balance and MOT performance.

Results
Athletes with ID scored significantly lower on the balance and MOT task compared to AB athletes. For the MOT test, a significant interaction effect revealed a higher dual task cost for ID athletes. Balance performance decremented for ID athletes in the dual task condition, whereas it improved for AB athletes, although this finding was not statistically significant.

Conclusions
The dual task paradigm can be a useful methodology in the development of evidence-based systems of classification for athletes with ID. More research is required with a variety of cognitive and motor components.
Laughter Yoga for all – practical workshop

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Keywords: laughter yoga, laughter, own experience

Background
Laughter yoga is physical activity, still little expert solutions. It is combining simulated unconditional laughter and yogic breathing. Laughter yoga builds on the proven positive effects of laughter on humans.

Objective
The aim of this workshop is to introduce yoga laughter and present some exercises.

Methods
Participants completed a "program of laughter yoga". The research sample consists of 14 students of the U3A. Methods: 12 individual unstructured interviews with participants of free laughter yoga program + 1 focus group with participants of laughter yoga program.

Results
The result is 9 definitions of laughter yoga. The most frequent: filling the mind with joy whenever you evoke happiness.

Conclusions
Students of the University of the Third Age explained Laughter Yoga in various ways. The base is joyful exercise.
Look at a specific group participation in sport

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Keywords: quality of life, barriers and facilitators, athletic identity, quadriplegia, people with disability, wheelchair rugby.

Background
Due to the lack of research on this population, sport for athletes with disabilities remains a fertile area for research studies. There are still some unanswered questions regarding to knowledge and understanding of sport participation for individuals with disabilities. The number of disabled people who take part in sport has risen significantly, but barriers remain.

Objective
Describe and analyse the meaning of wheelchair rugby in lives of persons with spinal cord injury.

Methods
This qualitative study uses descriptive purpose of the research and through the interpretative phenomenological analysis document the characteristics of specific group of athletes - wheelchair rugby players. An in-depth semi-structured interview followed by intentionally selected focus group was conducted to gain an insight into the participant’s lived experience of sporting participation. Eight men between the ages of 20-40 years participated in one-on-one interviews and five men between the ages of 25-40 years participated in focus group to discuss their rugby experiences.

Results
Three superordinate themes emerged from the data which are unique for this kind of population: barriers and facilitators; Athletic identity; and Visibility of disability. The themes are connected with the physical activity involvement in general and participants recognize enhanced quality of life as a benefit of and motivator for physical activity.

Conclusions
Acquiring further information in disability sports environment allows services to be better understood to help to create adequate conditions and enable people with disability another live alternative in all the levels of sporting participation. The results make a contribution to the lack of present disability sports research and results also can be compared with previous research findings.

Acknowledgment
PA and lifestyle as determinants of health and quality of life persons with disabilities (IGA_FTK_2015_007).
Wellness in life
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Keywords: Self, wellness, education, health.

Background
The ultimate aim of health education is a positive behavioural modification, defined as the Self – Transformation, including adequate physical activities (Krejčí, 2013). Education to wellness stresses the positive orientation in the individual life, development in beliefs about the sense of human life. Analysing wellness definition (WHO, 2000) we come to result, that phenomenon wellness presents a full integration of states of physical, mental, social, spiritual and economic well-being. Human responsibility for the state of wellness is in relation of individual knowledge and skills leading to the reduction or elimination of excessive mental and physical stress in daily life on the knowledge of Self and a development of individual potentials.

Objective
The main objective of the study is to analyse public awareness about wellness in persons with disability comparing persons of intact population. The next objective is to find, if there are existing differences between males and females, and differences according the age period – young adults and middle age adults.

Methods
Founder and principal investigator of the international project Public awareness about the importance of wellness for human life is the College of PE and Sport PALESTRA, which is also guarantee for investigation in Czech Republic. This international research project is running parallel in Czech Republic, Slovak Republic, in Bulgaria, Greece and in Canada in 2013 - 2016. Randomization was provided as the stratified random sampling of 869 respondents in 2014. Distribution of the questionnaire and data analyse were provided in 2015. In 2016 is providing statistical analyse.

In the research study participated in sum 869 persons (422 males; 447 females).
ES1 – Intact persons (in sum 688; 333 males; 355 females) divided in 2 groups according age – Young adults (20-39 years old) and Middle aged adults (40-59 years old). See details in the Table 1.
ES2 – Czech persons with disability (in sum 181; 89 males; 92 females) divided in 2 groups according age – Young adults (20-39 years).

Methods used:
•Questionnaire "Well_Awar_In" (Krejčí, Vacková, 2013) – consists from 10 interrogation to monitor the state of public awareness on the impact of wellness for life;
•Data collection, data editing and Contingent tables’ creation.
•Statistical analysis - Correlation of tables of absolute rates; Pearson correlation, Spearman non-parametric correlation (STATISTICA 9 and MATLAB 7.8 - R2009).

Results
Data were analysed according five areas:

- Association of Wellness with Health optimizing;
- Wellness in workplace;
- Including wellness activities in daily life;
- Preferences of wellness procedures;
- Obstructions to implement wellness into daily life.

