Book of Abstracts

Adapted Physical Activity Over Life-Span

European Congress of Adapted Physical Activity

EUCAPA 2010

May 6 - 8, 2010 Jyväskylä, Finland

Welcome to European Congress of Adapted Physical Activity

Dear Congress Participants,

The aim of the European Congress of Adapted Physical Activity (EUCAPA) is to disseminate reliable, latest knowledge in the field of APA. The congress aims to encourage efficient and longstanding co-operation between various professionals and experts within Europe and worldwide.

This EUCAPA will be organized as a joint effort between University of Jyväskylä and Finnish Society of Sport Sciences. We all are extremely proud that the European Federation of Adapted Physical Activity have authorized us to organize the Congress in Finland and to serve as the patronage organization. Ministry of Education in Finland is the main sponsor of the event.

Organizing this Congress serves you and your colleagues and friends in this specific area of interest. I thank you for submitting your abstract, and sincerely believe that it will serve the purpose of our Congress.

We want to extend our warmest welcome to you. Enjoy the Finnish Spring time and Jyväskylä.

Pauli Rintala
Professor
Chairman of Scientific Committee

Main Organizers:
University of Jyväskylä
Finnish Society of Sport Sciences (FSSS)

Collaborators:
- European Federation of Adapted Physical Activity (EUFAPA)
- City of Jyväskylä
- Ministry of Education in Finland

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Congress Secretariat:
Finnish Society of Sport Sciences
Olympic Stadium
FI-00250 Helsinki, FINLAND

M.Sc Toni Piispanen
European Congress of APA
Finnish Society of Sport Sciences
phone: +358 10 778 6610
email: toni.piispanen@lts.fi
http://www.eucapa2010.org

SCIENTIFIC PROGRAMME

Wednesday May 5, 2010

11.00 – 17.00	Registration • Paviljonki

Thursday, May 6, 2010, Paviljonki

8.30 – 17.00	Registration • Paviljonki
10.15 - 12.30	**DEMONSTRATIONS, A-hall**
11.00-12.30	**THEMATIC SESSIONS** SESSION 1: Exercise physiology 1 (S) Room: Wivi SESSION 2: Active Participation (S) Room: Wilhelm **ORAL INNOVATIVE PRESENTATIONS** SESSION 14: APA Programs 1 (I) Room: Wolmar **MINISYMPOSIUM** Room: Alvar European Standards in Adapted Physical Activities
12.30 - 14.00	**Lunch Break**
14.00 - 15.00	**Keynote 1:** Room: Wilhelm **Disability Sport: from Sport for All to Elite Sport** President Sir Philip Craven, IPC **Commentary** President Petri Pohjonen, Finnish Paralympic Committee Chair: Pauli Rintala
15.30-17.00	**THEMATIC SESSIONS** SESSION 3: Media & Paralympics (S) Room: Wivi SESSION 4: Exercise Physiology 2 (S) Room: Alvar SESSION 5: Psychology (S) Room: Wolmar **ORAL INNOVATIVE PRESENTATIONS** SESSION 15: Intellectual Disability (I) Room: Anton
20.00 - 22.00	**Welcome Party - Opening of EUCAPA 2010** Restaurant Piato, Agora

Friday, May 7, 2010, Agora, University of Jyväskylä

9.00 - 10.00	**Keynote 2:** Room: Auditorium 1, Martti Ahtisaari **Integration and Inclusion** prof. Greg Reid, McGill University, Montreal Chair: Pauli Rintala
10.00 - 10.30	Coffee Break
10.30 - 11.30	**POSTER SESSIONS (1-4)** Room: Agora Lobby
11.30 - 12.30	Lunch Break
12.30-14.00	**THEMATIC SESSIONS Fri** SESSION 6: Inclusive Physical Education (S) Room: Auditorium 2 SESSION 7: New Perspectives of APA (S) Room: Auditorium 1 SESSION 8: Athletes & Disability (S) Room: Auditorium 3 **ORAL INNOVATIVE PRESENTATIONS** SESSION 16: Outdoor Activity (I) Room: Ag C132
14.00 - 14.30	**Coffee Break**
14.30 - 15.30	**DEMONSTRATIONS** Room: Agora Back Yard
15.30-16.30	**Keynote 3:** Room: Auditorium 1, Martti Ahtisaari **Adapted Physical Education** prof. Pilvikki Heikinaro-Johansson, University of Jyväskylä Chair: Claudine Sherrill
17.00-19.00	**EUFAPA MEETINGS** Auditorium 1, Martti Ahtisaari

Saturday, May 8, 2010, Agora, University of Jyväskylä

9.00-10.00	**Keynote 4** Room: Auditorium 1, Martti Ahtisaari **Physical Activity and Aging** prof. Harri Suominen, University of Jyväskylä Chair: Ulla Lahtinen
10.00 - 10.30	Coffee Break
10.30-12.00	**THEMATIC SESSIONS** SESSION 9: Aging (S) Room: Auditorium 2 SESSION 10: Motor Performance (S) Room: Auditorium 1 SESSION 11: Participation & APA (S) Room: Auditorium 3 **ORAL INNOVATIVE PRESENTATIONS** SESSION 17: Inclusion (I) Room: Ag C132
12.00 - 13.00	**Lunch Break**
13.00 - 14.30	**THEMATIC SESSIONS** SESSION 12: Motivation and Attitude (S) Room: Auditorium 2 SESSION 13: Health & Well-being (S) Room: Auditorium 1 **ORAL INNOVATIVE PRESENTATIONS** SESSION 18: APA Programs 2 (I) Room: Auditorium 3 SESSION 19: APA for All (I) Room: Ag C132
15.00 – 16.00	**Keynote 5:** Room: Auditorium 1, Martti Ahtisaari Theme: From Recreation to Elitesport Ms. Anne-Mette Bredahl, The Norwegian School of Sport Science Chair: Marit Sørensen
20.00 - 22.00	**Banquet** Restaurant Piato, Agora

Sunday, May 9, 2010

Departures

THEMATIC SESSIONS

SESSION 1: EXERCISE PHYSIOLOGY 1 (S) Room: Wivi, Chair: Heikki Kyröläinen

11.00- Ghanbarzadeh

Pulmonary function indexes in during exercise in adult age

11.20- Gomes A

Comparison of cardiovascular effects produced by performing exercises in and out of water in elderly hypertensive women

11.40- Houwen

Physical fitness scores of children with visual impairments vary with activity level

SESSION 2: ACTIVE PARTICIPATION (S) Room: Wilhelm, Chair: Tarja Javanainen-Levonen

11.00- Mendoza

Development of a study about playing Boccia with Wii Sports by persons with severe disabilities

11.20- Reina

Effects of an adapted sport programme in Spanish Physical Education on the attitudes towards disabled people.

11.40- Jesina

Value Orientation as a Precondition for the Participation of Romany Pupils in Physical Activities

12.00- Javanainen-Levonen

Adapted physical activity (APA) as a part of rehabilitation in Satakunta, Finland

SESSION 3: MEDIA & PARALYMPICS (S) Room: Wivi, Chair: Maria Dinold

15.30- Doulkeridou

Does a Paralympic School Day Change Intention and Attitudes of Physical Education Teachers towards Inclusion of Students with Disabilities in Physical Education

15.50- Evaggelinou

A survey of Chinese spectators attending the 13th Paralympic Games "Beijing 2008"

16.10- Dinold

Media Coverage of 2008 Peking Paralympics in Austria and Germany – A Comparative Study

SESSION 4: EXERCISE PHYSIOLOGY 2 (S) Room: Alvar, Chair: Laurie Malone

15.30- Molik

Upper limb anaerobic performance of athletes with locomotor disabilities

15.50- Poutiainen

A new speed measuring device for immediate technique feedback in wheelchair racing

16.10- Verellen

Peak cardiorespiratory responses and mechanical efficiency during arm powered and arm trunk powered hand biking

16.30- Malone

Isokinetic strength comparisons in wheelchair rugby players

SESSION 5: PSYCHOLOGY (S) Room: Wolmar, Chair: Jose-Pedro Ferreira

15.30- Walkley

Assessment of Physical Activity and Self-Perception in Intellectually Disabled Children: An explorative study

15.50- Bastos

The Test of Performance Strategies (TOPS): A preliminary study of its psychometric properties with Portuguese athletes with disabilities

16.10- Ng

Participation in Elite Sitting Volleyball and its affect on training frequency and athletes' emotional state

16.30- Schliermann

Psychological skills of elite athletes with a disability

SESSION 6: INCLUSIVE PHYSICAL EDUCATION (S) Room: Auditorium 2, Chair: Pilvikki Heikinaro-Johansson

12.30- Panagiotou

The effect of age and gender on students' attitudes toward the inclusion of children with a disability in general physical education classes

12.50- Axmann-Leibetseder

Perceptions of Students with and without Disabilities in an Inclusive Physical Education Class in Austria

13.10- Cazzoli

Teacher's opinions toward inclusion of students with disabilities: analysis about different disabilities categories

13.30- Ozer

Secondary school physical education teachers' attitudes toward children with intellectual disability

SESSION 7: NEW PERSPECTIVES OF APA (S) Room: Auditorium 1, Chair: P. David Howe

12.30- Falkenbach

Social and enviromental problems in the accessibility of students with deficiencies in pe classes

12.50- Evaggelinou

Burn Out and Depression of Professionals in Special Education Settings in Greece – Examination of Gender Differences

13.10- Saari

Theoretical perspectives on integration and inclusion in sport policies

13.30- Howe

The [In]Validity of the Representation of Supercrip: exploring Portuguese Cases

SESSION 8: ATHLETES & DISABILITY (S) Room: Auditorium 3, Chair: Joeri Verellen

12.30- Kemper

Counselling of Handicapped Athletes in Olympic Centers and other Institutions in Germany

12.50- Pérez

Precompetitive anxiety in wheelchair basketball: relationship with free throw preroutines and effectiveness

13.10- Mustafins

Injury incidence and prevalence in sitting and standing volleyball for athletes with a disability - a long term prospective study

13.30- Delussu
Biomechanical analysis of a 20 meter sprint test in junior wheelchair basketball players

SESSION 9: AGING (S) Room: Auditorium 2, Chair: Kari Koivumäki
10.30- Säpyskä-Nordberg
New ways of organizing physical exercise for older adults
10.50- Chang
Functional fitness and bone mineral density assessment among elderly women (60+) participating in aquatic fitness
11.10- Hinrichs
Multidimensional home-based exercise for chronically ill elderly with structured support given by the general practitioner's surgery
11.30- Kaupuzs
Physical activity and health related quality of life in community dwelling older adults

SESSION 10: MOTOR PERFORMANCE (S) Room: Auditorium 1, Chair: Martin Kudlacek
10.30- Hartman
Relationship between motor skills and executive functioning in children with Pervasive Developmental Disorder-Not Otherwise Specified
10.50- Bukhala
Effects of a two week peer tutor guided sports camp on the social and motor skill activity level of learners with and without intellectual disabilities
11.10- Pallicca
Downhill walking to improve lower limb strength
11.30- Janecka
Motor competence of 6-15 year old children with visually impaired children

SESSION 11: PARTICIPATION & APA (S) Room: Auditorium 3, Chair: Claudine Sherrill
10.30- Svendby
The importance of "giving voice" to young people with disabilities in creating an inclusive environment in PE
10.50- Van Biesen
Tactical proficiency of elite table tennis players with an intellectual disability
11.10- Niemelä
Adapted physical education methods in the School for the Visually Impaired in Jyväskylä, Finland
11.30- Bukhala
Higher education status for persons with disabilities: socio-economic challenges in Egerton & Kenyatta Universities, Kenya

SESSION 12: MOTIVATION AND ATTITUDE (S) Room: Auditorium 2, Chair: Marit Sørensen
13.00- Karvonen
Reasons for Exercise and Leisure Time Physical Activity among Adolescents with Long-Term Illnesses and Disabilities
13.20- Hernández Vázquez
The attitudes of physical education teachers towards the students with SEN in secondary schools in Barcelona

13.40- Hutzler
Effects of participation in separated and reverse-integrated sport activity on psycho-social function in young people with disability
14.00- Sørensen
Paralympic equestrians: Motivational characteristics and how they got started

SESSION 13: HEALTH & WELL-BEING (S) Room: Auditorium 1, Chair: Jane Taylor
13.00- van Wijck
Health gain in overweight people with intellectual disabilities after a 12-week lifestyle intervention
13.20- Borremans
Effectiveness of an exercise training program on youth with Asperger syndrome
13.40- Crespo Ruiz
Physical activity and its influence on transcutaneous O2 pressure in a population with spinal cord injury
14.00- Taylor
The Benefits of a Taiji Quan Intervention for People Experiencing Side Effects of Cancer Treatment

ORAL INNOVATIVE PRESENTATIONS

SESSION 14: APA PROGRAMS 1 (I) Room: Wolmar, Chair: Ondra Jesina
11.00- Van Coppenolle
THENAPA II Dissemination results give a boost in Europe for more physical activity for elderly persons with and without disabilities
11.20- Toivonen
Swimming for those with special needs in Finland
11.50- Valkova
Adapted Physical Activity MA graduates in job market in the Czech Republic
12.10- Mäkilä
Physical activity and mental well-being in the 16-year follow-up study among the elderly

SESSION 15: INTELLECTUAL DISABILITY (I) Room: Anton, Chair: Hana Valkova
15.30- Damentko
Special Olympics Youth Unified Sports: inclusive sports for young people with and without intellectual disability
15.50- Kainulainen
Integrated groups and the method of social pedagogic activity with horse and horseback riding
16.10- Roswal
New Global Initiatives and Research Opportunities from Special Olympics
16.30- Niort
Dance and intellectual disability: an other dance

SESSION 16: OUTDOOR ACTIVITY (I) Room: Ag C 132, Chair: Erwin Borremans
12.30- Karinharju
Activities for All – a practical example to provide accessibility through adapted windsurfing

12.50- **Borremans**
Adventure camp for youth with special needs in Lapland
13.10- **Gegenwarth**
The `Adapted Skibob' – Wintersport for people with specials needs & disabilities of the musculoskeletal system
13.30- **Gegenwarth**
Outdoor Education & Adapted Physical Activities for People with learning difficulties in Adapted Vocational Training & Supported Employment

SESSION 17: INCLUSION (I) Room: Ag C 132, Chair: Aija Saari
10.30- **Valet**
Towards a new inclusive model of sport: the example of BASKIN
10.50- **Mansell**
Paralympics and inclusion on whose terms working towards a more equitable society
11.10- **Ng**
EIPET: Filling the void of practicum activities with 'Bolt-Ons'
11.30- **Perez**
Perspectives for Inclusion in Physical Activity and Sports in Europe: the case of the Center for Inclusive Sport Studies in Spain as stating point for debate

SESSION 18: APA PROGRAMS 2 (I) Room: Auditorium 3, Chair: Herman Van Coppenolle
13.00- **Ala-Vähälä**
Municipal services of adapted physical activities in Finland – as they are presented in the evaluations of 2000, 2005 and 2009
13.20- **Valet**
Proposal for building a shared framework aimed to classify the different inclusion methodologies in APA
13.40- **Hölsömäki**
Development project: Strengthening local collaboration of volunteers and officials in Finland
14.00- **Herink**
Readiness of sport facilities and support systems in region Zlin for inclusion of students with disabilities in general physical education and sport activities

SESSION 19: APA FOR ALL (I) Room: Ag C 132, Chair: Gerd Hölter
13.00- **Hanelová**
Possibilities of innovations and improvements in education in APA via international cooperation (with special focus on possibilities of eu educational programmes
13.20- **Hammar**
Participation possible for all people
13.40- **Juntunen**
Students Experiences from Adapted Physical Education Course in Butimba Teachers College (Tanzania)
14.10- **Hölter**
APA with abused boys

POSTER SCIENTIFIC PRESENTATIONS (46):

SESSION 1. 10.30-11.30. Friday, May 7, 2010, Agora Lobby, University of Jyväskylä
Chair: Henna Haapala

1 **Ghanbarzadeh, M.** Spirometeric tests on obese and non-obese in adult men
2 **Ristolainen, L.** Type of sport injuries among top-level Finnish male and female cross-country skiers, swimmers, long-distance runners and soccer players
3 **Pallicca, P.** High-intensity training as a tool to change the body composition
4 **Taylor, J.** The effects of the Wii Fit balance games on static and dynamic balance of 9-11 year old boys with Developmental Coordination Disorder
5 **Bashiri, J.** Effect of concurrent resistance training and Creatine monohydrate Ingestion on hepatic enzymes changes in non-athlete males
6 **Solis Mozos, M.** Laboratory Configuration for the Kinetics, Kinematics, and Physiological Studies of the Spinal Cord Injury in Gait Analysis
7 **Kolayis, H.** The investigation of the wheelchair basketball players' pre-competition anxiety and self esteem point in turkey premier basketball league
8 **Rossignoli, I.** Pilot Evaluation of Methods for Measuring Sports-Specific Coordination
9 **Lehto, H.** Match analysis of elite level goalball in men and women
11 **Ojanen, T.** The effects of body cooling using ice vests in wheelchair rugby players during a simulated game
12 **Häyrinen, M.** Match analysis of women's sitting volleyball at international level
13 **Müürsepp,I.** Motor performance characteristics in 5-year-old preschool children with developmental speech and language disorders
14 **Kolayis, H.** The Comparison of Some Psychological Parameters According To Education And Sexual States Of Judo Athletes
15 **Haapala, E.** Factors influencing health of people with visual impairments in rehabilitation
16 **Rosa, R.** The evaluation and comparison of levels of motor fitness in students with and without disabilities

SESSION 2. 10.30-11.30. Friday, May 7, 2010, Agora Lobby, University of Jyväskylä
Chair: Natalia Morgulec-Adamowicz

17 **Bashiri, J.** The Effect of Balance-Resistance, Balance-Velocity and Balance training on Dynamic balance in active elderly males
18 **Delattre-Toulotte, C.** The effects of Wii Fit® training on balance of independent senior subjects
19 **Liubicich, M.** Relationships among physical activity and self-perception in Italian independent young older people
20 **Liubicich, M.** The effects of an aerobic training on the psychological and physical self-reported condition of older men and women in a residential care facility
21 **Cazzoli, S.** Gait Speed in Older Female after Physical Activity Training.
22 **Rosa, R.** Effects of Physical Activity on Chair Stand Test
23 **Morgulec-Adamowicz,** NPhysical activity of the elderly at the Universities of the Third Age in Poland
24 **Prinz Falkenbach, A.** PE teachers and school inclusion: practices and pedagogical perspectives

25 **Leou, L.** The Successfully Teaching Strategies for Pupils with Disabilities in General Physical Education
26 **Adomaitiene, R.** Lithuanian (national) social system of active ageing policy
27 **Hernández Vázquez, J.** Factors affecting the inclusion of students in Physical Education class: a literature review
28 **Campos, M.** Attitudes of 14 to 16 years old students without disabilities towards inclusion in physical education
29 **Reklaitiene, D.** The effect of sport on quality of life of persons with visual disabilities
30 **Van de Putte, A.** A systematic review of peer tutoring in inclusive physical education
31 **Amorim, M.** Structuring and Adjusting an Attention Test for Visually Impaired Persons: a Study Based on Bams's Attention Test