Results analyses show how respondents from experimental samples associate health and wellness. Here we can present only several facts. The most associated with wellness are the phenomena Relaxation. On the second place is placed the phenomena SPA. The most popular physical activities are outdoor activities. It seems very necessary to promote wellness in workplace in Czech Republic. It brings a question, if it is real until 2020 according the EU strategy of health promotion in workplace. 62% of women feel as the main obstruction lack of time. Women answered No obstructions to participate in wellness activities in young women 19.9%, in middle-aged women in 21.8% and women with disability even in 30.8%. However, the middle-aged men presented no obstructions in 21%, disability 25.5! It is to discussion if men have more leisure time, and how to motivate them to use the time for wellness.

Conclusions

Hypotheses H1, that between intact population and population with disability are no significant differences in using of wellness procedures, was not verified.

Hypotheses H2, that Young adults are more informed then middle aged adults about wellness, was verified.

Basic strategies to promote wellness and quality of life presents development of human responsibility for the state of wellness. Knowledge and skills leading to the reduction or elimination of excessive mental and physical stress in daily life bring to a man the knowledge of Self „,and a development of the potentials in sense of appropriate and real-life perspectives implementation. First we can conclude, that the goal of the Evaluation I was achieved. Actual knowledge about problematic of public awareness of wellness in the context of running international project Public awareness about the importance of wellness for human life was developed. Presented results bring new view on the problem, which is solved and published first time in Czech Republic.
Club „Kardia“ in Prague – example of good practice in APA

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Keywords: elderly, cardiac rehabilitation, group exercise, quality of life.

Abstract
In our contribution we would like to present activities of club „Kardia which was established in 1995 and since this time it organizes exercise program for elderly people with cardiovascular disorders. Nowadays, more than 450 participants (98 % women) attend regular exercise lessons. Twenty-five percent of them have followed the program already 15 years. 10 % of the participating subjects are older than 80 years. The exercise program consists mainly of remedial physical education lessons aimed at stretching, strengthening and relaxation. The emphasis is put on the quality of exercise from the health point of view and perception of the movement by the participants. The aim is to keep individuals in active lifestyle as long as possible. Every year, 4 educational camps with intensive exercise program are held. We would like to share our experience, discuss factors of exercise adherence and show benefits of the program from the participants’ point of view.
Sitting Volleyball Classification System: athletes’ perspective

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Keywords: classification, Paralympic sport, sitting volleyball.

Background
Sitting Volleyball is one of the team sports for men and women in Paralympic Games. Only people with impairment (e.g. amputations, poliomyelitis, Les Autres, cerebral palsy) or with minimal limitation of abilities can play this team sport at a Paralympic level. A medical classification system is used in sitting volleyball, which splits the players into two groups: people with impairment (D) and people with minimal impairment (MD). The sport regulations state that only one athlete from MD group in each team is allowed to play on the court during the game.

Objective
The aim of this study was to evaluate the classification system in sitting volleyball based on athletes’ opinion on different sport level.

Methods
Two hundred twenty two athletes were examined: 187 participants of Sitting Volleyball World Championships in 2014 in Elbląg and 35 players in Polish and Lithuanian sitting volleyball league. The authors’ survey was used to establish to define a position of elite and league sitting volleyball players in terms of current classification system in sitting volleyball. The Mann-Whitney U test was used to compare differences between elite and league athletes group. The Pearson’s Chi-square test was used to analyse the effects between elite and league athletes and the responses for each question of the questionnaire.

Results
There was a significant difference in responses, in question about procedure in the classification system in sitting volleyball, between a group of elite and league athletes (r=-2.926, p=.003). The classification procedure in sitting volleyball was assessed as positive by 74% of elite athletes (very good – 6.7%, good – 26.7%, medium – 40.6%) and by 94.1% league athletes (very good – 5.9%, good – 52.9%, medium – 35.3%), however 26.1 % of elite athletes assessed negatively this procedure (bad – 20.0%, very bad – 6.1%). Despite of this, elite athletes see a need to include functional procedures to the current classification system (a functional classification – 25.6%, a mixed classification – 43.8%). On the other hand, a need to promote beginners or juniors in the sitting volleyball classification system is seen more by league athletes (51.5% and 57.2%, respectively) than league athletes (34.2% and 43.3%, respectively). More league athletes then elite want to include able-bodied people to compete with impairment people (74.3% to 23.5%, respectively, r=39.111, p=.001).

Conclusions
Elite athletes in contrast to league athletes assessed positively the current classification system. However, many of players see a need to change the current classification system from medical to functional or mixed. Furthermore, league athletes in contrast to elite athletes; agree to include able-bodied people to compete on the court with disabled people in sitting volleyball.

Acknowledgment
This research has been financed by grant No DS-216 from the Polish Ministry of Higher Education and Science, as well as supported by World ParaVolley.
References values of 30-seconds Wingate test for male athletes with physical impairments

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Keywords: anaerobic performance, Wingate test, paralympic sport.

Background
Short time efforts with maximal intensities seem to be an important factor in many paralympic sports i.e. wheelchair basketball, wheelchair tennis, sitting volleyball or wheelchair tennis.

Objective
The purpose of this study was to evaluate an anaerobic performance level of athletes with physical impairments by 30-second Wingate test.

Methods
Three hundred eighty male athletes with physical impairments from 18 countries took part in this study. Athletes actively trained nine different sport disciplines. They were divided into three medical-functional groups and into three age categories. The 30-second Wingate test was conducted on a manual arm crank ergometer. All tests were performed in sitting position. Athletes performed crank as fast as possible for 30 second-period. Reference values of mean power, peak power, relative mean power and relative peak power for each male group and each age male categories in 30-second Wingate test of upper limbs were presented.

Results
The discrimination analyzes were confirmed appropriate for three medical-functional groups: high level paraplegia, wheelchair users (A), low level paraplegia and polio, wheelchair users (B) and lower limb amputations and other physical impairments with locomotor function (C). Different levels of anaerobic performance athletes with different physical impairments were presented. References values for 30-seconds Wingate test were showed.

Conclusions
Athletes from three medical-functional groups had different level of upper limb anaerobic performance. The mean power parameter has the most significant influence on differentiation of athletes with physical impairment.

Acknowledgment
The authors wish to express appreciation to the all athletes, who participate in that research.
SPORT INCLUSIVE MODEL: Alcobendas’s Rugby Club PROJECT

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Keywords: inclusive rugby- intellectual disability.

Background
Inclusive sports in Spain during the past five years have been a frequent topic. Without doubt the work done in the Center of Inclusive Sports (CEDI) and Sanitas Foundation has contributed in a notable way to this happy reality (Pérez, J. Alonso, J; Sampedro, J. 2011). However, inclusive is an adjective that has been employed for over 20 years in school. With this being said we are free to ask; what are inclusive sports? In a simple answer we can say that inclusive sports are those that permit jointly practice of a sport by people with and without disabilities. This definition still lacks to resolve some doubts. The introduction of this concept was in 1966 by the European Council in an effort to promote the permanent education and cultural development, by extending the benefits of sports to a greater number of people while avoiding discrimination, specifically towards people with disabilities. Moving from this point forward the Alcobendas Rugby Club taking into consideration both social and cultural aspects decides to create its Rugby school as one of inclusive sports, focused towards persons from 6 to 12 years of age with intellectual disabilities.

Objective
Respond to the participant’s diversity with intellectual disabilities and specific circumstances or conditions seen at the Alcobendas Rugby Club, managing and adjusting the training criteria and also the social inclusion of this people to assure a personal development as well as personal success.

Methods
The Strategic Plan is currently being implemented, 2015-2016, taking into consideration that after this period of time a revision should be made, by evaluating the success of the plan. This work includes different actions: a) Make the involved agents as well as all the members of the club aware of the importance of the inclusion into our sport, rugby, implementing the use of courses and seminars, among others. b) Bring to an update and develop the current regulations of the Club. c) Give special attention and support to the athletes with disabilities that are joining the club. d) To disseminate and broadcast the Project and the idea it promotes.

Results
Sensitization and formation courses and conferences have been held for all the staff of the club as well as for the athletes and their families. As for the athletes with disabilities, special staff has been hired; ones that have further expertise in the field. The first 5 athletes; one diagnosed with autism and four diagnosed with attention deficit disorder; have already been included into their respective age groups and their adherence and evolution has showed positive results. For the athlete diagnosed with autism, a special visual support (pictograms) has been developed so that he can adapt better to the group training.
Conclusions
The club succeeds in integrating the principles and values of inclusive sports into their rugby school. The athletes with intellectual disabilities have been able to integrate completely into their groups. Something that was noticeable was the indispensable help of the special staff in the inclusion of sports. To this day this is the only club that has been able to develop this inclusive sport program.
The impact of physical interventions on functional independence of tetraplegics: a systematic review

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Keywords: tetraplegia, spinal cord injury, physical interventions, tertiary rehabilitation.

Background
Tetraplegia indicates almost the highest level of spinal cord injury. People with tetraplegia are very often dependent on others and require much assistance. This can be one of the reasons why is hard to be regularly active. There are major differences in the quality of life between the active and inactive groups. We are missing recommendations about the optimum amount of physical activity which would influence the independence of tetraplegics.

Objective
The study aims to contribute to current knowledge about how regular activity can improve the quality of life of tetraplegics. One of the goals is to prove that regular physical activity can influence the independence of tetraplegics and discover which are the largest barriers for tetraplegics to perform physical activity.

Methods
Search foreign research studies from the years 2004-2014, which were searched in Medline, Sport Discus, Ebsco and Psychinfo.

Results
For the evaluation of functional independence of tetraplegics we are frequently encountered with the following two standard tests - The quadriplegia index and The five additional motor and locomotor items test (part of Functional independent measure test) focused on physical capabilities and independence in daily living activities. Regarding to physical activities we find important Canadian and Australian researches which gives recommendations about the optimum amount of physical activity.