SESSION 3. 10.30-11.30. Friday, May 7, 2010, Agora Lobby, University of Jyväskylä
Chair: Lucie Rybova

32 **Vyhlídal, T.** Value orientation of children with oncological diseases in relation to quality of life and physical activities
33 **Terreros, A.** Sport, intellectual disability and adults: today's situation in occupational therapy in catalonia
34 **Sit, C.** Physical Activity of Children in Special School Environment
35 **Pozeriene, J.** Modeling of an Observation Checklist of the Expression of Internal Problems in Motor Behavior
37 **Reuter, C.** Health education for children with mental disabilities
38 **Fabre, C.** Effects of physical activity on depression and anxiety in patients with Parkinson's disease or cerebrovascular disease with an age superior to 70 years
39 **Teipel, D.** Cooperation with visually disabled athletes from the perspective of 'guides' in specific winter sports
40 **Vitali, F.** Factors affecting the inclusion of students in Physical Education class: a literature review
41 **Reklaitiene, D.** The influence of adapted aerobics program on psychosocial behaviour and communication skills of intellectually disabled girls
42 **Pozeriene, J.** The influence of social environment on participation motivation in adapted physical activity (APA)
43 **Tasso, E.** APA program for a person forced to bed and with severe disabilities: improvement of coordination and resistance
44 **Medijainen, K.** Physical activity of patients with Parkinson`s disease
45 **Falkenbach, A.** Inclusion in the physical education of the school: what say the teachers and the pupils with visual deficiency
46 **Tomoyasu, Y.** Needs of Physical Activity for Adult with Intellectual Disability Living in the Community
47 **Sit, C.** Validity of MTI (Actigraph) for Physical Activity Measurement in Children with Cerebral Palsy
53 **Rybova, L.** Inclusion of Students with Physical Disabilities in Physical Education in the Czech Republic

POSTER INNOVATIVE PRESENTATIONS (10):

SESSION 4. 10.30-11.30. Friday, May 7, 2010, Agora Lobby, University of Jyväskylä
Chair: Jyrki Vilhu

48 **Setälä, A.** Adapted games –training for professionals working with adults with intellectual disabilities
50 **Spurná, M.** Physical Activities of students with Physical Disabilities
51 **Kukolová, P.** Medical terminology in Anatomy and Physiology for university students of physical education with hearing impairments and their translators
52 **Valkova, H.** PE lessons assessment with the instrument Didactic Inclusive Categories – Critical Incident Techniques: methodology study
54 **Vyskočilová, A.** Centres for integration support
55 **Koljonen, M.** Adaptive Physical Activity Sports Clubs as Learning Environments for Physiotherapy students
56 **Vasiliadis, A.** An easy way to convert a bicycle to a hand-cycle for people with or without paraplegia
57 **Tasso, E.** APA Home-Care Service for Elders with Disabilities: A Longitudinal Analysis.
58 **Huovinen, P.** Model of networking in organizing health enhancing and Adapted Physical Activity in the city of Jyväskylä
59 **Vilhu, J.** EUDAPA - European University Diploma of Adapted Physical Activity

KEYNOTE SPEAKERS ABSTRACTS

FROM RECREATION TO ELITE SPORT
PHYSICAL ACTIVITY, A MATTER OF HEALTH, LIFE SKILLS AND INVOLVEMENT?

Anne-Mette Bredahl
The Norwegian School of Sport Sciences

How can physical activity play a role for people with disabilities, not only with regard to health, but also with regard to mastering skills useful in everyday life?

Based on a qualitative study with 20 adults with visual and physical impairments, some of the benefits and challenges people faces with regard to life-long involvement in physical activity is presented and discussed. What are people's reasons for participating and what do they find that physical activity has to offer?
In this study few of the participants mention health as one of the main reasons for being active; instead they stress the skills they develop useful in their everyday life, the joy and the experiences of surpassing limitations through participation in their chosen sports or activities.

In combination with my research, I will draw on my experienced based on becoming an athlete, ranging from being a clumsy kid, a reluctant sighted participant to becoming an elite athlete with a visual impairment.
What are some of the challenges and benefits experienced with regard to getting involved and staying involved in physical activity?

PREPARING TEACHERS FOR INCLUSIVE PHYSICAL EDUCATION LESSONS

Pilvikki Heikinaro-Johansson
University of Jyväskylä

Demands arising from changes in society mean that the role of the teacher is constantly evolving. This poses a great challenge for teacher education, requiring it to continuously adapt. Professional development for teachers is now recognized as a vital component of policies to enhance the quality of teaching and learning in schools (O'Sullivan, 2007). As schools have become more autonomous and open learning environments, teachers have begun to have more and more responsibility for the content, organization and monitoring of the learning process, as well as for their own personal career-long or continuing professional development (CPD) (Eurydice, 2008). Continuing professional development, also called life-long learning, is an important focus of Finnish teacher education. This process sees teachers receive a solid foundation of teaching skills and knowledge during their initial teacher education and these skills and knowledge are then developed further and broadened after teachers qualify and gain teaching experience.

Finnish teacher education differs from that in many other countries because all teachers are required to complete a five-year master's degree at a university. One of the core elements in the curriculum, which is filtered to all teaching, learning and interaction, is the concept of the developing pre-service and in-service teachers' professional expertise, utilizing an approach that emphasizes pedagogical thinking, reflective teaching, scientific research and professional pedagogical practices (National Strategies, 1999; 2002; 2004). As student groups become more and more heterogeneous, it is highly important that teachers posses the knowledge and skills to effectively teach all learners, including learners with special needs.

Special education pedagogy needs to be addressed in teacher education. (Atjonen et. al., 2008; Jakku-Sihvonen, 2007; Välijärvi, 2007; Kasvatus- ja opetusalan täydennyskoulutuksen strategia, 2005). Teachers should be exposed to different pedagogical models, a variety of teaching strategies and learn to appreciate the importance of collaborative teamwork with different personnel working in the school ecosystem.
Initial teacher education should include practical experiences, encompassing opportunities to examine and foster positive beliefs and learn desirable lessons on how to address diverse needs in physical education lessons. The ability to engage each student in the physical education lesson and develop a teacher–student relationship that promotes learning at each student's level of engagement is essential for effective teaching, overall, and for effective inclusive practices. During in-service education it is highly important to dedicate enough time for teachers to engage in meaningful discourse about their own practical knowledge, and make sense of their practice in relation to the larger context of the school and community.

Collaboration and shared decision-making are the keys for successful inclusion (Armour & Yelling, 2007; Jenlink & Kinnucan-Welsch, 1999). Inclusion is an educational philosophy that involves everyone in the school community - students, teachers, administrators, parents and society. It is a school-wide effort that encourages teachers to provide high outcomes for all students and to ensure flexible groupings in the development of appropriate curricula. (Kelly, 1994; Sherrill, 1993; Villa & Thousand, 2000). Inclusion and the philosophy of equity means offering quality physical education and it is a great challenge for all those teachers teaching physical education. While many studies have generated findings on teachers' attitudes and

beliefs associated with inclusion (Hodge et al., 2004; Meegan & MacPhail, 2006; Morely et al., 2005; Oh et al., 2009; Slininger et al., 2000), teacher concerns about integrating children with disabilities (Lienert et al., 2001; Vickerman & Coates, 2009); teacher effectiveness when teaching students with disabilities (Heikinaro-Johansson et al., 1995; Huovinen & Heikinaro-Johansson, 2007; Klavina & Block, 2008; LaMaster et al., 1998; Obrusnikova et al., 2003 Vogler et al., 2000); PE experiences of students with special needs (Blinde & McCallister, 1998; Butler & Hodge, 2004; Fitzgerald, 2005; Goodwin & Watkinson, 2000; Goodwin, 2001: Hutzler et al., 2002; Huzler & Levi, 2008; Place & Hodge, 2001) and consultation (Heikinaro-Johansson et al., 1995; Huovinen, 2000; Lytle & Collier, 2002), there is a lack of research in the area of promoting inclusive practice in pre-service and in-service teacher education.

This presentation will describe professional development initiatives in both pre-service and in-service physical education teacher education and summarize key findings from research on some of these initiatives. Secondly, it will present an empowerment model to assist teachers to include children and adolescents with special needs in physical education and offer quality physical education to all students. The specific intent of this model is to identify specific phases and explain tasks that should be performed to enrich teachers' CPD through in-service education. This model is based on experiences of a nationwide in-service teacher education program, carried out in Finland, called "Physical Education for All". A total of 261 participants took part in the program which lasted, on average, one school semester and consisted of three two-day workshops with modules on specific topics. The most important part of the in-service initiative focused on the planning of individual projects to be implemented in each teacher's own school environment. Thirdly, this presentation will demonstrate what pre-service and in-service teachers learn from professional development experiences in inclusive PE courses and how they learn.

INCLUSION: LOOKING IN THE REARVIEW MIRROR…. AND AHEAD TO EVIDENCE-BASED PRACTICE

Greg Reid
Department of Kinesiology and Physical Education
McGill University, Montreal, QC Canada

Inclusion, or its earlier conceptualizations, has affected APA practice for over 50 years. The assumption made in this presentation is that empirical research should play a significant role in evaluating the effectiveness of APA inclusion practices. There will be five parts to this talk. First, a review of historical incidents and papers will be highlighted to remind us how far we have come regarding inclusion and adapted physical activity and sport. Earlier, inclusion was driven more by ideology than empirical findings. Today our research questions should be influenced by our philosophies and conceptual models of inclusion, but also by the research inspired knowledge base. Second, I will share the findings from an empirical literature search of inclusion and physical activity that builds on two recent reviews, a comprehensive one by Block and Obsrusnikova (2007) and one restricted to student voices by Goodwin (2009). This will lead to the third section; a quality analysis of seven research projects on peer tutor support and inclusion. Arguably, establishing quality indicators and evaluating research on those indicators is the first step to evidence-based practice (Cook, Tankersley, & Landrum, 2009). But can we agree on which specific indicators to include? Fourth, following Bouffard and Reid's (2010) analysis of critical issues in evidence-based practice, a research model will be sketched for those APA professionals eager to establish evidence-based practices. What is the quantity of evidence necessary and what types of research are acceptable? What is the role of qualitative research that is common today, as revealed by the literature search? The fifth part will be designated as discussion for those who wish to add, clarify, challenge, or discount some of what has been presented.

PHYSICAL ACTIVITY AND AGEING

Harri Suominen
Department of Health Sciences
University of Jyväskylä, Finland

Ageing is characterised by a structural and functional deterioration in most physiological systems, which can cumulatively compromise the physical performance required for activities of daily living and the potential for independent life in older adults. The decrease in performance can be attributed to both primary aging processes and to life-style factors such as declines in the amount and intensity of physical activity. However, the changes in physical activity among the ageing population are not unequivocal. While the older populations are generally less active than young adults, the cohort studies in countries such as Finland have shown that the frequency and intensity of physical activity have increased in older adults during the last 20 years.

There is a growing body of scientific evidence regarding the benefits of regular exercise and physical activity in counteracting the detrimental effects of sedentary life-style on health and functioning in both healthy older adults and in elderly people with chronic diseases and disabilities. Regular physical activity is also associated with improvements in overall psychological well-being. Although some of the adaptive responses of the neuromuscular, skeletal, cardiovascular, and metabolic functions to the type, intensity, and duration of exercise and training are age-, sex-, or disease-dependent, the benefits from regular physical activity continue to occur throughout the life. Performance, fitness, and metabolic benefits are associated with higher-intensity exercise training programmes in healthy older adults. However, such programmes are not necessary in reducing the risks of developing chronic cardiovascular and metabolic disease, although the treatment of some established diseases and geriatric syndromes, such as osteopenia, sarcopenia, type 2 diabetes, and clinical depression, may be more effective with higher-intensity exercise.

According to recent guidelines and recommendations (1,2,3), ideal exercise prescription for older adults should include aerobic exercise, muscle strengthening exercises, and flexibility exercises. In addition, individuals who are at risk for falling or mobility impairment should also perform specific exercises to improve balance in addition to the other components of health-related physical fitness.

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MINISYMPOSIUM (proposed time framework 4 speakers by 15 minutes)

EUROPEAN STANDARDS IN ADAPTED PHYSICAL ACTIVITIES

KUDLACEK Martin (Palacky University in Olomouc, Czech Republic
KLAVINA Aija (Latvian Academy of Sport Education, Latvia)
MORGULEC Natalia (The Jozef Pilsudski University of PE in Warsaw, Poland)
VERELLEN Joeri (Catholic University Leuven, Belgium)
VANLANDEWIJCK Yves (Catholic University Leuven, Belgium)

The two year project EUSAPA has started in October 2008 and has been funded with support from the European Commission. Coordinating institution is the Palacky University in Olomouc in the Czech Republic and whole project consists from 10 other partner institutions (University of Jyväskylä, Finland; Swedish Development Centre for Disability Sports, Sweden; Catholic University Leuven, Belgium; Joseph Fourier University, France; University of Coimbra, Portugal; The Jozef Pilsudski University of Physical Education in Warsaw, Poland; Latvian Academy of Sport Education, Latvia; Institute of Technology Tralee/CARA Adapted Physical Activity Centre; Loughborough University, Peter Harrison Centre for Disability Sport, Great Britain; and European Federation of Adapted Physical Activities; with Associate partner Satakunta University of Applied Sciences, Pori, Finland). The main aims of the EUSAPA project are to describe professional competencies in each of the three areas of Adapted Physical Activities (1 – adapted physical education, 2 – adapted sports and recreation, 3 – adapted physical activities in rehabilitation), to identify the need for each APA area in all partner countries, to define academic standards (subject specific competencies and learning outcomes) in the three areas of APA and to develop international academic framework to guarantee the quality of professional preparations in the fields of APA at European level. Outcomes of the project are: (a) Structured description of APA service delivery in partner countries (strengths and weaknesses, conditions) in all three areas of APA and Functional map of APA professional in three areas (Adapted Physical Education, Sport and Recreation, Rehabilitation); (b) Thoroughly designed and jointly accepted framework of STANDARDS (subject specific competencies and learning outcomes) in three areas of APA; and (c) A model curriculum structure for each area of APA 4) Examples of case studies of good practice and innovations according to all free areas of APA competencies. The purpose of this mini symposium is to present preliminary outcomes of the project specifically Occupational Functional Maps and Knowledge Competence and Skills Frameworks related to the concept of European Qualification Framework in three areas of adapted physical activity.

ABSTRACTS

LITHUANIAN (NATIONAL) SOCIAL SYSTEM OF ACTIVE AGEING POLICY

Rūta Adomaitienė, Jūratė Požėrienė, Diana Rėklaitienė
Lithuanian Academy of Physical Education

INTRODUCTION Ageing population is one of humanity's greatest triumphs that in the same time raise a lot of complex economic and social problems in all countries in the 21 century because of necessity of warranting equal rights, increasing physical and functional health, social participation, independency and well being for elderly people. World Health Organization (WHO) suggests the actualization of active aging policy approach and encourages research for solving the problems. The social problem in Lithuania, the considerable increasing amount of elderly willing to be institutionalized and resigning their autonomy and independent living, raise important sociological problems, whether the active ageing policy (AAP) system is functioning in Lithuania. The main goals of the present study are: l) to evaluate the conformity of the cultural model of national AAP social system with the ideological WHO recommendations in the field; 2) to analyze the institutional and professional activity models of institutions and professionals participating in the system and settle heir concordance with the cultural context of AAP; 3) to set the level of real integration of social players (elderly people, various professionals, volunteers) as well as the possibilities to integrate and act in the AAP social system according to the appointed models of their activities as well as their choice in participation in the system.

METHODS Structural analysis; the qualitative (content) analysis of Lithuanian laws, national programs, formal normative documents and university study programs, and the analysis of the official Lithuanian statistical data. The questionnaire method was used for investigation of social care services provided by municipalities and social care institutions in order to determine the level of real institutional integration of social players.

RESULTS The home living and institutionalized services received 0,93 % and 0,73 % of all elderly population accordingly. The main preference for institutionalization of the elderly in social care institutions, apart the disability, is the personal request. The measuring of the level of dependence of ageing residents is unspecified. The services of professionals are deficient in the area of active ageing.

CONCLUSION The culture of Lithuanian AAP fully conforms to the basic cultural criteria of ideological model proposed by WHO in the field. Only one governmental institution (Ministry of social affairs and labor) is integrated in AAP social system and the activity model of the institution is in line with the context of AAP cultural ideas. The institutional activity models of the other ones do not foresee the integration. According to the professional activity model's context the geriatric professionals, social workers and psychologists are able to be integrated in the system. The professional activity models of the other ones do not fit to the cultural context of AAP and the integration of them in the system could be treated as incidental.

MUNICIPAL SERVICES OF ADAPTED PHYSICAL ACTIVITIES IN FINLAND – AS THEY ARE PRESENTED IN THE EVALUATIONS OF 2000, 2005 AND 2009

Timo Ala-Vähälä
Finnish Institute for Educational Research, University of Jyväskylä timo.ala-vahala@jyu.fi

INTRODUCTION The presentation discusses the municipal services of adapted physical activities in Finland and their evaluations. The main topic is the coverage of these services; the problems and challenges that the personnel that work in this field meet in their daily activities, the main uses of the information that has been collected within the evaluations, and the methodological challenges of the evaluations.
METHODS Implementation of evaluations: The evaluations of 2000, 2005 and 2009 consist of surveys sent to the municipalities. The evaluation of 2000 consisted of two surveys: smaller that was sent to all municipalities and more detailed that was sent to municipalities having a sport instructor for adapted physical activities. The other surveys have been sent to the municipal instructors of adapted physical activities.

RESULTS The municipal services of adapted physical activities started in1983 when an amendment to Sports Act stated that every municipality of at least 10.000 inhabitants should have a sport instructor for adapted physical activities. According to the evaluations, in the beginning of the decade, this target had almost been met in municipalities of at least 20.000 inhabitants, but only 50 per cent of the municipalities of 10.000 – 20.000 inhabitants had an instructor. However, all the communities, and even municipalities with less than 10.000 inhabitants, had some kinds of services in the field of APA; either via supporting the civil society organizations, liberal education organizations or local parishes. During years 1984 – 1998 government supported the municipal adapted physical activities with earmarked funding, but since then government's financial support has been given as a lump sum funding for all sport activities. The new Sports Act of 1998 states, however, that the municipalities must take into account the needs of groups that require adapted support for their physical activities.

CONCLUSION The evaluations of 2000, 2005 have been used as reference materials in policy documents in national and municipal level, but the diffusion of the results has not been analyzed so far. Also some national projects, like "Erityisliikuntaa kuntiin" (Promotion of Adapted Physical Activities in Finnish municipalities) has utilized evaluations in screening the potential municipalities. During the planning of the questionnaire of the survey of 2009, it was realized that some structures of the previous questionnaires had been outdated. For example, the supply of training groups was divided in diagnostic basis, where as in municipal level the ability to function has increasingly been the criteria for dividing clients to various groups. So, it appears that the evaluations need to create a balance between comparability with previous evaluations and sensitivity to the historical specialities of each evaluation.