Conclusions
The rehabilitation system for people after spinal cord injury in the Czech Republic is missing an early education about movement habits in the primary period and secondary period. Implementation of physical interventions to the everyday life of people with tetraplegia should improve the physical condition which is associated with improvement of functional independence.
Exercise-based playground for all

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Keywords: accessibility, playground

Abstract:
It is said, that play is children’s work. Children learn by playing and outdoor play is important for all children but especially for children and young people with special needs. Playing and physical activity develop children’s awareness of their bodies and surroundings. (1) Playgrounds offer a stimulating environment for outdoor activities, gaining experiences and developing physical, social, cognitive and emotional skills. Children with special needs feel often as outsiders in the playgrounds where the environment doesn’t meet the needs of these children. In favorable, safe and accessible outdoor play environments it is possible for all to be active, to interact socially with others and to develop reasoning abilities and language. (2) In southwestern Finland, Turku and Satakunta Universities of Applied Sciences are carrying out a cooperation project called Exercise-based playground for all. The project is funded by the Ministry of Education and Culture and Turku and Satakunta University of Applied Sciences. The aim of the project is to ensure that everybody has equal opportunities to use public playgrounds without facing physical or social barriers. The future playground is designed to serve people in all age. It is important that everyone can take the best advantage of the playground for example adults who visit the playground with the children.

One leading idea of the project is sensory processing and how to support it by playing. Another leading idea is to integrate game technology into the playground environment. Technology can be used to motivate and encourage users to be physically active and to find new ways to play and exercise. Furthermore, technology enables people with reduced physical capacities to experience exercising virtually. Playground users, students and experts together are playing the key role as they are involved in the planning. Also research from the children’s perspective is carried out with the human impact assessment method.

As a result, an electronic manual about existing good practices as well as accessibility regulations and recommendations and updated instructions on construction will be made. The guide will provide new innovative solution models and a new perspective on the possibilities of using game technology. It also explains how sensory information can be supported in the future playground activities. The manual is aimed to the professionals who design and build playgrounds. The professionals will get innovative ideas and guidance on how to create playgrounds that are accessible and usable for all.

References
Exercise-based playground for all

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Keywords: welfare technology, wheelchair, adapted physical activity

Abstract
It is said, that play is children’s work. Children learn by playing and outdoor play is important for all children but especially for children and young people with special needs. Playing and physical activity develop children’s awareness of their bodies and surroundings. (1) Playgrounds offer a stimulating environment for outdoor activities, gaining experiences and developing physical, social, cognitive and emotional skills. Children with special needs feel often as outsiders in the playgrounds where the environment doesn’t meet the needs of these children. In favorable, safe and accessible outdoor play environments it is possible for all to be active, to interact socially with others and to develop reasoning abilities and language. (2)

In southwestern Finland, Turku and Satakunta Universities of Applied Sciences are carrying out a cooperation project called Exercise-based playground for all. The project is funded by the Ministry of Education and Culture and Turku and Satakunta University of Applied Sciences. The aim of the project is to ensure that everybody has equal opportunities to use public playgrounds without facing physical or social barriers. The future playground is designed to serve people in all age. It is important that everyone can take the best advantage of the playground for example adults who visit the playground with the children.

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As a result, an electronic manual about existing good practices as well as accessibility regulations and recommendations and updated instructions on construction will be made. The guide will provide new innovative solution models and a new perspective on the possibilities of using game technology. It also explains how sensory information can be supported in the future playground activities. The manual is aimed to the professionals who design and build playgrounds. The professionals will get innovative ideas and guidance on how to create playgrounds that are accessible and usable for all.

References
Wilderness therapy in V4 countries
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Keywords: therapeutic intervention, wilderness therapy, training course, leadership

Abstract
Wilderness therapy (WT) is a therapeutic approach that uses journeys into the wilderness for a therapeutic intervention, predominantly for young clients with a social handicap. Our project, funded by the Visegrad fund, aimed to introduce the WT method in the area of V4 countries for its future establishment. All four countries in the region were included. Main aim was to train therapeutic employees of non-governmental organization in the method and design possible programmes for participants. The project consists of three phases: (1) International conference concentrating upon the topic of wilderness therapy; (2) training course in nature and (3) closing conference and a dissemination. The main part – the Wilderness therapy training course – took place in Bukovské Vrchy, Slovakia in July 2015. It was a 7 day wilderness journey with 26 participants from 4 different countries. The main agenda was an experiential training in the wilderness therapy methods of the employees of the organizations participating in the project under the guidance of an expert from the Wilderness Therapy Foundation (UK). As a result, several programmes that take into account the V4 climatic, geographical and socio-cultural contexts for youth were designed.

Background
Wilderness therapy is a subset of adventure-based therapy. It is the use of wilderness expeditions for the purpose of therapeutic intervention. The target groups are usually problematic youth, drug-addicts, young recidivist, people with disability, depressed patients and other groups at risk.

Objective
Aim of this paper is to present the result of the initiative wilderness therapy in the V4 countries.

Methods
Analysis of best practice of wilderness therapy approach in four countries - the Czech Republic, Slovakia, Poland, Hungary.

Results
Programs led in the countryside of central Europe can have an impact as wilderness therapy programs in the wilds of Canada, England and other countries. The analysis showed principles for staying, movement, preparation, physical and mental health in wilderness therapy stays in Central Europe.