STRUCTURING AND ADJUSTING AN ATTENTION TEST FOR VISUALLY IMPAIRED PERSONS: A STUDY BASED ON BAMS'S ATTENTION TEST

Amorim, M[1]. Corredeira, R[2]. Sampaio, E[3]. Gomes, E[2]. Botelho, M[1].
1 LACM, Faculty of Sport, University of Porto, Portugal, 2 Department of Adapted Physical Education, Faculty of Sport, University of Porto, Portugal, 3 Conservatorie National Des París Él Métiers, Laboratorie Brigitte Frybourg, París. FCT - Foundation of Technology and Science

INTRODUCTION The purpose of our research is the structuring and adjustment of an attention test for persons with visual impairment (VI) (congenital and acquired), having in mind the assessment of their level of attentional speed (AS) and exactitude (AE), as well as the verification of these variables concerning the age and the use of Orientation and Mobility (OM) techniques.

METHODS The sample is constituted by 67 persons, both genders, aged between 10 and 66 years old, experts of the Braille alphabet and users of mobility and orientation techniques. To evaluate the attention we elaborated a test having as reference the Bams attention test. In order to execute the test it was necessary to adjust it to the signalling (symbology) of cell-Braille. The statistical procedures comprised the descriptive (average and standard deviation) and the inferential statistics (Mann-Whitney test and correlation of Spearman), being established the level of significance of $p \leq 0, 05$.

RESULTS The results had demonstrated that: (i) In the AS, the individuals, with congenital VI had presented superior results than the others with acquired VI, but the differences had not been statistically significant; (ii) In the AE the persons with congenital VI had presented lower values, disclosing better capacity of concentration than the group with acquired VI, although these values are not statistically significant; (iii) regarding the AS and the AE, concerning age, not only in the group of acquired VI but also in the group with congenital VI, the oldest individuals had better performance than the youngest, with statistically significant results; (iv) Concerning the employment of Orientation and Mobility techniques between the two groups, the outcomes did not reveal statistically significant differences, although the individuals with congenital VI use them with bigger frequency; (v) Concerning to the existing correlation between AS and AE there is an inverse and significant association within the two groups.

CONCLUSIONS The results of our study display that the carriers of congenital VI, the oldest and biggest users of OM's techniques, present better results either in the AS or in the AE than the ones with acquired VI, the youngest and less users of OM's techniques.

PERCEPTIONS OF STUDENTS WITH AND WITHOUT DISABILITIES IN AN INCLUSIVE PHYSICAL EDUCATION CLASS IN AUSTRIA

Ursula Axmann-Leibetseder
AFAPA (Austrian Federation of Adapted Physical Activity) u.axmann@inode.at

INTRODUCTION The demand for including children with disabilities in the general school system began in Austria due to the initiative of concerned parents. Many studies since then have dealt with inclusive education, without giving much attention to the opinions of the students involved. The purpose of this study was to focus on the question of how students with and without physical disabilities perceive inclusive physical education.

METHODS The method employed was a case study, using non-participant observations over a period of three weeks with the goal to collect information about the physical education lessons as well as to observe the social interaction during the lessons. 8 individual interviews (3 students with physical disabilities, 3 students without physical disabilities, 2 PE teachers) followed the observations. An interview guide with semi-structured questions was developed and pilot tested. The interviews were tape recorded and transcribed, interview data were analysed using individual and comparative analysis.

RESULTS The interviewed students with physical disabilities were involved in the physical education lessons and experienced the PE lessons as positive. They felt that they were treated as equals and they had no perception of receiving help from their classmates without disabilities. The students without disabilities did not only view the lessons positively but also appreciated the performance of their disabled classmates. Although the students with physical disabilities perceived that they did not get any help, the students without disabilities stated that they helped their classmates with physical disabilities.

CONCLUSION The students with physical disabilities were seen and saw themselves as equal to their non-disabled classmates. The results of this study correspond with previous findings such as Vogler et. al. (2000, S. 172). Successful inclusion in physical education is more likely when it begins as early as possible, minimizing competition and encouraging independent working yet involving children with similar personalities and allowing qualified human support.

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EFFECT OF CONCURRENT RESISTANCE TRAINING AND CREATINE MONOHYDRATE INGESTION ON HEPATIC ENZYMES CHANGES IN NON-ATHLETE MALES

Bashiri J[1], Gaeini AA[2], Nikhbakht HA[3], Hadi H[4], Bashiri M[4]
1- Phd, Islamic Azad university Tabriz branch, 2- Phd ,Tehran University, 3- Phd, Islamic Azad University Olom Tahghighat Branch, 4- Msc, Islamic Azad university Tabriz branch

INTRODUCTION The use of creatine (Cr) as a nutritional supplement to aid athletic performance has gained widespread popularity among athletes. However, concerns have recently been expressed over potentially harmful effects of short and long term Cr supplementation on health.

METHODS Therefore this study was conducted to determine effect of two months resistance training and creatine monohydrate (CrM) Ingestion on serum ALT & AST (Alanin Aminotransferase & Aspartate Aminotransferase) changes in 20 non-athlete healthy male. 20 non-athlete healthy male volunteers participated to this study (age: 22.25±2.02Yr; weight: 71.55±4.72Kg; height: 171.92±5.98Cm). The subjects were randomly divided into experimental (n=10 ،training-CrM) and control (n=10 ،training-placebo) groups. They participated in a randomized and double-blind design and completed 24 session\'s weight training (3d/w ،and 3 sets/10 reps with 75% 1RM). Experimental subjects consumed 250 ml CrM supplementation solution (0.07 g/kg/day) during training protocol ،but control group was just took placebo (wheat flour). Venous blood samples were obtained before and 48h after last session of weight training. Serum ALT and AST activities (IU/L) were measured by auto-analyzer system. Data was statistically analyzed by depended and in-depended t-test at significance level 0.05.

RESULTS The results indicate that Serum ALT and AST activity mean wasn’t changed after two months weight training (ALT ،P≤0.102; AST ،P≤0.086) and CrM Ingestion (ALT ،P≤0.265; AST ، P≤0.009). Moreover ،there weren’t significant differences between groups for ALT and AST activities mean and changes range after the protocol.

CONCLUSION This observation suggests that two months resistance training and CrM ingestion haven’t adverse effects on hepatic cellular damage indices. However ،more research is needed to identify the side effects of acute and chronic CrM supplementation and resistance training in the future.

THE EFFECT OF BALANCE-RESISTANCE, BALANCE-VELOCITY AND BALANCE TRAINING ON DYNAMIC BALANCE IN ACTIVE ELDERLY MALES

Bashiri J[1],Hadi H[2], Bashiri M[2], Rostamkhani H[3], Piri M[4].
1- Assistance Professor, Islamic Azad university Tabriz branch, 2- Msc, Islamic Azad university Tabriz branch, 3- Msc, Islamic Azad university Khodabande branch, 4- Msc student, University of Tabriz

INTRODUCTION: As people age, there are many physical and psychological changes that take place. One of these changes is a person's ability to maintain dynamic balance. A decline in dynamic balance has been linked to increasing age in a number of studies. Maintaining balance is important because it is one of the risk factors related to falling in the elderly. Yearly falls in the elderly occur in more than one-third of the adult population 65 years of age and older. Therefore, identifying factors influencing on balance of elderly population, including exercise, researchers have been considered. Training methods that have been used to determine the effect on balance are resistance training, aerobic or endurance training, balance training and most recently velocity training. In previous studies, research that compared the effects of Balance-Resistance, Balance-Velocity and Balance training on Dynamic balance in elderly males, was not found. Thus, the purpose of this study was to determine the effect of Balance-Resistance, Balance-Velocity and Balance training on Dynamic balance in active elderly males.

METHODS: 40 active elderly males with average and standard deviation age of 57.55±3.22yr, weight 66.70±4.71kg and length 167.24±5.54 cm without any precedence of lower extremity, head and vestibular injuries, voluntarily participated in this study. They divided into four groups: resistance plus balance training (5), velocity plus balance training (5), balance alone training (5), and control. One day before from executing of exercises, dynamic balance assessed with using the Star Excursion Balance test (SEBT) in eight directions (Anterior, Anterior-Lateral, Lateral, Posterior-Lateral, Posterior, Posterior-Medial, Medial and Anterior-Medial). The Star Excursion Balance Test is a simple method of testing an individual's dynamic balance. The SEBT is a functional balance test that uses a unilateral stance on the center of an asterisk (star) and a maximal reach down each of the asterisk's eight lines. The SEBT offers a simple, reliable, low-cost alternative to more expensive, refined instruments available today. Within 6 weeks three exercise groups executed exercise programs, Control group were asked to continue their daily activities. One day after completing of exercises, dynamic balance of subjects were assessed. Descriptive statistics, ANOVA, and post hoc tukey at significance level 0.05 used for data analysis.

RESULTS: The results did not show significant different between four groups in age, length, weight, and reaching distance in eight directions of SEBT before from executing of exercises. In addition, the significant difference observed in mean and difference range of reaching distance in eight directions of SEBT between control and any three-exercise groups post executing of exercises. Likewise, results of this study showed that velocity- balance exercises significantly increased reaching distance in all directions more than the resistance-balance and balance exercises, while there was not significant difference in reaching distance any directions of SEBT between resistance-balance and balance exercises groups.

CONCLUSION: The findings in this study were that velocity-balance, resistance-balance and balance training was able to produce a significant increase in dynamic balance in elderly males. In addition, results of this study showed that velocity- balance exercises significantly increased dynamic balance more than the resistance-balance and balance exercises. This study also addressed the possibility of incorporating velocity and resistance training with balance training to improve dynamic balance in older adults. By incorporating velocity and resistance training, power and strength gains were assessed for the ability to increase balance in older adults. This study demonstrated that velocity training is a practical means of exercise for older adults. Velocity training should be approached as a viable method for strength and power in older adults. Not only was velocity training able to produce strength gains, but it was able to improve balance that can aid in decreasing fall incidences in older adults. Balance training should also be incorporated into fitness programs for older adults as all three groups that performed balance training were able to increase dynamic balance. Increasing balance to prevent older adults from falling has benefits such as increased independent living and increased ADL's.

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THE TEST OF PERFORMANCE STRATEGIES (TOPS): A PRELIMINARY STUDY OF ITS PSYCHOMETRIC PROPERTIES WITH PORTUGUESE ATHLETES WITH DISABILITIES

Tânia Bastos, Cláudia Dias, Rui Corredeira & António Manuel Fonseca
University of Porto, Faculty of Sport - Centre of Research, Education, Innovation and Intervention in Sport (CIFI2D), Porto, Portugal.
Funding: PhD Grant by the Foundation for Science and Technology (FCT), Portugal.
tbastos@fade.up.pt

INTRODUCTION The goal of this study was to examine the psychometric properties of the Portuguese version of the TOPS (Thomas et. al., 1999), namely regarding the evaluation of the questionnaire's internal consistency and test-retest reliability, when used with athletes with disabilities.

METHODS Seventy-three athletes (M=32.9yrs; SD=12.2yrs) with physical disabilities (n=61), visual impairment (n=8) and cerebral palsy (n=4) completed the TOPS, a 64-item questionnaire that measures the psychological skills and strategies used by athletes in practice and competition contexts.

RESULTS Globally, with the exception of automaticity ($\alpha = 0.17$) and activation ($\alpha = 0.40$), the internal consistencies of the practice sub-scales were acceptable ($\alpha = 0.60 - 0.81$). The competition sub-scales also revealed acceptable values ($\alpha = 0.66 - 0.80$). Paired sample t-test (n=12) showed no statistically significant differences on item means between coupled test-retests on most subscales; the only exception was self-talk (competition) [$t(11)= -2.45$, $p\leq0.05$]. Additionally, the correlation between the two measurements was good both in practice ($r= 0,73 – 0,90$; $p\leq0.01$) and in competition ($r= 0,67 – 0,94$; $p\leq0.01$). However, considering the practice, sub-scales of automaticity and activation once more showed problems. Finally, Spearman rank order correlation coefficients indicated strong positive correlations in the majority of the practice sub-scales ($r= 0.74 - 0.91$; $p\leq0.01$); the exceptions were the sub-scales of automaticity ($r= 0.12$; p=NS) and activation ($r= 0.51$; p=NS). In competition, the correlations were also strong and positive ($r= 0.70 - 0.93$; $p\leq0.01$).

CONCLUSION The results suggested that the Portuguese version of the TOPS when used with athletes with disabilities exhibited good internal consistency and temporal stability. However, a number of problems were found for the automaticity and activation practice sub-scales. Therefore, future investigations should focus on understanding the meaning and semantic interpretation of these specific psychological dimensions by athletes with disabilities. Furthermore, it is useful to enlarge the sample size because that will allow to use more sophisticated multivariate statistical techniques to assess the factor structure of the instrument.

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EFFECTIVENESS OF AN EXERCISE-TRAINING PROGRAM ON YOUTH WITH ASPERGER SYNDROME

Erwin Borremans, Pauli Rintala[1], Marko Kielinen[2]
Keskuspuisto Vocational Institute, Helsinki, Finland [1]University of Jyväskylä, Jyväskylä, Finland
[2] University of Oulu, Oulu, Finland.
Correspondence: erwin.borremans@gmail.com

INTRODUCTION Although exercise-training programs are effective in improving physical fitness and motor competence in typically developing youth, insufficient data are available of the impact of such an interventions in youth with Asperger syndrome (AS). Therefore, the purpose of this study was to examine the efficacy of an exercise program as part of an ongoing vocational training program for adolescents with AS on motor competence and physical fitness.

METHODS Twenty adolescents with AS (mean age = 16.8yrs) were enrolled in this study. A quasi-experimental nonequivalent-control-group design with a follow-up measurement over a period of six months was followed. The intervention group received a 12-week physical exercise program focusing on improving motor competence and physical fitness. This structured exercise program was applied 3 days a week for 1 hour. Data collection included pre-, post-, and follow-up evaluations using the Movement Assessment Battery for Children (M-ABC-II; Henderson, Sugden, & Barnett, 2007) and the EUROFIT physical fitness test (Oja & Tuxworth, 1995) together with training diaries and comments from teachers and guardians. Two 2 X 3 (group by time) repeated measures (RM) ANOVA's were used to examine differences in motor competence and physical fitness between intervention- and control group at different times. Post-hoc comparisons using six one-way RM ANOVAs (three for each measure) were used to test the pair wise comparisons for the intervention and control groups with Bonferroni correction.

RESULTS Examination of the means reflecting the performance scores suggested that the average motor competence as well as physical fitness was lowest at pre-test (before the intervention), highest at post-test (immediately after the intervention), and in between these two at follow-up (the 3-month follow-up measure). The 2 X 3 repeated measures ANOVA's revealed significant interactions between group and time for both measures with respectively: $F(2,36) = 6.96$; $p < 0.005$; partial eta squared = .28 for the M-ABC-II, and $F(2,36) = 4.48$; $p < 0.05$; partial eta squared = .20 for the EUROFIT. Based on the post-hoc analyses, it seems that there is an interaction effect only between pre and post-tests for both measures, in that the treatment group increased their levels of motor competence and physical fitness significantly more than the control group.

CONCLUSION The 12-week exercise-training program used in this study was successful in improving motor competence and physical fitness in adolescents with Asperger syndrome. Because many of these adolescents are at risk for physical inactivity and do not meet the recommended physical activity levels for good health, the implementation of similar intervention programs needs to be encouraged. Further studies are needed to investigate more in detail dose response to exercise and the effect of exercise on academic success.

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ADVENTURE CAMP FOR YOUTH WITH SPECIAL NEEDS IN LAPLAND

Erwin Borremans, Virpi Remahl[1]
Keskuspuisto Vocational Institute, Helsinki, Finland [1]Finnish Sports Association for People with Intellectual Disabilities (SKLU) and Pajulahti Sport Centre, Finland

INTRODUCTION The aim of our presentation is to describe experiences from our annual adapted winter outdoor education camps in Finnish Lapland and share knowledge on how to make such an adventure work with youngsters with special needs. Important key points of our camps and presentation are: 1) Adaptations to teaching styles (e.g., using of picture, structuring); 2) Student and staff preparation (e.g., long term profound preparation with outdoor camp as "cherry on the pie"); 3) Adapting materials (e.g., the use of off-track skies, expedition sleds, tips and tricks); 4) Inclusion ideas and challenges (e.g., in our view people with disabilities participate in physical activity like anyone else and can be healthy and productive).

TARGET GROUP Our participants of camps' target group: Students enrolled in vocational training (15-30 years) covering the wide spectrum of people with special needs such as autism spectrum disorder, learning disabilities, and cerebral palsy. All participants were interested in being outdoors. Some participants had preliminary experiences of winter sports but most of them had not.

BRIEF DESCRIPTION OF PRESENTATION First a 10 minute brief power-point presentation about the following topics: • background of the camps and main aims • the importance of networking and consultation of different associations and institutions (these camps were cooperation between Keskuspuisto vocational institute, Finnish Sports Association for People with Intellectual Disabilities (SKLU), and Finnish Central Association for Recreational Sports and Outdoor Activities (Suomen Latu). • The preparation of students a year in advance with 2 main parts: 1. An own developed "backcountry adventurer" course package (3ECTS) about topics such as: first aid, material, nature, Lappish culture, orientation and trekking in outback country). 2. XC-skiing, snowshoeing, and kick sled training months in nearby school outdoor center • The cooperation with students and their parents • The CAMP itself in Lapland (base camp Kiilopää, above Arctic circle) where near 30 hours of outdoor action is enjoyed together in an inclusive setting. • Follow-up after camp and get together. Second under the motto of 'one pic says more than 1000 words' we will watch a 10 min photo collage covering the main aspects mentioned above with pictures taken during the camp. Third a short to the point summary about how a(ny crazy enough) motivated multidisciplinary team can make an adventure outdoor camp work fine!

RESULTS AND CONCLUSION The expedition Lapland camps and process from start to follow-up is an intensive learning process for the whole team involved. In a positive, supportive and challenging enough environment people get the best of themselves. During the camps not only ski technique improves, or speed and length of hikes increase, but also enjoyment of being out there rises to unseen heights. The group leaders have to find a balance between safe risk taking and adventure to stimulate the participants to be and become more active (and hopefully lifelong) exercisers. The experiences gathered from these camps show that with a thorough preparation also in extreme conditions, safe outdoor learning can be achieved.

SPECIAL OLYMPICS YOUTH UNIFIED SPORTS: INCLUSIVE SPORTS FOR YOUNG PEOPLE WITH AND WITHOUT INTELLECTUAL DISABILITY

Sabine Brecklinghaus
Special Olympics Europe/Eurasia

INTRODUCTION Special Olympics Youth Unified Sports is a mechanism for promoting social inclusion through sport. Unified Sports is a Special Olympics initiative that provides opportunities for sportsmen with intellectual disabilities (called athletes) and without intellectual disabilities (called partners) to play on integrated sport teams. Participants in this session will learn about one example of how sports training and competition can be a promising practice for community integration of young people with and without intellectual disability in school and club settings works. Participants should also be stimulated to a discussion of the inclusive role of sports in different cultural and geographic situations.