Conclusions
Representatives of the Czech Republic, Slovakia, Poland and Hungary have found a possible way for cooperation and leadership programs available in nature in Central Europe.
Acknowledgment
Thank the whole team and project participants of the project Wilderness Therapy in V4 countries.
Does a series of Jahara sessions affect quality of life, depression and anxiety among women following breast cancer: A pilot study

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Keywords: Jahara, breast cancer.

Background
Breast cancer has an incidence rate of one in nine women and is a leading cause for death. In Israel, breast cancer constitutes a third of the cancer burden. Research shows that women who have cancer have a tendency to suffer from anxiety, depression and mental stress. Also, research has shown that relaxation therapies such as massage therapy raise the serotonin and dopamine levels and can improve mood. Aquatic therapy has been reported to improve physical functioning, reduce pain, and improve range of motion and stability among people with mental and physical disability. "Jahara" is a specific type or an aquatic treatment, which includes both passive and active components that has been developed with an emphasis on relaxation and body stabilization.

Objective
To examine whether 8 sessions of Jahara aquatic therapy over 4 weeks influence and improves quality of life, self-esteem and decreases anxiety and depression among women who recovered breast cancer.

Methods
Twenty-nine women, who suffered from breast cancer and were cured within a range of five years, participated in the study with twenty-one completed the process. The ages of the participants ranged between 30-55. Ten trained and experienced Jahara therapists practiced individually with 2 women each one, 2 sessions of 45 minutes, twice a week over 4 weeks. All sessions followed a specific protocol including active and passive Jahara techniques. Three questioners were used: (1) SF-36 measuring quality of life; (2) Beck Depression Inventory (BDI); (3) State Trait Anxiety Inventory (STAI). The questioners were handed out at four different time points: Pre - Two weeks before the water sessions began, First session, Last session and Post- two weeks after the water sessions ended. In addition, the women were asked to provide narrative feedback after all sessions were completed.

Results
No significant differences over the four time points were observed in the SF 36, although some trends were found between the second and third measurement and third and fourth measurement. No significant differences were observed in the STAI. However, the BDI showed a significant difference between the first (Pretest) or the second (Middle of the treatment period) time points, and the third time point (Post treatment). The narrative feedback reports presented subjective information, which pointed out important changes in different aspects of quality of life that were not reported in the other questioners. The subjective information received from the feedback questioners’ added
information on improvements perceived in quality of sleep, pain relief, breathing, body image, physical release, self-control release and physical flexibility.

Conclusions
It appears that Jahara therapy presents a short-term effect particularly in reducing depression and improving physical and mental functions in women with breast cancer history.
Student Teachers’ Experiences in Special Schools in China

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Keywords: student teachers' experiences of APE, internship, intellectual impairment

Background
Student teaching is a key part of teacher preparation in adapted physical education (APE), to facilitate the transition students experience on the way to becoming professional teachers. To date, little is known about student teachers' experiences of APE in special schools for students with intellectual impairment in China.

Objective
The purpose of this study was to examine the experiences of undergraduate physical education students during their student teaching internship in Special Schools for students with intellectual impairments in China.

Methods
A qualitative interpretative inquiry was conducted. Seven current or recently graduated undergraduate physical education students who completed a 4-month internship in special schools in China between 2010 and 2012 were participants. Multiple data sources included semi-structure interviews, student teachers’ teaching plans and weekly journals, and the researcher’s reflective notes. The data were analyzed thematically, guided by the conceptual framework Situated Learning Theory. This approach emphasizes learning as a process that takes place in a community of practice where shaping and constituting knowledge and knowing occurs, and where learners gradually transition from newcomer to master through increasingly active participation.

Results
The thematic analysis revealed two themes, both of which were supported by subthemes. “I can teach PE in special schools” reflects the transformation experienced by participants as they moved from peripheral participation to central teacher. It was supported by the subthemes “nothing is easy in special schools”, “you have to learn how to teach”, and “it could be better”. Participants experienced difficulties as newcomers in the special schools, owing to a lack of knowledge and experience, and perceived their learning how to teach students with II as starting from scratch. However, upon reflection participants believed they could do a better job now if given the opportunity to do it again. The second theme “different but meaningful” was supported by subthemes of “PE is different here” and “I’ve changed from this experience”. Student teachers experiences of physical education in special schools were different than what they had learned in their university courses or knew about physical education in general schools. Even so, they regarded this internship as a meaningful journey in their lives.