The purpose of Unified sports is to experience inclusion as each player is ensured of playing a valued role on the team, socialize with peers, form friendships, and participate in activities in their communities. Since 2004 Special Olympics Europe/Eurasia has focused on developing Youth Unified Sports Basketball and Football activities in local communities involving regular, mainstream and inclusive schools and sport clubs. Before joining teams, the non disabled partners receive education about intellectual disability via the "Special Olympics Get Into It" service-learning curriculum. The impact of participation in Unified Sports on changed attitudes and improved perceptions about the capabilities of individuals with intellectual disabilities was measured through an assessment conducted in 2005-2006 by a collaboration of Universities in the US and Europe. 700 participants in the five pilot countries- Serbia, Austria, Poland, Romania and Slovakia- were surveyed.

The study found, for instance, that 80% of partners reported improved understanding of their peers with intellectual disability, noting that the athletes were "just like us" – good football players and fun to be with. A subsequent Youth Unified Sports impact study is currently underway that will measure the impact of Unified Sports participation on the athletes on community inclusion outside of the team setting.

Unified Sports has been documented as a promising practice for promoting inclusion in various school and community settings throughout Europe, capitalizing on sport as a tool for changing attitudes and creating opportunities for friendship.

EFFECTS OF A TWO WEEK PEER TUTOR GUIDED SPORTS CAMP ON THE SOCIAL AND MOTOR SKILL ACTIVITY LEVEL OF LEARNERS WITH AND WITHOUT INTELLECTUAL DISABILITIES

Peter Bukhala[1], Elizabeth Bressan, Vincent Onywera[1]
[1]Kenyatta University -Kenya, Stellenbosch University- South Africa

INTRODUCTION This study aimed at investigating the effects of a two week peer tutor guided sports camp on the motor and social skill development of learners with and without intellectual disabilities.

METHODS One hundred and six (106) youths from the neighbourhood of Kenyatta University were selected to participate in the study. Through their respective schools a request was sent to parents of those identified to have intellectual disabilities and aged 8 years and above. Those whose parents gave consent were selected. A total of 53 youths with intellectual disabilities registered for the camp. Based on this number another 53 youths without disabilities were selected from the integrated classes and regular schools to partner with those with disabilities. The selection criterion was age, location of residence in relation to those with disabilities and gender. 32 University students were also selected on the basis of interest, competencies in football and basketball which were the two main sports for the camp. The University students were trained in event management for four days and given a chance to practice the skills during the Saturday Special Olympics training programme. Three assessment protocols were used to collect information from the campers, university students and parents. The protocol for campers was a pre/post questionnaire developed to elicit information on sports skill competencies, social development and physical fitness level of the campers. The questionnaire for the event managers was designed to collect pre/post information on their views about training youths with and without disabilities. Finally the questionnaire for parents sought to gather data on their views about the camp and changes seen in their children's physical and social abilities. The results were analyzed using the SPSS programme and reported using descriptive statistics.

RESULTS The results indicated that the campers with intellectual disabilities had low scores on all the variables tested initially as opposed to those without. The exertion when performing any skill was low. There was increased improvement in the posttest results for most of the campers in terms of physical exertion and motor skill abilities. In addition, positive relations were noted between those with and without intellectual disabilities. The parents reported positive changes in their children's physical and social skills. They felt the camp had helped their children to be more outgoing, courageous and social. Event managers also reported positive views about their participation in the camp. There was, however, no significant change in physical fitness levels among the campers during the two week camp.

CONCLUSION These results provide a basis for developing peer tutor guided programmes that enhance participation of individuals with intellectual disabilities in integrated programmes. It also provides a basis for advocating for the establishment of more inclusive sports programmes in Kenya to enhance skill learning among those with disabilities.

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HIGHER EDUCATION STATUS FOR PERSONS WITH DISABILITIES: SOCIO-ECONOMIC CHALLENGES IN EGERTON & KENYATTA UNIVERSITIES, KENYA

Lydia Kinuthia[2], Joseph M. Wamutitu[2] and Peter Bukhala[1]
[2]Egerton University. [1]Kenyatta University

INTRODUCTION The provision of education and training to all Kenyans is fundamental to the success of the Government's overall development strategy. Education is accepted as a primary means for enhancing every Kenyan with basic quality knowledge, training and skills to preserve and utilize the environment for productive gain and sustainable livelihoods as well as development of quality human resource in the attainment of national goals for industrial and economic development. However, there is a continuing disparity in educational services in Kenya for people with disabilities, whom as a consequence of their disability have reduced capability of activity that causes many difficulties to work, live and even study. Although the exact number of them is not available, they are estimated to be around 7 – 10 % of the total population. Despite their vast numbers, little is known about them especially in higher education institutions. This point to the need to analyse the challenges faced by them in their pursuit to acquire higher education and in the light of the significantly changed labour market arising from globalization and technological change. The impact of disability onto life activities may be different and depends upon the specific context such as the institutional environment. At the university level, academic is the primary activity and should also be a key focus for support. To provide education to the disabled at this level brings with it challenges of diverse nature which the institutions should adequately deal with in order to provide a favourable atmosphere for learning. This paper focuses on the social and economic factors influencing the acquisition of knowledge (learning) at Egerton University and Kenyatta University by the students with disabilities.

METHODS Using a survey approach, data was collected using an open - ended questionnaire and in-depth interview. The subjects for the study were drawn from Students and University Administrators Data (SUAD) from the two universities. Data was analyzed using means and t-test statistics.

RESULTS A number of social and economic challenges for effective acquisition and participation in learning by students with disabilities were identified. These included: school fees, impersonal classmates and lecturers, unable to participate in work study programmes due to their disabilities and the physical environment, lack of appropriate sports opportunities.

CONCLUSION Universities in Kenya have to develop policies to address the needs of the ever increasing numbers of students with disabilities in their Universities. These will include structural changes to allow for more access, sensitization of University community on the needs of those with disabilities, an affirmative action to support them.

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ATTITUDES OF 14 TO 16 YEARS OLD STUDENTS WITHOUT DISABILITIES TOWARDS INCLUSION IN PHYSICAL EDUCATION

Campos, M.J., Nobre, M. & Ferreira, J.P.
Faculty of Sport Sciences and Physical Education, University of Coimbra, Portugal
mjcampos@fcdef.uc.pt

INTRODUCTION The investigation of attitudes of students without disabilities towards inclusion of students with disabilities in physical education (PE) classes is an area of great importance, and the understanding of their perceptions is a key element in the implementation of inclusive philosophies in regular PE. The main purpose of this study focuses on examining the effects of an inclusive disability sport awareness program on attitudes of students without disabilities towards inclusion in PE classes.

METHODS The sample consisted of N=126 students, n=77 females and n=49 males, aged between 17 and 20 years (M=15.35, SD=0.570). There were two groups (N=20 experimental group and control group N=106). The inclusive intervention included Paralympic sports and other adapted activities. The experimental group received a one-day program. We used the Children`s Attitudes Towards Integrated Physical Education- revised - CAIPE-R (Block, 1995) translated and adapted by Campos and Ferreira (2008). The questionnaire measures global attitudes on PE class, and is subdivided into two subscales: specific attitudes towards integration in PE class and sport specific attitudes. The CAIPE-R was applied in 2 different times. We applied the pre-test, then we organized the inclusive sport intervention and, after a week, we applied the posttest.

RESULTS Students with family or friends contact with people with disability has significant higher levels at the general PE subscale (U=780,00; p=0,010). We can observe that, at the pos-test, girls have significant higher values in global attitudes (U=18,00; p=0,027) and sport specific subscale (U=18,50; p=0,031). Before the inclusive intervention, control group had significant higher attitude scores in the 3 dependent variables. However, after the intervention, those differences vanished and the experimental group increased their attitudes scores.

CONCLUSION We found that the inclusive sport intervention had a positive influence on the attitudes of students. These results indicate that the implementation of adapted activities in PE curricula can influence in a positive way the attitudes of students without disabilities in the educational environment and consequently in social life. However, there is a need for more research in this area to generalize the results. Future research should include a more detailed analysis of this intervention programs.

VALIDITY OF MTI (ACTIGRAPH) FOR PHYSICAL ACTIVITY MEASUREMENT IN CHILDREN WITH CEREBRAL PALSY

Catherine Capio, Cindy Sit, & Bruce Abernethy
The University of Hong Kong, Institute of Human Performance ccapio08@hku.hk

INTRODUCTION Physical activity (PA) measurement among children with cerebral palsy (CP) has not been adequately established. CP involves a wide range of disabilities, and the assessment of PA in this population is of importance to the design and implementation of health, therapy, and physical education programs (Kim, 2009; Pirpiris & Graham, 2004). The purpose of this study is to examine the validity of MTI (Actigraph) as a PA measurement instrument for children with CP.

METHODS Participants included 31 children with CP (17 female and 14 male) aged 6 to14 years (M = 9.71 years, SD = 2.52 years). The participants were classified within Gross Motor Classification System (GMFCS) I to III, and took part in two activity sessions: (1) structured activity protocol with increasing intensities and (2) free play session. MTI was used to measure activity counts, heart rate was measured using Polar Team System, and direct PA observation was done using the System for Observing Fitness Instruction Time (SOFIT). Linear regression was done using SOFIT as the criterion measure.

RESULTS Results showed that MTI and SOFIT data demonstrated a stronger association (r=0.75, R^2 = 0.56) than heart rate and SOFIT data (r=0.65, R^2 = 0.43) in structured activities. MTI and SOFIT data were also found to demonstrate a stronger association (r=0.67, R^2 = 0.45) than heart rate and SOFIT data (r=0.14, R^2 = 0.02) in free play activities.

CONCLUSION The findings suggest that the MTI is a valid instrument for measuring raw activity volume among children with CP and is suitable for use in studies attempting to characterize the PA of this population. This study is expected to contribute to the implementation of subsequent field-based studies that will examine the PA of children with CP.

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TEACHER'S OPINIONS TOWARD INCLUSION OF STUDENTS WITH DISABILITIES: ANALYSIS ABOUT DIFFERENT DISABILITIES CATEGORIES

Cazzoli Stefania[1], Rose Anna Rosa[2]
1 School University Interfaculty of Motor Science (SUISM) and and Master\'s Degree of Faculty of Primary Education , University of Torino, Italy, 2 Master\' s Degree of Preventive and Adapted Physical Activity, University of Foggia, Italy

INTRODUCTION In Italy since 70's through a series of Laws, all the types of disabilities was integrated and included in the regular schools and they attended in regular PE classes. The PE is in compulsory curricula (students aged from 3 to 19 years). The aim of this research was to investigate the PE teacher attitude toward the inclusion of students with disabilities in the regular PE class in the primary school and to analyse the attitude of inclusion about five different disabilities categories. (OH-orthopedic impairments, MD- multiple disabilities, MR-mental retardation, BD-behavioral disorders, LD- learning disabilities) with the questionnaire Teacher Integration Attitudes Questionnaire (TIAQ)

METHODS The sample was 55 preservice primary teachers with teaching experience: n=11 with 6-10 years and n= 44 with 1-5 years. The answers reported to the four scales of the questionnaire (skill, benefit, acceptance, support) about five different disabilities category (OH, MD, MR, BD, LD). Independent *t* tests were used to compare, in only category of disability, a difference between two groups (1-5 vs. 6-10) on the means of a four scale of questionnaire (skill, benefit, acceptance, support).

RESULTS The result got in the comparison between the group of teachers with different teaching experience (1-5 vs 6-10 years), the results had point out no significant statistical differences for the five disabilities categories (OH, MD, MR, BD, LD) and the four scale of questionnaire (skill, benefit, acceptance, support).
For the variable Skill: OH (t=1.245; p=0.218), MD (t=1.970; p= 0.054)* MR (t=1.333; p=0.188), BD (t=0.180; p=0. 858), LD (t=1.044; p=0.301),
For the variable benefit regarding OH (t=0.256; p=0.799), MD (t=0.497; p=0.621) MR (t=1.308; p=0.197), BD (t=0.619; p=0.539), LD (t=-0.766; p=0.447),
For the variable acceptance regarding OH (t=0.163; p=0.871), MD (t= -0.268; p=0.790) MR (t= -0.557; p=0.580), BD (t= -0.845; p=0.402), LD (t=significance 0.899; p=0.373)
For the variable support regarding OH (t=0.504; p=0.617), MD (t= 0.,149; p=0.882) MR (t= 180; p=0.858), BD (t= 0.125; p=0.901), LD (t=9.927; p=0.358).

CONCLUSION The opinion of the interviewed was the same trend, in both groups of teaching experience (1.5 vs 6.10 years) for questionnaires four scale (skill, benefit, acceptance, support) and for the five different disabilities categories. Only in the case of Skill variable about MD- multiple disabilities was significance result*. In Italy, the laws and the culture of integration and inclusion of students with disabilities were became rights since thirty-years but the improvement of the quality of inclusive best practices should need the generalization of the data on a bigger sample and the monitoring in the time the attitude of the teachers towards the inclusion in regular Physical Education.

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GAIT SPEED IN OLDER FEMALE AFTER PHYSICAL ACTIVITY TRAINING

Cazzoli Stefania[1], Eid Luca[2], Rosa Anna Rosa[3], Lovecchio Nicola[4]
1 School University Interfaculty of Motor Science (SUISM), 2 Agenzia Nazionale per lo Sviluppo dell'Autonomia Scolastica, Nucleo Territoriale Lombardia, Milano, Italy. 3 Master's Degree of Preventive and Adapted Physical Activity, University of Foggia, Italy, 4 Catholic University of Holy Hearth, Faculty of Motor Sciences, Milano, Italy.

INTRODUCTION Decreasing in strength, vision and in proprioception affect the balance arrangement (1). So gait (i.e. cadence and stride length) suffers a deficient and instable approach during dynamic phase (2). The present study analysed the improvements in dynamic balance and gait control after six weeks of physical activity training. In particular, the "8 Foot Up and Go Test" (3) was used to determine the time spent to stand up from a chair and walk forward a point, turn around it and go back seating.

MATERIALS AND METHODS During a private course of APA for elder people a group of 16 female (aged 69 +/- 5 years, weight 64 +/- 9 kg, standing height 160 +/- 0,9 cm) was tested before and after a six week training. All subjects before the test were fully informed about the procedure and signed the informed consent. The test consists in a rapid stand-up from a chair to reach a cone (distance 4,87 meters in total) and after turn around it immediately come back on the chair. The time collected corresponds to the result of the test (sec). In particular the 'training protocol' strengthed lower limb and abdominal muscles. The training was divided in two sessions (one hour each) per week. The intensity, series and repetitions about exercise were increased every two weeks according to the subjects.

RESULTS Before the training the results showed performance between 5,45 sec (the best) and 10,98 sec (the worst buy the eldest female). On average the subjects walking at 2,26 km/h but the variability was very high (sd=2,45). After the training period the group walk the path in 6,33 sec (on average) with minimal variability (sd=1,04). In particular the eldest female improve her own performance of 2,45 sec while another one of 4 sec. The mean speed reached the 2,77 Km/h: value very close to 3,2 km/h (normal speed).

CONCLUSION Improvements in muscles strength positively affected (statistical significative differences; $p<0,05$) the gait. In particular, the lower limb performance could be the crucial point to improve the balance because of the decreasing of the double support time (and like a consequence improvements in cadence and speed, 4).

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FUNCTIONAL FITNESS AND BONE MINERAL DENSITY ASSESSMENT AMONG ELDERLY WOMEN (60+) PARTICIPATING IN AQUATIC FITNESS

Chia-Ying Chang, National Taichung Institute of Technology, **Chien-Ting Chen**/Aletheia University/ Department of Sports Administration Industry

INTRODUCTION The rapid growth of aging population has become a worldwide phenomenon. Taiwan has one of the fastest growing aging populations in the world in 21st century. Aging is connected with deterioration of various physiological capacities, such as muscle strength, aerobic capacity, neuro-motor coordination, and flexibility. These age-related declines result in a host of negative outcomes, including functional limitations and Osteoporosis, and therefore, loss of independence and increase in disability (rate) possibility〔1,2〕.The aim of this study was to explore the effects of an 18-week aquatic fitness program on the functional fitness and bone mineral density (BMD) among elderly women.

METHODS A total of 48 women aged 60-73 years (mean age of 64.5years) were subjected to this study. Two groups were distinguished: exercise group (EG) and control group (CG). The first group consisted of 22 women regularly participating in aquatic aerobic fitness for 18 weeks (50 minutes, twice a week). The second group included 26 women without any regular exercise. All the participants did not change their lifestyle and eating habits during the experiment. They accepted Senior Fitness Test (SFT) and BMD before and after experiment.

RESULTS The collected data were analysed using ANCOVA, the analysis of result obtained in the SFT indicates a high level of functional fitness in the EG. After 18-week exercise, the EG participants were significantly different from CG in BMI, biceps-curl, 60 seconds sit-up with bent knee, 30 seconds sit-to stand, 8 yards up-and-go, and 6-minutes walk($p < .05$) EG were better than CG. However, for BMD there were no significantly different between CG and EG. For BMD the researchers observed a decrease of 1.18% in EG and 1.89% in CG.

CONCLUSION In conclusion, the 18-week aquatic fitness program can improve the functional fitness. Furthermore, it can provide the decrease of BMD for elderly women. According to these results, the researchers suggest that aquatic fitness program is a good choice for elderly women.

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PHYSICAL ACTIVITY AND ITS INFLUENCE ON TRANSCUTANEOUS O2 PRESSURE IN A POPULATION WITH SPINAL CORD INJURY

Beatriz Crespo-Ruiz, Angel M. Gil-Agudo, Ana I. De la Peña-González, Antonio J. Del Ama-Espinosa, Soraya Pérez-Nombela & Marta Solis-Mozos.
Biomechanics and Technical Aids Department. National Hospital of Spinal Cord Injury of Toledo. bcrespor@sescam.jccm.es

INTRODUCTION In people with spinal cord injury (SCI), one of the most common complications was pressure ulcers (PU). It is recognized that physical activity improves quality of life in these people and in many cases, the behavior of their physiological parameters. The aim of this study is to describe the possible influence of physical activity in tissue viability in areas with risk of pressure ulcers as measured by transcutaneous pressure of O2 (TcPO2).

METHODS In a sample of 38 persons with SCI chest of which 26 were classified as sedentary and 12 as active has conducted an evaluation of the physiological response of the tissues under load in sitting through the analysis of values in TcPO2 both ischium obtained an oximeter (Radiometer ®). Previously optimized the inflation pressure of the air cushion to the registration of the pressure distribution at the interface user-cushion. The variables analyzed were TcPO2 baseline in the area of the ischium, the recovery time of TcPO2 baseline (Trec of TcPO2) occur after support in sitting, the percentage recovery of baseline values TcPO2 (% TcPO2) and the maximum mechanical pressure (Pmax). A comparison between independent samples using a Student t-test setting the significance level $p < 0.05$.

RESULTS The value of Trec of TcPO2 of paraplegics in the active group was significantly lower ($p < 0.05$) in the active group than in the sedentary. Likewise, also found significant differences in %TcPO2 between both groups ($p < 0.05$).

CONCLUSION We present a completely new procedure for analysis of TcPO2 (mmHg) as a method for performance assessment of tissue viability in SCI in the areas of greatest risk of being seated in the area ischial pressure ulcers. The physiological response of the tissues under own burdens resulting from a prolonged sitting position on people with SCI, is more appropriate in those who have an active life profile.

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BIOMECHANICAL ANALYSIS OF A 20 METER SPRINT TEST IN JUNIOR WHEELCHAIR BASKETBALL PLAYERS

Anna Sofia Delussu[1], Claudia Mazzà, Lorenzo Polidori[1], Stefano Brunelli[1], Claudio Lupi[2],Carlo Di Giusto, Djodji Damas Ntendarere, Marco Traballesi1 and Aurelio Cappozzo[2].
1 Fondazione Santa Lucia IRCCS - Istituto di Ricovero e Cura a Carattere Scientifico-, via Ardeatina, 306, -00179- Roma. Telephone number: +39 06 51501840, 2 Dipartimento di Scienze del Movimento Umano e dello Sport, Università degli studi di Roma "Foro Italico" CMB Santa Lucia Sport.

INTRODUCTION Aim of this paper is to provide a quantitative characterization of the execution of a sprint test as performed by junior wheelchair basketball players.

METHODS Thirteen athletes (4 females, 9 males, three with IWBF classification of 0,5, one of 1, three of 1,5, two of 2, three of 3 and one of 3,5) were asked to perform a test among those proposed by Vanlandewijck (1999) for specific wheelchair basketball field evaluation, named 20mS. An inertial sensor (Freesense, Sensorize, Italy) was firmly attached to the backrest of the wheelchair. The analysis of the acceleration component measured in the direction of progression allowed for the estimate of the duration of each push and of the number of pushes needed to complete the test. The Spearman's correlation coefficient (ρ) was computed to assess the correlation between the IWBF classification score and the 20mS test related parameters. Statistical significance was set at $p < .01$. Paired t-test was used to compare the push durations of the first ten pushes performed by each athlete.

RESULTS The IWBF classification score was significantly correlated with the time (ρ=-0.87) and the total number of pushes (ρ=-0.70) needed to complete the test. On average, the players needed three pushes to reach a steady state characterised by no further reduction of each push duration. This was true irrespectively of the players IWBF classification. The correlation between IWBF and push duration, in fact, became significant only from the 5th push (ρ=-0.61) onward.

CONCLUSION This study allowed for a detailed description of the execution of a field test which is commonly adopted for the assessment of adult players. The parameters that were extracted from the recorded signals provide information about the player skills that were distinguishable from those more strictly related to his\\her IWBF classification. This information might hence be expected to be sensitive to improvements due to a specific wheelchair basketball training. Further studies involving a training intervention are needed to test this hypothesis.

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MEDIA COVERAGE OF 2008 PEKING PARALYMPICS IN AUSTRIA AND GERMANY – A COMPARATIVE STUDY

Maria Dinold, & Julia Lebersorg
University of Vienna, Centre for Sports Sciences and University Sports

INTRODUCTION Adapted physical activity and disability sport are areas to which not much attention is given in the media in Austria in general. In order to check and to compare media coverage in Austria and Germany during the Peking summer paralympic games 2008 a comparative study was carried out by analysing selected media reports (print and visual) in the two countries for a period of three weeks. The intention of the study was to consider quantitative as well as qualitative aspects.

METHODS The three highest circulated daily newspapers of the two countries and the three Austrian (ORF 1, ORF2, ORF Sport plus) and the two German governmental financed TV-stations (ARD, ZDF) were selected for collection of their reports. With the intention of comparing quantitative criteria a system of counting the number (and length) of articles, of added pictures, and of front pages as well as the aspects of genre, resort and placement were applied. The kind if topics of the articles, pictures and reports were examined by using qualitative content analysis. For comparison and discussion of these qualitative aspects the following categories had been chosen: emotional effects, national orientation, success/failure, personal background, report style, doping, and info on the competitions. A similar procedure was applied for analyzing the TV-reports.

RESULTS As rather suspected German print as well as visual media showed a far higher space, amount and time allocation of reports on Peking Paralympics than Austrian newspapers or TV-stations. Several differences among the German newspapers concerning the report style – being very diverse – could be confirmed. A similarity of the two countries could be found in the focus on national aspects and on success. The big difference of broadcasting time between ORF and ARD/ZDF (97 % : 3 %) made it difficult to look at the categories with the same objectivity.

CONCLUSION The study results indicated a big quantitative gap between Austrian and German TV coverage on paralympic sport but revealed similar report styles and topics. Finally it can be concluded that some increasing interest on disability sport had been provoked by Austrian media coverage during Peking Paralympics but that it will have to be further developed.

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DOES A PARALYMPIC SCHOOL DAY CHANGE INTENTION AND ATTITUDES OF PHYSICAL EDUCATION TEACHERS TOWARDS INCLUSION OF STUDENTS WITH DISABILITIES IN PHYSICAL EDUCATION CLASSES?

Agapi Doulkeridou, Christina Evaggelinou, Theodoros Pipsos, Anna Panagiotou, Theodoros Ellinoudis, Petros Graikinis.
Aristotle University of Thessaloniki, Department of Physical Education and Sport Science, Adapted Physical Education Laboratory, Serres, Greece. adoulkeridou@yahoo.com

INTRODUCTION: The Paralympic School Day (PSD) program is an educational project developed by International Paralympic Committee, aiming to create understanding and positive attitudes toward students with disabilities. The Theory of Planned Behavior provides a useful framework to study attitudes toward people with disabilities. The purpose of this study was to examine the effect of the PSD program on the variables of Planned Behavior Theory.

METHODS: Participants were 32 Physical Education teachers (M = 43 yr., SD = 4.9, 11 males and 21 females) who used to teach Physical Education lesson in general Primary schools. They completed a questionnaire, constructed to measure components of Planned Behavior Theory: attitudes, subjective norms, perceived behavioral control, intention and self-reported actual behavior. PE teachers received a PSD, which lasted six hours and included theoretical and practical events and aimed to create awareness and provide a positive attitude toward students with disabilities.

RESULTS: The results revealed that intervention was effective in improving attitudes toward inclusion of students with disabilities, intention and self reported actual behavior, but was not proved to be effective in improving subjective norms and perceived behavioral control.

CONCLUSION: The educational program PSD seem to be effective in most variables of the Planned Behavior Theory and as a consequence, on attitudes of PE teachers toward inclusion of students with disabilities in PE classes in general school. Educational programs developed by Paralympic Educational Committee can help in development of International Physical Education Curriculum, aiming to develop positive attitudes and behavior toward students with disabilities, therefore their inclusion in general school to be successful.

BURN OUT AND DEPRESSION OF PROFESSIONALS IN SPECIAL EDUCATION SETTINGS IN GREECE – EXAMINATION OF GENDER DIFFERENCES

Karkaletsi, F., Zarotis[1], Y., Skordilis[2], E., & Evaggelinou[3], C.
1: Department of Psychology, Athens, Greece 2: Department of Physical Education and Sport Science, Athens, Greece 3: Department of Physical Education and Sport Science, Serres, Greece

INTRODUCTION: Burn out (BO) is referred to as a syndrome, common in occupations where time is invested supporting other people. It incorporates states of physical, emotional and mental exhaustion, often leading to depressive symptoms. BO may be caused through the involvement in emotionally demanding situations, commonly found among female professionals in health and education services. Based on the above, the present study was designed to assess the burn out and depressive symptoms of professionals working in special education settings, in Greece. Further, differences across gender were recorded.

METHODS: A total of 97 professionals working in special education settings in Greece (16.5% males and 83.5% females), with a mean age of 35.88 years old (SD = 9.94), working in either public (39.7%) or private settings (60.3%), responded to the: a) Maslach Burnout Inventory (MBI)(Maslach & Jackson, 1986) and b) Beck Depression Inventory-II (BDI-II)(Beck, Steer & Brown 1996). The dependent variables were: a) the emotional exhaustion-EE, depersonalization-D and personal accomplishment-PA dimensions of MBI, and b) the somatic-affective and cognitive dimensions of BDI-II. The SPSS-13 for windows was used for statistical analyses.

RESULTS: With respect to gender, univariate differences were found for the EE dimension ($F = 4.993$, $p = .028$, $\eta 2 = .054$), with females scoring significantly higher than males. Concerning the BDI-II scores, multivariate ($\Lambda = .923$, $F = 3.599$, $p = .032$, $\eta 2 = .077$) and univariate findings were significant for the somatic-affective dimension ($F = 5.644$, $p = .020$, $\eta 2 = .061$), were females exhibited significantly higher depressive scores compared to males. Further, a total of 12 (12.4%) participants (1 male & 11 females) experienced severe, while 18 (18.6%) participants (all females) exhibited moderate burn out due to emotional exhaustion. Finally, 12 (12.4%) respondents (all females) had depressive symptoms, based on their BDI-II scores.

CONCLUSION Conclusion: Burn out and depressive symptoms are evident in professional working in special education settings in Greece. Preventive programs may need to be implemented, especially for women, in order to assist professionals who may be prone to BO.

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A SURVEY OF CHINESE SPECTATORS ATTENDING THE 13TH PARALYMPIC GAMES "BEIJING 2008"

Christina Evaggelinou & Peter Grekinis
Aristotle University of Thessaloniki, Department of Physical Education and Sport Sciences, Adapted Physical Activity Laboratory, Serres, Greece Evaggeli@phed-sr.auth.gr

INTRODUCTION Paralympic Games (PG) provide a setting in which attributes, practices and beliefs of spectators can be examined. During the 2008 PG hundreds of thousands cheering fans attended this event. The purpose of this study was to study the profile and the attitudes of the spectator's of the Beijing 2008 Games.

METHODS 310 Chinese spectators (172 males & 138 females) 12 to 69 years of age, answered voluntarily the Spectators Attitudes Questionnaire (SAQ). The SAQ was developed from the questionnaires Spectator Questionnaire (Evaggelinou και Grekinis, 1998), as well as Sport Spectator Involvement Scale του Bahk (2000). To SAQ includes part A which explores biographic data and part B questions related to: α) attitudes & MME, b) attitudes and Olympic Games / PG, c) severity of disability

RESULTS Descriptive statistics were used to analyze the responses for each questionnaire item. A goodness of fit test was also used to check for differences in the observed frequencies. The results indicated that most of the spectators (72%) were between 12 and 32 years old, 55% were college graduates, 75% were attending the Games for athletes with disabilities for the first time, 75 % were not athletes in the Games. Concerning the second part of the questionnaire the vast majority of the spectators agreed on the need for the TV coverage of PG, strongly believed that Olympic and Paralympic athletes deserve similar benefits, they strongly believe that their role as spectators can influence the athlete's performance, however, were equally divided as to if athletes with severe disabilities should participate in PG.

CONCLUSION Overall, disability seemed of secondary importance to the spectators of these games, inasmuch as most of them stated that they were attending the games primarily to encourage the athletes in their effort but also learn about disability sports.

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EFFECTS OF PHYSICAL ACTIVITY ON DEPRESSION AND ANXIETY IN PATIENTS WITH PARKINSON'S DISEASE OR CEREBROVASCULAR DISEASE WITH AN AGE SUPERIOR TO 70 YEARS

Claudine Fabre[1], & Karim Gallouj[2]
1. EA-3608: Activité Physique, Muscle, Santé, Université de Lille 2, France 2. Centre Hospitalier de Tourcoing, Service de Gériatrie, France claudine.fabre@univ-lille2.fr

INTRODUCTION According to the literature, patients with Parkinson's disease or victims of cerebrovascular disease present regularly depressive and anxiety syndrome (Cummings 1992) which can limit their psychological and physiological progress during and at the final of the rehabilitation. We wanted to demonstrate that the prescription of an adapted physical activity (APA) in addition to a traditional physiotherapy could have a positive impact on depression, and anxiety and to improve the effectiveness of the physiotherapy by a greater involvement of the subject. Indeed, the patients become "active" during session of APA.

METHODS Two groups of 15 inpatients were constituted: a trained (82.2±1.6 years) and a control (82.3±1.1 years) groups. The trained group (TG) have physiotherapy and APA whereas the control group have only physiotherapy (CG). In the 2 groups, 2 Parkinson's disease and 13 patients with cerebrovascular disease were included. Before and after a period of 8 weeks, all the patients were evaluated with the Get Up and Go Test, Mini Mental State Examination (MMSE), Geriatric Depression Scale (GDS), speed of walking on 10 meters.

RESULTS The statistical analysis demonstrated a significant improvement of the GDS for the 2 groups with a greater increase for the trained group ($p<0.05$). Before training, GDS' score for the TG and CG was respectively equal to 8.5±2.1 and 8.6±1.9; after training the scores were 2.8±0.3 and 6.5±1.1, respectively. The MMS was not modified after 8 weeks. For the 2 groups, the realisation of the get up and go test and the speed of walking were significantly improved ($p<0.05$) with an absence of the group effect.

CONCLUSION We can hypothesize that the improvement at the GDS could be due to the stimulation of brain serotonin (Chennaoui et al, 2004) and the augmentation of this level could be have an antidepressant effect. However, this only mechanism can not explain totally this result because the trained group presented significant higher value than the CG. The pleasure of the participants to participate at the APA would be a supplementary significant factor improving the GDS'score.

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INCLUSION IN THE PHYSICAL EDUCATION OF THE SCHOOL: WHAT SAY THE TEACHERS AND THE PUPILS WITH VISUAL DEFICIENCY

Prof. Dr. Atos Prinz Falkenbach – University Center UNIVATES – Brazil atos@univates.br
Prof. Dra. Jane Márcia Mazzarino – University Center UNIVATES - Brazil

INTRODUCTION The present study is a continuation of previous research on pedagogical experience and actions in PE classes related to students with deficiencies. It investigates on how students with visual deficiency and their PE teachers face the subjects of inclusion, school accessibility and the PE classes. The study took place at a regular school in Porto Alegre – RS - Brazil. The study aims at interpreting how students with visual deficiency and their PE teachers understand the inclusion and the accessibility at school during PE classes. By analyzing the school reality through the perspectives of students with deficiency and the perspective of their PE teachers, it is possible to better understand everyday school practices regarding the reality of inclusion.

METHODS It is a qualitative case study, so information was collected through observation, interviews and a field diary. Data was analyzed by using the instrument triangulation method. The participants were two PE teachers and two students with visual deficiency from a regular school. The related study was approved by the Committee of Ethics in Research from the Methodist University Center of IPA and it is in accordance with the Resolution of CNS 196/96 (a law from Brazil's legal system)

RESULTS The results were organized in two categories of analysis: a) difficulties and facilities reported by the PE teachers; b) difficulties and facilities reported by the students with visual deficiency in PE classes. One of the difficulties is that the PE teachers' basic and continuing education do not approach the inclusive practice at school. Besides, the physical organization of the school restricts the environmental accessibility. Finally, the structural organization, which is related to the specific bits and pieces used during PE classes, limits the teachers' pedagogical practice. Conversely, the pedagogical model of PE is flexible and gives room to adaptation and new ideas to the educational practice. The PE teachers are sensitive and receptive to students with the deficiency.The students with visual deficiency feel distant from the other classmates because they do not engage in group activities. They would rather take part in activities that involve the whole class. Even though, they seem to enjoy PE classes and they are very receptive to new pedagogical experiences.

CONCLUSION The analysis of the inclusion experience through the perspective of the PE teachers and students with visual deficiency provided a clearer view of the social difficulties related to the learning process. The results also show that the students with the deficiency believe the school does its best regarding the inclusive practice. As for the PE teachers, they display sensibility while dealing with students with visual deficiency, although they admit lacking theoretical knowledge to underlie their inclusive practice.

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ENVIROMENT AND SOCIAL PROBLEMS IN THE ACCESSIBILITY OF STUDENTS WITH DEFICIENCIES IN PE CLASSES

Prof. Dr. Atos Prinz Falkenbach – University Center UNIVATES – Brazil atos@univates.br
Prof. Dra. Jane Márcia Mazzarino – University Center UNIVATES - Brazil

INTRODUCTION: The present study is a continuation of previous research on pedagogical experience and actions correlated to students with deficiencies in PE classes. The study has been carried out in the region of Vale do Taquari – Rio Grande do Sul – Brazil. It investigates on how students with deficiencies and their PE teachers face the environment and social issues related to school inclusion and accessibility.

METHODS: It is a qualitative case study. Information was collected through observation, interviews and field diary. The study has analyzed four public schools where students with deficiencies were enrolled in regular groups and attended regular PE classes. Those schools were carefully chosen because they differ from the reality in Brazil: students with deficiencies are usually enrolled in special classes and do not attend PE classes. A student with deficiencies and a PE teacher were interviewed in each of the four schools, totalizing four students between the ages of 11 and 14 and four PE teachers. Two of the students interviewed had visual deficiencies and the other two had physical deficiencies.

RESULTS: The results were organized in categories of analysis: a) the physical and structural organization of the schools in face of inclusion; b) the pedagogical organization regarding accessibility and inclusion; c) the facilities and difficulties faced by the PE teachers in their inclusive practice; d) the participation of the students with deficiencies during PE classes; e) the relationship among students with deficiencies, their classmates and their PE teachers.

The PE teachers state that there are structural, physical and pedagogical difficulties for the inclusion of students with deficiencies. Results indicate that, although students with deficiency enjoy PE classes, they would rather engage in group activities. Those students with deficiencies attend regular PE classes, but they usually take part in special activities with the help of another student chosen by the teacher. That means that the reality in PE classes reflects special treatment rather than inclusion. There is little relationship between the students with deficiencies and their classmates.

CONCLUSION: The results show that there is accessibility in the school, although PE teachers lack continuing education in order to provide real inclusive practices during their classes. The students with deficiencies enjoy PE classes, although they have difficulties in performing group activities. The present study contributes to the analysis of the physical and pedagogical environment in which inclusion in PE classes is placed.

INCLUSION IN THE PHYSICAL EDUCATION OF THE SCHOOL: WHAT SAY THE TEACHERS AND THE PUPILS WITH VISUAL DEFICIENCY

Prof. Dr. Atos Prinz Falkenbach
University Center Methodist IPA Fleming Salvador Pedroso - University Center Methodist IPA Luciane Carniel Wagner - University Center Methodist IPA

INTRODUCTION The present research is deriving of the productions of research in the subject of the inclusion in the school and in the physical education, it investigates the teachers and pupils with visual deficiency understanding on the subject of the inclusion and the accessibility in the school and physical education classes in the regular school. The study it is continuity of the research projects that investigate the action and the pedagogical experiences present in the physical education that includes pupils with deficiency in the regular school of Porto Alegre - RS - Brazil. The study it interprets the teachers and the pupils with visual deficiency on the inclusion and the accessibility in the school and the physical education classes. To give voice to the teachers and the pupils with visual deficiency of the regular school is to listen the manifestations related to the daily one and of the reality lived deeply for the users of the inclusive process in the regular school. It analyzes and it interprets repercussions of the inclusion in the physical education classes, the collective school and the social one of pupils with deficiency.