Conclusions
During the process of the internship, participants learned from the teaching practice and interactions with others in the situated context. Interactions with supervisor teachers, other student teachers, and students with II had important influences on student teachers’ learning and practice.
The Significance of the Disabled Sports (Game) and Taekwondo as a Martial Art (Physical Education)

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Keywords: People with Disabilities, Taekwondo, Physical Education, Sports, Martial Arts

Abstract
There can be a variety of disability Taekwondo training depending on the physical and mental disability level. But looking at in depth, there are various restrictive factors for people with disabilities. The first factor is kicking technique that is the most spectacular in Taekwondo unlike other sports and because it is also a major technique, a person with lower body disability is unable to participate in competitions. Next, (other than lower body disability) Taekwondo is not an easy game for disabled people. Because Taekwondo requires body coordination since the outcome is determined by the instantaneous judgment and attack speed as other general martial arts. Therefore, Taekwondo is difficult sport for disabled people who lack physical coordination. However, on the other hand, if you practice Taekwondo as the concept of martial arts, a different approach can be possible. Taekwondo may be a valuable physical educational perspective. This means that Taekwondo as a disabled Physical Education has a great intrinsic value and all people with disabilities can participate in the sport. This study discusses disabled Taekwondo in game, in aspect of sports, and "martial arts, in aspect of physical education for its activation and value. The following is about the potential value with disabilities Taekwondo. First, there are Disabled Taekwondo for the lower body disabilities to participate in accordance with the disability ratings in an aspect of game, it allows them to train various physical activities and coordination of sport, and also trains the agility as martial arts and to detect body movements of the opponent. Second, Taekwondo as a martial art allows a mental activity through the harmony of martial spirit and the body to cultivate a variety of humanistic education of physical education. Participation of people with disabilities in Taekwondo gives a variety of physical and mental training synergies with pride.
Physical Self concept in the context of movement therapy

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Keywords: Physical Self concept, physical activity, psychiatry

Background
Knowing oneself is only possible in complex physical, psychical and spiritual coexistence with the outside world. Part of the mental illness is: disorganization of mental functions, distorted perception, disruption to the loss of kinetic equations, change the stability of the body, incoordination body parts, loss borders 'I'

Objective
The aim of this presentation is investigate the physical self-esteem among people with psychiatric problems. to describe the Physical Self concept in the context of movement therapy.

Methods
From 2013 to 2015 we conducted cross-sectional study patients with psychiatric problems using the Physical Self-Perception Profile (Fox, K. R. & Corbin, C. B., 1989). The study group consisted of 160 adults (50% man 50% woman). The study included 40 schizophrenia patients (male=20, female=20), 40 patients with neurotic problems (male=20, female=20), 40 patients with dependence problems (male=20, female=20) and 40 adults without psychiatric problems in control group (male=20, female=20).

Results
It has been confirmed that the programmes initiated changes in perception of self, renewed awareness of their abilities and skills in dealing with problems in the personal sphere and less in social sphere.
For schizophrenic picture of the disease is typical limitations body perception. Data obtained from the questionnaire was at a very low level of self perception and was significantly lower in women than in men. Data obtained in patients with neurotic problems after six week treatment, drug and alcohol dependence after detoxification is not significantly different from the control group.

Conclusion
It is not only the conclusions from this work that show that physical activity programmes may be a safe and economically effective treatment for many patients, particularly for those whose range of problems is difficult to treat using other therapies.

Acknowledgement
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Inclusive Israeli folk dancing (IFD) for people with and without disabilities

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Keywords: folk dance, learning differences, adaptation

Abstract
Unlike most other forms of folk dancing, which were formed within their local communities over many years and generations, IFD is only about 60 years old, with new dances constantly being choreographed by different creators. Also, the style of IFD varies greatly and incorporates biblical-based, Yemenite, Romanian, Latin, and many other influences, both in terms of the content and form of the dances.

The workshop
One Israeli, well known, folk dance will be taught in a circle. After the group controls the dance well, half will resemble people with different disabilities using wheelchairs, blindfolds, and ropes tied around ankles and/or hands behind the back to resemble amputees.

The group’s purpose is to dance what was taught under new conditions while including everyone. The group will cope with the situation and develop adaptations as needed in order to keep all of the participants within the circle and not exclude anyone.

It is expected that workshop participants will develop empathy to the perspective of persons with disability as well as adaptation skills to non-familiar physical and social activities.
The BBB Model: An Integrative Approach for Sublimating and Modifying Behavior in Children with ADHD

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Keywords: ADHD, behavioral difficulties, adapted physical activity.

Background
Behavioral and emotional difficulties like disobedience and low motivation are central problems that parents and teachers face when educating children today. The behavioral difficulties children experience are attributable to a variety of sources; one reason is problems in attention and concentration. The variety of treatments, like psychological means and medication are sometimes insufficient to face the increase number of children with behavioral problem. Therapist and educators need new creative and simple tools. The therapeutic properties of participation in movement, physical activity and sport have been used for treatment, rehabilitation and cure since the dawn of history. Research studies offer various explanations for the contribution of physical activity to cognitive, behavioral and emotional changes.

Objective
This study investigated the perceptions of therapists and parents about the influence of the physical activity on behavioral and emotional changes.

Methods
The study employed the qualitative approach, and the research method is based on the collective case study including 22 cases.
As part of the study two groups of participants were interviewed: parents and therapists. The interviews were conducted in several private and municipal therapeutic centers and institutions around the country and were subjected to thematic inductive analysis.

Results
The BBB model presented here emerged from the data; the model combines three different approaches to the effect of physical activity on behavior.

Conclusions
The model can provide educators a variety of tools for implementation in physical activity to sublimate and nurture behavioral disorders.
A new systematic approach to psychophysical development of a person

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Keywords: Author's PPA system, conscious reflex recovery start of individual anatomical norm, program, adaptation to high psychoemotional and physical stress.