METHODS This is a qualitative case study. The instruments for collecting information were observations, interviews and field diary. The participants of the study were two physical education teachers of the school and two pupils with visual deficiency in one public school. The related study it was approved in the Committee of Ethics in Research of University Center Methodist IPA for being in accordance with the Resolution of CNS 196/96.

RESULTS From the information collected, it was possible to organize the following categories: a) difficulties and facilities that the physical education teachers say about the inclusion experience; b) difficulties and facilities that the pupils with visual deficiency say about the inclusion experiences at Physical Education classes.

CONCLUSION The analyses and interpretations of the inclusion experiences under the optics of pupils with visual deficiency allowed to understand the social difficulties and of learning that is participant, as well as of the effort that they perceive of the school in the process of inclusion in the physical education classes and others. The teachers tell the lack of formation for performance with pupils with deficiencies, but they demonstrate sensitivity for the process of inclusion in the regular school.

THE ´ADAPTED SKIBOB' – WINTERSPORT FOR PEOPLE WITH SPECIALS NEEDS & DISABILITIES OF THE MUSCULOSKELETAL SYSTEM

Thorsten Gegenwarth, MBA; Mag. **Thomas Reinelt** -ITA gGmbH;
Department: FIT SCHOOL & Sporttherapie; Austrian Federation of Adapted Physical Activity (AFAPA)

INTRODUCTION: About 10% of the population of an industrialised country (Source: OECD 2007) have a disability or chronic disease. Besides that an ageing population challenges us in developing adequate Winterport equipment. For these two growing target groups and their sometimes highly individual needs a consortium of partners initiated a project to develop Winterport equipment that offers them possibilities to actively participate in Winterport activities irrespective their age, disability or special need.

METHODS: As skiing is a national sport in Austria we developed the so-called \'adapted skibob\' in a kids and adult version. The skibob is not only a vehicle with which those who would never be able to ski could experience the thrill of snow sport and the wonderful winter landscape of the Alps, it could be also used as an excellent sports & training aid. In some cases the 'Adapted Skibob' is utilised for rehabilitation issues.

RESULTS: Besides focusing on sport & leisure activities and rehabilitation issues the project has another very important area of focus: Although more and more children with special needs could go to mainstream schools there are still a huge number of hurdles concerning sports education. There are several specifically designed sports aids available worldwide to allow children with special needs to learn skiing and so participate in winter sport education with their classmates. But the techniques to use and availability of those aids are still limited and not widely shared. Therefore is was the aim of the project to develop a sports aid in cooperation with several partners, that is first of all easy to use & transport and secondly affordable not only for institutions but also for families. Besides that we plan to establish training courses for interested teachers, families and professionals.

CONCLUSION: This presentation gives an overview about the available winter sports aids, theoretical concepts, practical examples and the development process of the so-called Adapted Ski-Bike. Besides drawing conclusions we will present the benefits for people with special needs of all ages being able to join their classmates, friends or families in winter sport activities.

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OUTDOOR EDUCATION & ADAPTED PHYSICAL ACTIVITIES FOR PEOPLE WITH LEARNING DIFFICULTIES IN ADAPTED VOCATIONAL TRAINING & SUPPORTED EMPLOYMENT

Thorsten Gegenwarth, MBA

INTRODUCTION This presentation summarises the experiences made in a three years innovation project to establish an outdoor education program for trainees with learning difficulties. The program was integrated into a vocational training centre for youngster and young adults with learning difficulties / special needs in Vienna, Austria. Beside sports programs this centre has a long tradition in offering Adapted Physical Activity (APA) programs in cooperation with the Austrian Federation of Adapted Physical Activities (AFAPA).
The basic aim of the outdoor program is to shift educational settings into the surrounding near & far outdoor environment, away from the walls, roves of the training rooms. Outdoor education in this case could be defined as experiential learning in the outdoors. Following different definitions 'outdoor education' refers to a wide range of activities organised in a variety of ways in predominately outdoor environments. Learners therefore have the possibility to learn not only using their cognitive abilities but also their social and physical skills and competencies. The learning process is holistic, multi-sensorial and focuses on the learner as bio-psycho-social unit.

Outdoor education therefore affects the three general domains of self (individual perspective), others (group perspective) and the near & far environment (socio-ecological perspective) through a combination of adapted physical activities, cognitive tasks and social challenges.
By using experiences out of different fields (including APA programs) in interdisciplinary ways the highest possible participation of the engaged trainees is promoted by highly individualised instructions, matching personal strengths and interests with appropriate activities and adapting the learning environments & settings for example by using appropriate & modified equipment and aids. Some typical general aims of outdoor education are besides enhancing personal and social development: learning how to overcome adversity and develop a deeper relationship with nature.

An outdoor education program can, for example based on these general aims, emphasise one (or more) of the following specific aims to: ▪ improve problem solving skills ▪ enhance teamwork ▪ develop leadership skills ▪ understand natural environments & promote spirituality.
As integral part of the existing APA and sport programs the developed Outdoor education program closes a gap towards a holistic socio-ecological approach in adapted vocational training. The presentation gives an overview about the theoretical concepts, practical examples and the development process of the program. Besides drawing conclusions we will present the benefits for people with learning difficulties and the link to the concept of Adapted Physical Activities (APA).
In detail the outline is as followed:

1. Outdoor Training in Vocational Education/Training & Supported Employment
2. Barriers to Participation in outdoor adventure education activities for Individuals with learning difficulties
3. Benefits for the individuals with learning difficulties
4. Benefits for the Vocational Education Program & Centre
5. Links between Outdoor Education & APA
6. Practical Examples

A COMPARISON OF CARDIOVASCULAR EFFECTS PRODUCED BY PERFORMING EXERCISES IN AND OUT OF WATER IN ELDERLY HYPERTENSIVE WOMEN

Gomes, E[1].; Rodrigues, E.[3]; Beker, L.[3]; Amorim, M[1].; Corredeira, R[1].; Bastos, T[1].; Borges, K[2].[1]
Department of Adapted Physical Education, Faculty of Sport, University of Porto, Portugal. [2]Faculty of physical education, physiotherapy and occupational therapy, Federal University of Minas Gerais, Brasil. [3]Faculty biology, Federal University of Minas Gerais, Brasil.

INTRODUCTION As age passes by, the ageing diseases become inevitable and among these hypertension can cause serious complications to the elderly. The gymnastics in water (hydrogymnastics) is a very popular activity preferred for elderly and consists, basically, of exercises based on the use of the water resistance of the overload, making important to verify the physiological responses produced by exercise in aquatic and terrestial environment in elderly hypertensive women.

METHODS The sample comprised 9 elderly hypertensive nonhypotensive users of beta blockers who did not have any diet associated with practicing hydrogymnastics. The experimental protocol consisted in 5 exercises with a total duration of 10 minutes and use rhythmic metronome with 70% of maximum heart rate based on the method of Karvonen. Measurement of blood pressure and heart rate at rest was carried out at 6 and 10 minutes and the exercises were held in the aquatic and terrestrial environment with 48 hours rest between one and another collection, at random. There wasn´t prior training with the sample. The Student test was used for paired samples and One Way ANOVA followed by Newman Keuls for comparison between more than 2 samples expressed as means. The level of significance was $p < 0.05$.

RESULTS There were lower values of heart rate in the aquatic environment (79±2bpm in rest, 132±3bpm at six minute, 129±3bpm at ten minute) compared to the terrestrial environment (80±2bpm in rest, 149±2bpm at six minute, 155±2bpm at ten minute), corroborating others studies. There was no significant difference in blood pressure between terrestrial environment (122±2/81±1mmhg in rest, 156±3/98±3mmhg at six minute, 157±5/96±6mmhg at ten minute) and aquatic environment (125±4/80±0,5mmhg in rest, 165±8/98±3mmhg at six minute, 160±5/97±1mmhg at ten minute). The heart rate outside the water sample exceeded 70% of maximum in aquatic environment, perhaps because there wasn´t prior training. Some authors says which fear and anxiety interfere with the physiological responses of blood pressure and heart rate, also interfering in the degree of difficulty in motor skills required for this age group.

CONCLUSION Specific training is necessary as a means of complementing the improvement of motor repertoire, improving performance and improving physiological responses, especially in the elderly.

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HEALTH AND HEALTH BEHAVIOR OF PERSONS WITH VISUAL IMPAIRMENTS

Eero Haapala
University of Eastern Finland, Faculty of Health Sciences ehaapala@hytti.uku.fi

INTRODUCTION Health behavior of adult population with visual impairments (VI) is poorly documented. Research shows that children and adolescents with VI are less active and more obese than those with normal sight. However there are limited data of health and health behavior of adults with VI. This study examines the role of physical activity (PA), nutrition and sleep in health of persons with VI.

METHODS In this cross-sectional study participants were persons with VI enrolling to rehabilitation. The data was collected from January to April 2009 in Iiris rehabilitation center of Finnish Federation of Visually Impaired. The participants were 46 males and 56 females with VI. Their mean age was 47 (range 20–68 years). Physical activity, nutrition, sleep and health assessments were made by structured questionnaire modified from Health Behavior and Health among the Finnish Adult population -Study and Finriski -study questionnaires. Statistical analysis was made with Chi Square-, Mann-Whitney U- and Binomial -tests.

RESULTS Risk for coronary artery disease, diabetes, high total cholesterol level, hypertension, cancer, depression and low back disorders was increased significantly among persons with VI compared to general Finnish population (OR=2.0–7.0, 95 % CI=1.02 to 11.57). Higher prevalence was associated mainly with sedentary behavior over other elements of health behavior. Risk for hypertension was decreased among persons with VI who did at least 30 minutes fitness training at one session (OR=0.21, 95 % CI=0.06 to 0.67) or had fitness training at least three times a week (OR=0.3, 95 % CI=0.12 to 0.96) compared to less active persons with VI. Persons with VI who did weekly less than four hours PA or under 30 minutes PA in a day were at increased risk to be obese (OR=3.0–3.9, 95 % CI=1.29 to 11.74). Among men with VI waist circumference ≥ 102 cm increased risk for hypertension (OR=7.6, 95 % CI=1.61 to 35.91) and low back disorders (OR=7.8, 95 % CI=1.52 to 39.75). Among women who had waist circumference ≥ 88 cm (OR=17.5, 95% CI=1.94 to 157.2) or body mass index ≥ 30 (OR=14.8, 95% CI=2.97 to 73.44) had increased risk for high total cholesterol level. Among both genders body mass index ≥ 30 increased the risk for high total cholesterol levels (OR=4.3, 95% CI=1.4 to 13.02).

CONCLUSION Sedentary behavior is related to obesity and high frequency of diseases among persons with VI. Health promoting is recommended for persons at any degree or onset time of VI and it should concentrate on reducing obesity and increasing daily activity at least to level of current physical activity recommendations.

PARTICIPATION POSSIBLE FOR FOR ALL PEOPLE

Lena Hammar
The National Agency for Special Needs Education and Schools

The National Agency for Special Needs Education and Schools was established on 1 July 2008 for the purpose of coordinating the government's support for special needs education. Our aim is to ensure that children, young people and adults with disabilities will be able to develop and receive an education based on equality, participation, accessibility and companionship.
Our function is to offer support to school management in matters relating to special needs education, promote access to teaching materials, run special needs schools and allocate government funding to pupils with disabilities in education and to education providers. Our overall aim is to help pupils fulfill their educational goals.

All school's written policy makes clear that teaching must be adapted so that all pupils have the opportunity to achieve the goals and experience participation and belonging. But we can still see that many teachers in Swedish schools have difficulties in adapting the teaching in the subject of Physical Education. Therefore this is one area that we give support and advice as well as produce materials, provide in-service training and education. The National Agency for Special Needs Education and Schools also interacts with other organizations to raise awareness of, and increase opportunities for, pupils with disabilities to be involved.

The aim of the presentation is to present some of the work the Agency do in the area of APA. We will also highlight some good examples on DVD where schools have change their way of working to make it possible for pupils with disabilities to participate and getting involved in PE. The film material makes it also clear that not only the students with disabilities but all pupils benefit from adapted teaching.

The primary target group is people involved in PE-education.

POSSIBILITIES OF INNOVATIONS AND IMPROVEMENTS IN EDUCATION IN APA VIA INTERNATIONAL COOPERATION (WITH SPECIAL FOCUS ON POSSIBILITIES OF EU EDUCATIONAL PROGRAMMES FUNDING)

Zuzana Hanelová
Palacký University, Olomouc, Faculty of Physical Culture

INTRODUCTION International cooperation is one of crucial aspects in any field of nowadays higher education. The field of APA seems to be utilizing the opportunities of international cooperation very actively but if making a survey of possibilities (especially EU programmes focused on development of international cooperation in higher education area) and comparing it with the real situation (i.e. the number of existing international study programmes in APA, international networks, summer schools, international research, etc.) we have to concede that many of the possibilities remain unused. The question is: "What is the reason of this insufficiency – especially in the project based development of international cooperation in the field of APA?" The aim of this presentation is to present a survey of possibilities of EU project funding in the field of higher education area and to arouse a discussion on possibilities of cooperation in the field of APA within the framework of EU projects (incl. Trans-Atlantic cooperation and development of joint degree study programmes), and a discussion/brainstorming on project/cooperation sourcing in case of EU funding was not achieved. The author also hopes to find (as a result of the discussion aroused) an answer to question posed above.

REFERENCES http://eacea.ec.europa.eu/llp/index_en.php http://www.naep.cz/

RELATIONSHIP BETWEEN MOTOR SKILLS AND EXECUTIVE FUNCTIONING IN CHILDREN WITH PERVASIVE DEVELOPMENTAL DISORDER-NOT OTHERWISE SPECIFIED

Esther Hartman, Joyce Schurink, Suzanne Houwen & Chris Visscher
University Medical Center Groningen, University of Groningen, Center for Human Movement Sciences, The Netherlands.

INTRODUCTION Motor performance and higher-order cognitive functions, among which executive functioning (EF) might be linked (Diamond et al., 2000), which may also be the case in children with atypical development. The primary aim of the present study was therefore to examine the motor skills and executive functioning in elementary school children diagnosed with Pervasive Developmental Disorder-Not Otherwise Specified (PDD-NOS). The second aim was to examine the relationship between the children's motor performance and executive functioning.

METHODS We recruited 28 children with PDD-NOS (19 boys, 9 girls; mean age 10y 6mo, range 7-12y) from two primary special-needs schools located in the northern regions of the Netherlands. The children were included if they were healthy, i.e., not suffering from any physical illness or injury and if they were not diagnosed with Attention Deficit Hyperactivity Disorder. The children's motor skills, i.e., manual dexterity, ball skills, and balance were evaluated with the Movement Assessment Battery for Children (MABC). Executive functioning (EF), in terms of planning ability, strategic decision making, and problem solving, was gauged with the Tower of London (TOL) task.

RESULTS The children with PDD-NOS had significantly more definite motor problems than the normative sample: 42.9% (manual dexterity), 25% (ball skills), and 25% (balance skills) compared to 5% in the normative sample. They had significantly lower (=worse) scores on the TOL compared to age- and gender matched typically developing children. The results showed significant partial correlations (controlling for age and sex) with medium effect sizes between the TOL scores and manual dexterity scores ($r = -.46$, $p = .007$), balance scores ($r = -.41$, $p = .017$), and the total MABC scores (-.37, $p = .032$). The inverse correlations reflected better TOL scores for children with better motor skill scores. Although a small effect size was found for an inverse correlation between ball skills and the TOL score, this correlation did not reach significance.

CONCLUSION Children with PDD-NOS have less well developed motor skills and executive functions than their typically developed peers. Their motor and executive deficits seem to be related: poorer motor control results in poorer executive functioning and vice versa. The results underscore the importance of physical education and motor interventions in order to stimulate the motor and cognitive development in this population.

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READINESS OF SPORT FACILITIES AND SUPPORT SYSTEMS IN REGION ZLIN FOR INCLUSION OF STUDENTS WITH DISABILITIES IN GENERAL PHYSICAL EDUCATION AND SPORT ACTIVITIES

Roman Herink, Lucie Rybová
Faculty of Physical Culture of Palacky University Olomouc, Czech republic

INTRODUCTION Readiness of sport facilities for safe and comfortable participation by persons with physical disabilities in region Zlin (Czech Republic) is perceived as one of the crucial conditions for the development of adapted physical activities. The purpose of this presentation is to describe current state in the region, conditions and readiness for inclusion in physical activities. Thanks to these approaches together with accessible transportation and financially reasonable opportunities, there is fast growing interest in participation in adapted sports and their positive presentation in society.

METHODS Analysis of related legislature Czech legislature addresses physical accessibility of newly build or reconstructed public facilities since 1985 and currently is comparable with German legislature. Information about accessibility of sport facilities is being collected since 1998 and from 2004 became and integral part of regional information system. We would like to highlight as an example of good practice involvement of local municipalities in following areas: (a) long term investment plan in relation to accessibility, (b) systematic budgeting approaches, (c) concept of support of participation of persons with disabilities in sport in region.

RESULTS Currently there is ongoing project coordinated by Faculty of Physical Culture of Palacky University titled "center of support of inclusion" focusing on facilitation of participation of children and youth with disabilities in physical education and sports. Currently we are collecting data about level of inclusion in general PE.

CONCLUSION If selected for oral presentation part of our presentation would be video and photo presentation of examples of good practices in Zlin region – Ice Sledge Hockey European Championship 2005, Electric Wheelchair Hockey DevEv IWAS 2007, Wheelchair orienteering, bowling for persons with visual impairment, sport activities for persons with hearing impairment.

THE ATTITUDES OF PHYSICAL EDUCATION TEACHERS TOWARDS THE STUDENTS WITH SEN IN SECONDARY SCHOOLS IN BARCELONA

Javier Hernández Vázquez, Ana Bofill Ródenas and Jannick Niort

INTRODUCTION The aim of this study is to identify the attitudes and perceptions of teachers toward students with special educational needs (SEN). Specifically, the knowledge of the attitudes and opinions of a group of teachers of Physical Education in high schools in Barcelona (Spain) to their students with SEN. The analysis and conclusion of the results obtained give us the variables that teachers consider important to improve attitudes towards inclusive education.

METHODS The sample was obtained from the population of physical education teachers in secondary schools in Barcelona and its province (N = 339) of the province and capital of Barcelona. The sample size is 59 individuals (n = 59). The questionnaire was developed by a group of experts in educational administration, university faculty and by having methodological advice. The questionnaire, which was administered and retested (n = 45), presents a 0.85 to 0.90 reliability.

RESULTS The responses on the attitude of teachers towards pupils with SEN, are positive or very positive. Moreover there are some questions that the teacher does not agree: the implementation of inclusion determines that the teacher can not achieve the objectives with other students ($p < 0.05$). In other questions exists some ambiguity in the responses: in the early stages of primary education, teacher\'s attitude is more favorable ($p < 0.14$) and ideologies can condition the attitude towards pupils with SEN ($p < 0.05$).