Abstract
The study of the physiological mechanisms associated with morphofunctional changes in the musculoskeletal, cardio-respiratory and central nervous systems of an organism of pupils under the influence of lessons on the author's System of psycho-physical adaptation based on the integrative principle of modern plastic technology education - an example of the solution of actual problems, aimed at the physiological justification of the innovative method, which includes effective and affordable methods of controlling the dynamics of the morphofunctional state of locomotor system in the course of conscious reflex recovery and start of achievement of individual anatomical and physiological norm (using the "Photo test") and the state of psychomotor functions (test Formula) in the process, and a broad range of program-methodological materials aimed at the optimal process of adaptation to high psychoemotional and physical stress.
Effective support of the high-level health of the human body with the help of the author's System PPA opens the way for free expression through dance and improvisation.
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The experience of a self-selected approach to physical activity among adults with an intellectual disability: A phenomenological study.

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Keywords: university courses, curriculum, coaches training, Special Olympics

Abstract
The UNESCO Chair’s focus is on “Transforming the lives of people with disabilities, their families and communities, through physical education, sport recreation and fitness” (UNESCO, 2013). International demographic trends highlight a growing aging population and improved management of acute illness resulting in an increased level of chronic illnesses worldwide (WHO, 2008). The trend is mirrored in the particular context of adults with an intellectual disability (ID) (Dixon-Ibarra et al., 2013). Greater physical activity for this population has been shown to improve cardiovascular health (Moss, 2009), decrease anxiety levels (Carmeli et al., 2009) and positively impact on psychosocial outcomes (Lante et al., 2011).

The focus of this study is on the psychosocial benefits that promote wellbeing, inclusivity, new opportunities and social acceptance through self-selection of activities. This approach is increasing in importance as more emphasis is placed on assisting people with ID to live independent lives within their communities (Dowling et al., 2012). This is reflected in New Directions (HSE, 2012-2016) a policy followed by Saint John of God (SJOG) a stakeholder in this research. Ethical approval has been obtained from SJOG following a stringent process of ethical review and access has been granted to their local service.

This research explores the meaningful participation and views of adults with ID regarding the self-selected activities they engage in. The overarching design is interpretative phenomenological analysis (IPA) which is concerned with “detailed examination of human lived experience” (Smith, Flowers and Larkin, 2009, p.32). Input from SJOG, staff and significant others will be captured using semi-structured interviews in order to illuminate the experiences of the core participants. The research aims to add to existing research and isolate best practice in self-selected programmes. Ultimately its purpose is to give voice to the ID population in areas that affect their lives. This is strongly supported by a comprehensive literature review, methodology chapter and interview guide. Data collection will commence early in 2016.
Partnerships with Universities in Special Olympics New Strategic Plan 2016-2010

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Keywords: university courses, curriculum, coaches training, Special Olympics

Abstract
The mission of Special Olympics is to provide year-round sports training and competition in a variety (33) of Olympic-type sports for children and adults with intellectual disability, giving them continuing opportunities to develop physical fitness, demonstrate courage, experience joy and participate in sharing of gifts and friendship with their families, other Special Olympics athletes, and the communities. Special Olympics Inc. recently developed new 2016-2020 Strategic Plan. Big part of this new Strategy is focused on better training for the athletes with Intellectual Disability trained by well-educated coaches. Therefore the Movement will focus more attention on expanding coaches training seminars. One the most valuable way of education new coaches is cooperation with sports universities and colleagues as well continued partnership signed in 2010 with IFAPA. This partnership started over 10 years ago brought large number of cooperation on the national level and international level. One of the new initiatives is offering 3 University Grants for Estonia, Hungary in Poland in 2016. But this kind of support will be continued in the future. Also SOI started cooperation with International Federation of University Sports (FISU) and discussed were our strategic focus on University relations regarding student engagement though Unified Sports, leadership, curriculum development, facility usage and research. Agreed to pull together a summary of our University engagement and arrange a follow-up meeting to see if there are any specific areas of alignment and collaboration that we could explore. FISU and Special Olympics are both members of a newly formed SportAccord Associate Member committee.
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Updated Special Olympics University Curriculum

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Keywords: inclusion, curriculum, training, Special Olympics

Abstract
As Special Olympics transitions into a new strategic plan, there is added emphasis on activating our athletes and partners throughout their lifetime, university and young adulthood included. As an organization we understand the tremendous opportunities a university relationship can provide to a Program. One way the organization will achieve this goal is to provide university training and curriculum for students throughout the world. This updated and newly redesigned curriculum will provide the tools and knowledge needed to provide the best opportunities possible for our athletes with intellectual disabilities. The new curriculum will be highlighted and an electronic copy will be provided to all the attendees.
All the Eyes Can See: Students with Severe Disabilities in Physical Education

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Keywords: Inclusion; students with severe disabilities, communication, physical education

Abstract
Current estimates are that 96% of students with disabilities participate in some form of inclusive education. Research also reveals the performance gains of students educated within inclusive settings. This research investigated the communicative behaviors between students with severe disabilities and their peers in elementary physical education. The research also examined the teacher practices that fostered communicative behaviors.