CONCLUSION The attitudes and perceptions of teachers are mostly favorable when: the perception is positive towards students with SEN, know the model of educational intervention, increase certain personal and professional characteristics and allow external variables help the teacher-learner interaction.

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FACTORS AFFECTING THE INCLUSION OF STUDENTS IN PHYSICAL EDUCATION CLASS: A LITERATURE REVIEW

Javier Hernández Vázquez, Ana Bofill Ródenas and Jannick Niort
Institut Nacional d'Educació Física de Catalunya-Centre de Barcelona (Spain)

INTRODUCTION This work deals with the inclusion of students with special educational needs in PE classes as it is reflected in the specialised literature. The factors affecting the inclusion of pupils in classroom has been analysed by having to review the results of the most relevant research in order to reflect and appraisal the current trends as regards methodology and intervention programmes.

METHODS Systematic reviews of the literature were done. Relevant studies were identified by examination of titles, abstracts and full papers, comprising peer-reviewed journal articles, according to inclusion criteria defined a priori. The documents were imported to the online reference database manager, RefWorks. To provide a framework for reviewing the literature on inclusive education and mainstreaming in physical education classes six factors are distinguished: human resources (student tutors, assistant professors and specialists), the curriculum, the inclusive and non-inclusive environment, social interaction, teachers\' attitudes and the attitudes of students without disabilities. Data extraction and quality assessment was carried out on studies selected for full text appraisal, and results were analysed and presented in narrative format

RESULTS The literature reviews showed consistent evidence for the direct relationship between the six factors and inclusion of students in Physical Education class. The discussion examines possible improvements can make to facilitate inclusion in the area of Physical Education, focusing on different factors which could be adjusted in order to encourage mainstream of students with special needs.

CONCLUSION Knowledge and attitude-related outcomes were the most associated factors with inclusion. Finally, the studies undertaken on Physical Education revealed that there is a positive attitude towards inclusion of students with difficulties.

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MULTIDIMENSIONAL HOME-BASED EXERCISE FOR CHRONICALLY ILL ELDERLY WITH STRUCTURED SUPPORT GIVEN BY THE GENERAL PRACTITIONER'S SURGERY

Timo Hinrichs (1), Claudio Bucchi (1), Michael Brach (2), Anna Moschny (1), Juliane Volke (1), Ulrike Trampisch (1), Stefan Wilm (3), Petra Platen (1)
1: Department of Sports Medicine and Sports Nutrition, University of Bochum, Germany 2: Institute of Sport Science, University of Münster, Germany 3: Institute of General Practice and Family Medicine, University of Witten/Herdecke, Germany

INTRODUCTION Exercise helps to preserve functional status and mobility in old age. Sedentary, chronically ill or frail elderly people, however, are difficult to reach for interventions if they live in their own homes. A home-based exercise programme, approaching and supporting those elderly via their general practitioner (GP) and an exercise therapist, is object of research with regard to feasibility and acceptance (Trial registration: Current Controlled Trials ISRCTN58562962).

METHODS The study was designed as a single arm interventional trial. Participants were recruited through their GPs. The 12-week intervention consisted of physical activity counselling, a home-based exercise programme (exercises to improve strength, flexibility and balance, and walking for exercise to improve aerobic capacity), and consultations provided by an exercise therapist in the GP's surgery and via telephone. Undesirable events were documented and judged by the GP. At the end of the intervention, participating GPs were asked if they would once again participate in the trial.

RESULTS Eight GPs participated in the trial. A final number of 91 patients (median age 76 (70-87) years; 60% females) completed the baseline assessment and started the intervention. According to their GPs, 85% of participants had been diagnosed with arterial hypertension, 32% with diabetes, 32% with coronary heart disease, 20% with chronic heart failure, 15% with chronic obstructive lung disease, 66% with degenerative spine disease, 28% with knee osteoarthritis, 21% with hip osteoarthritis, 14% with osteoporosis, and 27% with cancer in their history. Of all participants, 97% had been diagnosed with at least one of the mentioned diseases. Seventy-six participants (83.5%) completed the intervention and attended the final assessment. According to the GPs' judgement, no undesirable event was caused by exercise. All GPs stated that they would again participate in the trial.

CONCLUSION The home-based exercise programme for chronically ill elderly that is based on a new kind of co-operation between GPs and exercise specialists has demonstrated good feasibility and acceptance. To evaluate the effects, a randomized controlled trial should be conducted.

PHYSICAL FITNESS SCORES OF CHILDREN WITH VISUAL IMPAIRMENTS VARY WITH ACTIVITY LEVEL

Suzanne Houwen, Esther Hartman, & Chris Visscher
University Medical Centre Groningen, University of Groningen, Centre for Human Movement Sciences s.houwen@med.umcg.nl

INTRODUCTION Previous research has shown that youths with visual impairments (VI; legally defined as a visual acuity ≤ 20/70 in the better eye with best possible correction) have low fitness levels compared to children without VI (Lieberman & McHugh, 2001; Houwen, Hartman, & Visscher, in press). An inactive lifestyle may lead to these low physical fitness levels. This study examined the physical fitness of children with and without VI and its association with physical activity level. We hypothesized that children with and without VI do not differ in physical fitness level as long as they are equally active.

METHODS A sample of 96 children with and without VI (6-11 years) was assessed with GT1M accelerometers and Eurofit physical fitness items (plate tapping, sit-and-reach, standing broad jump, handgrip strength, 5x10-m shuttle run, and endurance shuttle run). The physical activity level of the children was classified using the number of minutes spent in moderate-to-vigorous physical activity (MVPA). The children were divided into two groups (inactive versus active) based on the median split of minutes spent in MVPA.

RESULTS The children with VI were more sedentary ($p<.001$) and spent less time in MVPA ($p=.015$) than the children without VI. MANCOVA with age, sex, and body mass index as covariates showed that: - The children with VI have inferior performance on plate tapping, standing broad jump, and 5x10-m shuttle run compared to the children without VI; - Inactive and active children differed significantly in performance on plate tapping, sit-and-reach, standing broad jump, and 5x10-m shuttle run; - Children with and without VI at the same activity level did not differ significantly in physical fitness scores.

CONCLUSION Children with VI do not have lower physical fitness levels per se than children without VI; it is the physical activity level that counts. Physical activity needs to be promoted in children with VI. Focusing on reducing time spent in sedentary activities and enhancing participation in MVPA may be successful means of promoting physical fitness in children with VI.

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THE [IN]VALIDITY OF THE REPRESENTATION OF SUPERCRIP: EXPLORING PORTUGUESE CASES

Carla F. Silva and P. David Howe
Loughborough University

This paper provides a critical overview of use of the supercrip image as an appropriate representation of Paralympic athletes. It will question the validity of the use of the supercrip iconography as a vehicle for the enhanced empowerment of individuals with impairments both within the context of elite sport and within society more generally. The use of the supercrip may be seen by the able moral majority as enlightened. However, those using the concept of supercrip might unknowingly hindered the physical as well as social development of impaired individuals by creating what could be termed 'achievement syndrome' – the idea that the impaired are successful in spite of their disability. Drawing upon data from Portuguese advertising campaigns used during the 2004 and 2008 Paralympics Games, this paper will focus upon the importance of the use of language and images that are embodied in the supercrip iconography. In so doing this paper explores the intended and unintended consequences of the use of supercrip in representing impaired bodies as simply lacking normality.

MODEL OF NETWORK IN ORGANIZING HEALTH ENHANCING AND ADAPTED PHYSICAL ACTIVITIES IN THE CITY OF JYVÄSKYLÄ

Pirjo Huovinen
Development Manager, Adapted Physical Education and Recreational Sports Unit
pirjo.huovinen@jkl.fi

INTRODUCTION Jyväskylä is known as a sports city. More than 70 different sports, including summer and winter sports, can be carried out in our city. There are ca. 450 constructed sports facilities and 235 sports clubs. The city of Jyväskylä is known as a forerunner in the field of Adapted Physical Activities in Finland. A vast cooperative network for producing APA services has been created in Jyväskylä. This work has demanded the smooth and unprejudiced cooperation of a number of different agencies.

The adapted physical activity programs organized by the network are intended for persons who, for reasons of disability, chronic illnesses, advanced age, diminished physical capability, or social situation are unable to benefit from the usual range of physical activities available to the public. The adapted physical activity demands also special knowledge and adaptation. The concept of adapted physical activity carries a broad meaning from rehabilitation, fitness and recreational sports, adapted physical education in schools to competitive and Olympic sports. In practice, a major part of adapted physical activities is by nature fitness and recreational sports, which are strongly accompanied with health -enhancing objectives.

The main responsibility for planning and coordinating adapted physical activities for citizens in the city belongs to the Cultural and Educational Affairs / Sports and to the Center for Social Welfare and Health Services. These two administrative agencies are taking care of the planning, coordination, major part of implementation and organizing transportation for the severely handicapped to groups and courses. They are cooperating with other administrative agencies and organizations, associations of the disabled, pensioners and war veterans. They also are organizing training for sport instructors and taking care of information services. Information about the special programs available is sent to every household in the form of a newsletter. Also an annual Calendar of Adapted Physical Activities is published in website: www.jkl.fi/liikunta/erlikalenteri At the moment, there are about 400 weekly instructed adapted physical activity and health enhancing groups and sport courses for special population. In these groups 9000 people with chronic illness, different handicaps or advanced age can practice some sport or exercise form suitable for them.

The Faculty of Sport and Health Sciences of the University of Jyväskylä provides a great amount of know-how for the development of adapted physical education. The adapted physical activities organized by the city offer also many opportunities for students of Jyväskylä University and Polytechnic to do their practical training.

It is also characteristic of Jyväskylä that the Center for Social Welfare and Health Service uses a lot of physical activity for rehabilitation. 70 % of all open care rehabilitation visits are group visits. Sport instructors for the groups and courses are professionals who have had training in physical education or rehabilitation. Of these services the vast majority are either completely free-of-charge or available at a small nominal charge.

EFFECTS OF PARTICIPATION IN SEPARATED AND REVERSE-INTEGRATED SPORT ACTIVITY ON PSYCHO-SOCIAL FUNCTION IN YOUNG PEOPLE WITH DISABILITY

Yeshayahu Hutzler, Anat Chacam, and Shunit Reiter Zinman
College for Physical Education and Sport Science and the Faculty of Education Haifa Univeristy
shayke@wincol.ac.il

INTRODUCTION The purpose of this study was to examine the effect of a six-month participation in different types of separated and reverse-integrated sport activity on psycho-social variables in young persons with disability.

METHODS A convenience sample of 90 participants (33 females and 57 males) aged 12 -25 years completed a series of questionnaires pre and post the experimental period. Participants comprised four different groups, the first two of which were in the framework of separated sport activity. Groups included (a) competitive physical activity (CPA, N=15); (b) recreational physical activity (RPA, N=23); (c) reverse-integrated basketball (RIBB, N=30); and (d) no physical activity controls (NPA, N=22). Questionnaires included a self-constructed social competence scale (SC), the Quality of Life scale (QOL; Schalock, Keith, & Hoffman, 1990), and a self-constructed scale regarding beliefs about the causes of success (BCS).

RESULTS Distribution of disability and age did not differ at pretest between groups. Test-retest outcomes were analyzed by means of repeated measures ANOVA. Findings demonstrated a significant time effect with interaction between groups for SC, QOL, and BCS. Post-hoc paired comparisons demonstrated a significant difference between the RIBB compared to all other groups. Change scores in this group revealed 12.2, 9.7, and 24 % compared to a maximum of 3.2, 3.85, and 25.5 % in any of the other groups for SC, QOL, and BCS, respectively.

CONCLUSION Based on our findings it appears that the RIBB advanced the best results for SC and QOL in our participants and had similar results as the CPA for BCS.

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MATCH ANALYSIS OF WOMEN'S SITTING VOLLEYBALL AT INTERNATIONAL LEVEL

Mikko Häyrinen [(1)], Minna Blomqvist [(1)], Henri Lehto [(1)] & Sanna Heino [(2)]
[1] KIHU – Research Institute for Olympic Sports, Jyväskylä, Finland, [2]Finnish Association of Sports for Disabled mikko.hayrinen@kihu.fi

INTRODUCTION Sitting volleyball has been a Paralympic sport since 1980. So far there are only few previous studies concerning sitting volleyball. The purpose of this study was to describe game actions of women's sitting volleyball matches played in international top-level tournaments 2003 and 2008.

METHODS Women's sitting volleyball matches from the European Championships 2003 (4 matches, 13 sets) and Paralympics 2008 (3 matches, 9 sets) were videotaped and analyzed with Data Volley -software which is commonly used statistical and scouting software for volleyball. Every serve, reception, attack and block was coded including the player and the result of the action. The means and SDs for each team per set were calculated for different actions and opponent errors. The success and error percentages were calculated for serving, receiving and attacking and the ace percentage for serving. T-test for independent samples was used to compare the results between 2003 and 2008 and winning and losing teams per set.

RESULTS One team performed 20.3±5.6 serves in 2003 and 21.2±4.2 serves in 2008. The number of receptions was 17.2±5.7 and 19.3±4.3, attacks 23.0±6.1 and 28.8±6.0 ($p<0.01$), kill blocks 2.3±1.4 and 2.8±1.3 and opponent errors 5.8±2.2 and 5.7±2.6, respectively. The success percentage in serving was 46.0±12.8 in 2003 and 40.5±13.4 in 2008, in reception 49.5±15.1 and 55.1±15.3 and in attack 35.9±14.8 and 35.3±12.9, respectively. The ace percentage (19.6±11.0 and 11.8±6.3, $p<0.01$) and error percentage in receiving (25.2±13.3 and 16.4±8.3, $p<0.05$) decreased from 2003 to 2008.

In 2003 winning teams had higher ace percentage (24.0±10.9 % vs. 15.3±9.6 %, $p<0.05$), higher success percentage (45.9±11.6 % vs. 25.9±10.3 %, $p<0.001$) and lower error percentage (15.2±8.7 % vs. 23.9±7.1 %, $p<0.05$) in attacking. Winning teams also made more successful block actions (3.0±1.5 vs. 1.7±0.9, $p<0.05$). In 2008 winning teams had higher ace percentage in serving (15.7±4.6 % vs. 7.9±5.2 %, $p<0.01$) and higher success percentage in attacking (43.8±10.5 % vs. 26.7±9.1 %, $p<0.01$). When the set winners of the 2003 and 2008 matches were compared the only significant difference was found in the ace percentage of serving (24.0±10.9 % vs. 15.7±4.6 %, $p<0.01$).

CONCLUSION The level of receiving (less reception errors) has improved from 2003 to 2008. Thus the number of attacks has also increased. The results suggest that the most important skills concerning winning in women's sitting volleyball were serving and attacking. It can be speculated that especially the physical qualities of the players have improved enabling better movement ability which is also reflected in the quality of receptions.

APA WITH ABUSED BOYS

Hölter, G., Grauenhorst, I., Volmer, J. TU
Dortmund Fakultät Rehabilitationswissenschaften Bewegungserziehung und Bewegungstherapie

INTRODUCTION In the past the focus of a topic like sexual abuse laid mainly on girls and young women. Reports from child and adolescent psychiatry show that this problem is not only limited to young female though.About 20% of the prevalence rate(e.g.in Germany about 3000 cases per year)are male patients. The therapeutic literature covering specific interventions for boys is sparse, especially if it comes to the investigation of their perceived body image. The innovative project we initiated is part of a PhD thesis. It was financed by a large institution for people with handicaps in Germany ("Aktion Mensch"). The practical sessions documented in a video were led by two experienced movement therapists with additional psychotherapeutic qualifications (I. Grauenhorst / K. Rose). They reveal the experiential character of the interventions and the progress within 6 months. Objective of the presentation: APA with boys who had specific traumatic experiences either with sexual abuse or with violence in their families demands a specific knowledge and expertise in the use of games, physical contact and verbal interventions. The main objective of the project was to find out whether a body and movement oriented approach like APA is able to re-establish \'normal\' relations on the body level and to reinitiate relations to peers and adults without evoking anxieties and fear. Name and target group of the innovation: Boys between 6 and 12 years during or after therapeutic treatment in special medical or youth care institutions. Description: Two groups of clinically defined boys with traumatic experiences underwent a 6 months intensive program which exclusively consisted of APA interventions twice a week. The interventions focused on play and games in a gym and on an equine assisted therapy . The male and female therapist had - besides their education in APA and psychomotricity - a specific psychotherapeutic knowledge. Possible conclusion: The evaluation based mainly on a new qualitative evaluation instrument used in single case designs in psychiatry and psychotherapy (OPD-KJ Bürgin/Resch/Schulte-Markwort 2007) The results so far show that it is possible to influence the body concept leading towards a better acceptance of the own body, to allow physical contact without aggression in a game context, to 'normalize' social relations and to increase the ability to verbalize conflicts and traumatic experiences.

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Volmer, J. (2010):'Starke Jungs'.Bewegungstherapeutische Interventionen bei Gewalterfahrungen im Kindes-und Jugendalter Dissertation TU Dortmund Fakultät Rehabilitationswissenschaften

MOTOR COMPETENCE OF 6-15 YEAR OLD CHILDREN WITH VISUALLY IMPAIRED CHILDREN

Dr. Zbynek Janecka

INTRODUCTION The studies of psychomotor development of children with visual impairment (VI) focus primarily on the initial stage of development, the one that usually ends about the third year of child's life. Further stages are being mapped in very schematic way with mainly abstract conclusions. However, for harmonious development of children with VI, the pre-elementary and elementary school period is also important, when children develop and reinforce habits of desirable behaviors with the goal of "future pupil" mined. The aim of this research was to obtain basic information on motor competence (based upon somatic, psychomotor indicators) of 6-15 year old children with visual disabilities. A partial aim of our research was to compare the results with those of a section population of children of the same age with normal sight, also tested by us. Finally we sought to compare such results with national Czech standards and evaluate whether trends in the development of children with visual disabilities are similar to those children of the same age with normal sight.

METHODS We were testing 252 children. 62 with VI (in two grous B1 – 42 chíldren, B2/B3 20 cildren). Control group was 252 sighted children.We measured height and weight to determine BMI. To carry out motor tests focused on: 1) General endurance (Harvard step test) 2) Dexterous abilities (stick movement combination) 3) Dynamic explosive strength of lower limbs (standing broad jump with legs together) 3) Motor balance (endurance in stand hang on one leg on a little form) 4) Dynamometry (hand – grip).5) Mobility skills (forward bend low with reaching in sit with legs together). Results of test was executed by ANOVA and Scheffe post moc technique.