Abstract objective
To identify students’ understanding of non-verbal and verbal communication. To evaluate students’ communicative skills between both students with and without disabilities. To evaluate the communicative and instructional strategies used by the PE teacher in facilitating positive interactions between students.

Methods
Observational field notes on one 2nd and 4th grade inclusive physical education class were conducted that included children with severe disabilities. Focus group interviews were conducted on students without disabilities and semi-structured interviews were done on the physical education teacher, physical therapist, occupational and speech therapists, paraprofessional and classroom teachers. The physical education teacher also kept a journal. The data from three primary sources—field notes, journal and interviews were analyzed to address questions of interest. To identify common threads that extended throughout the data, an inductive thematic analysis was utilized.

Results
The analysis revealed three primary themes. The first, Collaboration – Needing to Know What I Don’t Know highlighted the need for collaborative practices for all stakeholders to gain the necessary expertise to “uncode” students’ communicative patterns. The creation of a communicative dictionary familiarized students with mutually reinforcing behaviors. The second theme, Community in the Classroom, involved the teachers’ emphasis on building community to insure that everyone belonged and had a contributing role in the class. Teachers’ modeled specific behaviors for students to appropriate the skills needed to effectively communicate. The third theme, All the Eyes Can See highlighted the communicative process and shared language of the students. The perceived agency of the children with significant disabilities emerged within the context of a physical education program due to the particular kinds of relations and social arrangements that were created between students.

Conclusion
The supports within the classroom made it possible for the students to access to the physical education program. Collaboration of key stakeholders and a desire on the part of the educators to
move their students’ learning experiences beyond a place to an educational environment was essential for creating communicative opportunities. In effect, a broadened application of inclusive practices was developed.
A Literature Review into the use of Sport, Physical Activity and Adapted Physical Activity as a Therapeutic Intervention in Occupational Therapy

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Keywords: occupational therapy, literature review, physical activity

Abstract
Sport is one of the most productive occupations that can be found. It requires physical exertion, the ability to master skills, the ability to apply skills and knowledge gained in order to perform tasks to succeed in the occupation.

Objective
The purpose of this paper is to review the research in the English speaking world, of the use of sport, physical activity and adapted physical activity as a therapeutic intervention in occupational therapy.

Methods
A literature review was conducted to see the use and benefits of sport, physical activity and adapted physical activity as a therapeutic tool and/or intervention by occupational therapists and other clinical professionals. The review looked at research completed over the last twenty years, trying to establish evidence of the use of sport, physical activity and adapted physical activity as a therapeutic intervention or tool. The information was gathered from articles found in the Canadian and British Journals of Occupational Therapy, the Therapeutic Recreation Journal among others.

Results
While the body of evidence was thin, of the eight studies reviewed, only three of these were conducted by occupational therapists. The results supported the benefits of sport, physical activity and adapted physical activity to people with disabilities, those in rehabilitation and to volunteers who participate in integrated therapeutic recreation settings. These include physical and psychosocial improvements. There is little practical and theoretical research published in this emerging area of occupational therapy. In summary, there is little directly in the literature in the use of sport, physical activity and adapted physical activity in occupational therapy practice. However, sport, physical activity and adapted physical activity has been used with specific groups as outlined above. From this evidence, it appears to be worthwhile to investigate why sport, physical activity and adapted physical activity is not used more frequently in the mainstream settings of occupational therapy.

Conclusion
In conclusion, there are significant benefits to regularly partaking in sport, physical activity and adapted physical activity to all. This is an emerging area in occupational therapy which should be further explored to improve the quality of life for all.

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Health Indicators of Participation in Physical Activities for Children with Disabilities

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Keywords: Children with disabilities, physical activity, functional assessment.

Abstract
The researchers develop and implement innovative interdisciplinary education approach addressing challenges of health related participation in education process for children with disabilities. While the advances in medicine enable more children with disabilities to participate in the inclusive learning environment, there is evidence that these children have deficiency in daily physical activities. It increases the risk to develop secondary health conditions including heart disease, respiratory problems and emotional disorders that result in deterioration of health status, functional capacity and quality of life. To implement meaningful and safe APA programs, the first step is to assess the present level of functional skills of children with disabilities.

Objective
This study aimed to present multicomponent assessment battery to assess physical and moment development skills of children with different functional impairments. The innovative interdisciplinary assessment model was used based on theoretical framework of the International Classification of Functioning, Disability and Health (ICF) containing 3 domains of human function: body functions and structures, activities, and participation.

Methods
The movement development and physical skill assessment was done for 34 children with physical and intellectual impairments (age 7-12 years). The TGMD-2 and 5 physical skill test were selected after review of the literature.

Results
The movement development and physical skill assessment was done for 34 children with physical and intellectual impairments (age 7-12 years). The TGMD-2 and 5 physical skill test were selected after review of the literature.

Conclusions
Data collection is still in progress. The study outcomes will provide significant contribution to knowledge on functional assessment of children with disabilities. Also, the project will increase competence level of human resources which will raise the potential for high added value product development leading to scientific evidence based knowledge.