RESULTS and CONCLUSION We can conclude there is no significant differences were found between two groups of children with visual impairment and group of normal vision children in anthropometric test on the basic of the obtained data. Morphological dispositions of children with visual disabilities are comparable to those of population with normal sight. On the other side the significant differences were found between two age groups (prepubescent and pubescent) in B1 group. In this group the most problem areas were: dynamic explosive strength, dynamic local balance, dynamic local endurance, static local endurance, balance abilities. We assume that the reason of this is an insufficient development in some areas of motor system. We therefore recommend designating intervention programs to support development of those abilities and skills, development of which is most often delayed. Development of children with visual disabilities should be versatile and harmonious akin to those of children wit normal sight.
Comment: B1 totally blind, B2 partially vision, B3 purblind

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ADAPTED PHYSICAL ACTIVITY AS A PART OF REHABILITATION IN SATAKUNTA, FINLAND

Tarja Javanainen-Levonen, Jenni Heinola, & Anne Kärki
Satakunta University of Applied Sciences, Faculty of Social Services and Health Care,
tarja.javanainen-levonen@samk.fi

INTRODUCTION The purpose of this study was to explore the role of physical activity in rehabilitation, and to give examples of APA practice in the rehabilitation process.

METHODS This research is a part of the European Standards on Adapted Physical Activities (EUSAPA) project. A purposive sample was carried out spring 2009 in Western-Finland, in Satakunta region. Thirty-four institutions filled in the EUSAPA rehabilitation questionnaire. Response rate was 72.3%. Based on the results of SPSS-analysis, four interesting cases were selected for interviews of APA experts or other professionals.

RESULTS *Survey:* More than 91% of all institutions organised physical activity for their clients. At least four physical activity programmes were organised in 59% of the institutions. Programmes included organised group activities and individual activities. Physiotherapists (53% of cases), apa-instructors (12%), as well as other professionals (71%) were responsible for physical activity. One third of the respondents considered human resources and time as restrictors for organizing physical activity. Attitudes of the professionals were rarely mentioned. *Interviews:* Implementation of physical activity in formal rehabilitation settings (i.e., rehabilitation centres or wards in hospitals) seems to be based on structured planning. It is not always the APA expert who decides the placement in physical activity programmes: it might be the client office, medical doctor or client's own caretaker as well. Nevertheless, the placement can be changed during the rehabilitation process. APA experts take a lot of responsibility in planning and implementing the programs. Usually they belong to the rehabilitation team. All documentation is carried out electronically. APA experts are usually allowed to see patient documents and are supposed to do evaluation and documentation in accordance with the aims of rehabilitation. Various physical activities were included in the weekly program of some of the more informal settings even without APA experts. *Monituote*, a rehabilitative work centre for adults with intellectual disabilities is a good example of those institutions. Monituote runs weekly and seasonal activities, as well as collaborates in projects in physical activity for their clients.

CONCLUSION The results showed that not all rehabilitative settings have APA experts. However, in Finland, "rehabilitative approach" should be presented in everyday practice. Concurrently, every professional working in rehabilitation is supposed to activate the clients – physically as well. Therefore, more focus should be addressed to the training of a broader scope of professionals in order to include and develop physical activity as a part of rehabilitation for all clients.

VALUE ORIENTATION AS A PRECONDITION FOR THE PARTICIPATION OF ROMANY PUPILS IN PHYSICAL ACTIVITIES

Ješina, O., Vyhlídal, T. Palacký
University in Olomouc, Faculty of Physical Culture, Department of Adapted Physical Activity

INTRODUCTION Regular physical activity is very suitable for maintaining one's health and improving the quality of lives in any age (Freedson, 1991; Trost, Pate, Saunders et al., 1997). Furthermore, Sallis, Prochaska and Taylor (2000) stated that one of the most important determinants of the activity and inactivity in children and youth in this age group is their ethnical background. Block (2007) however pointed out that there is a lack of research of multicultural education and that there are no sources focusing on multicultural education and differences in connection with adapted physical activity. Value system is one of the essential prerequisites of human behavior. According to our opinion, it is difficult state any generalized statements about this phenomenon. Therefore, the aim of this research is to analyze and describe the structure of value orientation in Romany pupils and to determine their relationship to physical activity and their focus on performance in Czech Republic.

METHODS In total 70 respondents of Romany ethnicity participated in the research. They were attending elementary school and among them 38 were boys and 32 girls. Because of the organization of data collection we focused on Romany localities in Brno, Ostrava and Vsetín. On the average they were 11.9 years old (11.6 boys, 12.2 girls). To determine social skills indicators we used the technique of "unfinished sentences" according to Válková (2000) that is considered a projective method. In 1995 the test was translated, transformed from English to Czech, and standardized (Válková, 2000). The method that we used included nine unfinished sentences and three "wishes".

RESULTS The respondents in the age group were between 9 and 13 years in regards to the following categories as the most important ones: focus on performance (17.98 %), common activities (15.71 %), material focus (13.69 %), and ideals (11.79 %). However physical activity also plays an important role in their lives (10.83 %). The subjects put almost no emphasis on categories related to food (0.12 %), weather (0.48 %) and animals (0.83 %).

CONCLUSION Physical activity has a relatively significant role in the value orientation of the Romany pupils. We did not find any marked decline of interest in sport activities as the age of the respondents increased. Moreover, an interesting, although not surprising, is the finding related to Romany girls who do not emphasize physical activities (including dancing) as much as it might be expected. Unlike the girls, however, the boys assess sport activities as the fourth most important value, right after the common activities.

STUDENTS EXPERIENCES FROM ADAPTED PHYSICAL EDUCATION COURSE IN BUTIMBA TEACHERS COLLEGE (TANZANIA)

Riikka Juntunen
Finnish Sports Federation, Ari Koivu, Sports Development Aid

INTRODUCTION Finnish Sports Development Aid's Physical Education in Teachers Training Colleges 2009-2011 program includes one course of Adapted Physical Education (46 hrs.)The course was held in Butimba Teachers College in Mwanza in November 2009 by Finnish Sports Federation and Finnish Association of Sports for the Disabled. The teachers attitudes and skills are important if students with disabilities will be included in physical education in schools. This study examined a) students attitudes towards APA, b) expectations to APA course and c) the potential benefits of the APA course.

METHODS The data was collected during APA course in Butimba Teachers College in November 2009. The participants (n=28) were Tanzanian college teachers, who participate in Physical Education in Teachers Training Colleges –program. The program is run by Finnish Sports Development Aid (Liike ry). The goal of the program is to train and significantly increase the number of PE teachers, both female and male, for Tanzanian primary schools. Furthermore also the aspect of teaching students with disabilities is also emphasized. The APA course (46 hrs) consisted of adapting sports and physical education using the TREE model (teaching, rules & regulations, equipment, environment), assisting and guiding students with disabilities and evaluation of skills. The data was collected before and after the APA course.

RESULTS Students' attitudes towards APA were positive. 24 participants (n=28) mentioned that they were looking forward the APA course because they didn't know how to "handle" students with disabilities or how to adapt different sports. 26 students had expectations towards the APA course. Most of participants wanted to know about disabilities and assisting, but some (n=6) wanted to know who to change the negative attitudes against disability in the whole society. All participants said that they will use the "new information" in their work. After the APA course the participants mentioned that their own attitude changed. Most of the participants (n=25) got practical information that can also be used in regular physical education. All the participants were satisfied with the APA course. Most often mentioned reasons where "lots of practise" (learning by doing –style was used during the course) and the example of teachers (the other teacher had spinal cord injury and was wheelchair user). All the participants (n=28) were satisfied or very satisfied with the course and the benefits from it.

CONCLUSION Including APA in Physical Education in Teachers Training Colleges –program was successful. Most of the participants had no knowledge how to teach or evaluate students with disabilities. Adapted physical education, adapted physical activities and disability sports should be part of development aid work. Furthermore in schools all the students benefit from physical education classes and it should be possible for students with disabilities. The teachers training should include APA also in the future.

SOCIAL PEDAGOGIC HORSE ACTIVITIES IN PHYSICAL EDUCATION SERVICES FOR GROUPS WITH SPECIAL NEEDS

Tuija Kainulainen[1], Jutta Pekkala[2]
[1]Local authority of Haukipudas, department of physical activity, [2]Occupational therapist, riding therapist, Riding therapy Stables

INTRODUCTION There are two main challenges in providing physical education services for groups with special needs. First, it seems that the amount of applied physical education possibilities offered for these groups is limited and second, we found out that moving from therapy and special needs groups into general physical education groups was seldom supported at all.

For the reasons mentioned above, a person in special needs group very rarely integrates into a general physical education group. Even though it would be highly recommendable, possibilities for people in these groups to engage in a hobby across the groups are almost totally missing. The main target for us was to create a model for an integrated interest or hobby group.
To create the model, we used two different, although supporting methods:

1. Social pedagogic activity with a horse and,
2. Horseback riding in groups.

The educational backgrounds of the instructors for the group were a special physical education instructor, horseback riding therapist and occupational therapist. Group activities were carried out as daytime camps, allowing attendees to spend the nights at home.

METHODS During the daytime camps, we applied both methods mentioned earlier. Social pedagogic activities with a horse including such activities as tending a horse, common stable chores, equipment maintenance as well as riding a wagon.
Horseback riding in groups consisted of field riding, vaulting, various kinds of games with a horse and horse orienteering.
A total of 24 daily camps were ran through years 2005-2009. The target group for these camps were children aged between 7 and 16.

RESULTS We started our operation with one 4-day camp, ran as a daytime camp. Since the demand for daytime camps increased substantially, we increased considerably the number of these camps offered during the year. In 2005 we had only one camp, whereas in 2009 we already had 7 camps. The number of attendees rose from 7 in 2005 into 100 in 2009. The service we provide, reached 23 different customer groups. Of those special needs groups attending our daytime camps, 17% has been able to move into general riding courses. As much as 40% of those attending riding therapy earlier, has been able to move into integrated riding groups.

CONCLUSION In social pedagogic activities and horseback riding, the horse itself seems to be the combining factor, so much so that creating integrated groups around this hobby has been possible and successful. Using instructors from multiple professions and areas of expertise has proved to be a key factor for the success. The results achieved amongst the children, encourage us to try this also with adults.

ACTIVITIES FOR ALL – A PRACTICAL EXAMPLE TO PROVIDE ACCESSIBILITY THROUGH ADAPTED WINDSURFING

Kati Karinharju
Satakunta University of Applied Sciences Faculty of Social Services and Health care Pori, Finland

INTRODUCTION In the research and development program Activities for All the purpose is to increase accessibility and participation in the area of Satakunta for individuals with disabilities. This research presents practical example how windsurfing can be organized for all. A pilot course of Adapted wind surfing was organized on summer 2009 in Yyteri, Finland.

METHODS 10 children and youngsters with special needs participated on the pilot. The starting point for teaching adapted windsurfing was each participant's functional ability, balance and courage to act in water. The structures of the course proceed step by step from getting familiarized with water and sea to different balance exercises with and without board and sail. The level of assistance varied from personal assistant to different build-up utilities like side supporters and chairs.

RESULTS The pilot came true successfully and ended to many practical solutions for carrying out adapted windsurfing. The pilot pointed out some environmental weaknesses in accessibility and correcting actions for next summer has already started. The experiment of using Tandem-board as one of the teaching method turned out to be very important when teaching windsurfing for beginner. As a result this pilot, the tandem board was bought to Yyteri Surfcenter. The pilot offered for each participant possibility to learn a totally new skill and try out a new activity which is mainly common for adults but totally fresh for children and youngsters with special needs in Finland.

CONCLUSION The pilot of adapted windsurfing indicated in practice that windsurfing can be organized for all. Accessibility and opportunities to participate in a wide range of activities and services in the area of Satakunta increased through the combined efforts of the University and the external professionals. Adapted windsurfing course will continue to operate next summer and some new summer activities for all for next season has already been planned.

REASONS FOR EXERCISE AND LEISURE TIME PHYSICAL ACTIVITY AMONG ADOLESCENTS WITH LONG-TERM ILLNESSES AND DISABILITIES

Karvonen Lilja[1], Kokkonen Marja[1], Rintala Pauli[1], Tynjälä Jorma[2], & Välimaa Raili[2]
1 = University of Jyväskylä, Department of Sport Sciences, Jyväskylä, Finland 2= University of Jyväskylä, Department of Health Sciences, Jyväskylä, Finland

INTRODUCTION The purpose of this study was to investigate 1) what different kind of reasons Finnish adolescents with long-term illnesses and disabilities give for their leisure time physical activity (frequency) (LPA), 2) how the adolescents' reasons for exercise differ when sex and age differences are considered, and 3) how different reasons for exercise explain the adolescents' LPA. This study was a part of the Health Behaviour in School-aged Children (HBSC) study. Altogether 561 seventh and ninth-grade students (243 boys, 318 girls) participated in this study. They all had a long-term illness or disability diagnosed by a medical doctor. Principal component analysis was used to form sum scores based on the Reasons for Exercise Inventory (REI). The sum scores for boys were being social, endurance/appearance, health/weight management and fulfilling social expectations, and for girls being social, pleasure, appearance, fulfilling social expectations.

METHODS Three most important reasons for exercise were health, fitness and fun. The cross-tabulation revealed that the girls rated health and fitness as well as weight management and appearance higher in the REI than boys. Building muscles, pleasing parents and being cool were more important for boys than girls. The seventh grade students rated having fun and being good in athletics higher in the REI than the ninth grade students. Moreover, getting new friends and meeting friends as well as pleasing parents were more important for the seventh grade students than the ninth grade students.

RESULTS The differences in the means of the sum scores between two groups (long-term illness or disability has impact on leisure time PA/does not have impact on leisure time PA) were studied with independent samples t-test. Among boys there were no statistically significant differences between the two groups. Among girls pleasure was statistically significantly more important for those who stated that long-term illness or disability has impact on their LPA. The associations between reasons for exercise and LPA (moderate-to-vigorous physical activity) with Spearman correlations and regression analysis were examined. Based on the correlations, being social and endurance/appearance sum scores were selected in the regression analysis for boys, and being social and pleasure sum scores for girls. The variables explained 18 % of boys' and 9 % of girls' leisure time PA.

CONCLUSION This study indicates that the Finnish adolescents with a long-term illness or disability, who attend general comprehensive schools, value the same reasons for exercise as their peers without special needs. Especially the reasons for exercise among boys appear to be important indicators of their leisure time PA.

PHYSICAL ACTIVITY AND HEALTH RELATED QUALITY OF LIFE IN COMMUNITY DWELLING OLDER ADULTS

Aivars Kaupuzs
Viesturs Larins Latvian Academy of Sport Education

INTRODUCTION The demographic landscape of Latvia is changing. The dependency ratio is rapidly increasing that will lead to social and economic implications. Physical activity (PA) has been consistently associated with enhanced health related quality of life (HRQOL) that provides "the successful aging". The good data are a prerequisite for systematic monitoring and knowledge-based polity building. Internationally comparable data of PA,inactivity and HRQOL of the elderly people are still lacking in Latvia. This study examined the relationship between self-rated PA and HRQOL in older adults.

METHODS For this study was recruited 126 community dwelling adults aged 65 -80 years. We used interviewer-administered the International Physical Activity Questionnaire (IPAQ) short version and the EQ-5D as the generic HRQOL instrument.

RESULTS The results of the study shows that 19% (n=24) of the respondents have "low" PA level, 16% (n=20) "moderate" PA and 65% (n=82) "high" PA. Total activity ranged from 99 to 21600 Met•min/wk (median value 3180 Met•min/wk; SD=5186). The average time spent sitting is at least 5 h/day (SD=1.5). HRQOL questionnaire data are summarized as the mean of the Visual Analog Scale (EQ-VAS) score and EQ-5D index value. The mean of the EQ-VAS score is 63 (SD=15) and the mean of the EQ-5D index value is 0.656 (SD=0.224). There is established the correlation between the EQ-5D and EQ-VAS (Spearman coefficient r= 0.331, $p<0.05$). At this study we funded out the statistically significant relationship between PA and HRQOL (PA vs. EQ-5D index r=0.478, $p<0.05$; PA vs. EQ-VAS r=0.459, $p<0.05$).

CONCLUSION Our findings approve the relationship between physical activity and HRQOL. The most of the respondent IPAQ results refer to "moderate" or "high" PA level, but there is a risk of the overestimating of the total activity at this age group. Although further studies are necessary to confirm our findings in different populations groups and settings, this research has provided important background for future research in Latvian elderly.

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COUNSELLING OF HANDICAPPED ATHLETES IN OLYMPIC CENTERS AND OTHER INSTITUTIONS IN GERMANY

Reinhild Kemper & Dieter Teipel
Friedrich Schiller University Jena, Institute of Sport Science reinhild.kemper@uni-jena.de, dieter.teipel@uni-jena.de

INTRODUCTION The nonhandicapped high-level athletes are provided with all services of the regional olympic centers in Germany. Whereas the services of physiotherapy and medical treatment were obviously widely known, the services of career development, nutritional and psychological counselling were rarely known and utilised rather seldom. Since 2001 the high-level disabled athletes were allowed to use the basic service of the olympic centers. In the present study the degree of knowledge, the rate of utilisation and the evaluation of satisfaction of the basic and advanced services of the olympic centers and other institutions by disabled athletes were analysed.

METHODS A specific questionnaire concerning the knowledge and utilisation of the various services of the olympic centers and other institutions by disabled athletes was applied. 113 high-level athletes (66 male and 47 female) participated in the study. The group consisted of 89 athletes with physical handicaps, 18 with visual disabilities and 6 with cerebral disabilities. Among others, 25 participants in the Paralympics and 23 in world championships took part in the investigation. The study was conducted before the Paralympics in Athens in 2004.

RESULTS The disabled athletes knew the services of the olympic centers and of private firms in a high extent, but the services of the institutes of sport sciences, the institute of applied training science and the institute of the research and development of sport materials in a lower degree. Only 47 (41.59%) of the group of disabled athletes had been treated by representatives of the olympic centers. These athletes had been counselled by the olympic centers for about 3.6 years. Only about 50% of the handicapped athletes knew the service offers of the olympic centers. The services of the medical performance diagnosis, the physiotherapy, the career development and the nutritional counselling were quite well-known, whereas the biomechanical and the psychological services were not well-known. The medical services had been requested more frequently than the career, nutritional and psychological counselling. The disabled athletes had been satisfied predominantly with the physiotherapy, the medical performance diagnosis, the medical treatment and the psychological counselling. Essential barriers against the utilisation of the services had been the regional distance, the insufficient information and the shortage of time of the disabled athletes.

CONCLUSION The high-level disabled athletes should be informed in a more differentiated way of the possibilities and the use of the services of the olympic centers in order to provide them with better performance diagnosis, career development and personal health.

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THE INVESTIGATION OF THE WHEELCHAIR BASKETBALL PLAYERS' PRE-COMPETITION ANXIETY AND SELF ESTEEM POINT IN TURKEY PREMIER BASKETBALL LEAGUE

Hakan Kolayis

INTRODUCTION The traditional methods for assessing mental performance have been applied to the wheelchair athlete with some success. In wheelchair athletics, as in able-bodied athletics, there are a number of psychological factors which affect their athletics performance. I tried to reveal some psychological parameters with this study. The purpose of the study was to investigate of the Wheelchair basketball players' pre-competition anxiety and self esteem point in Turkey premier basketball league.

METHODS In accordance with this purpose, 124 players who were ages between 17 and 45 (xage: : 28,83±5,551), were joined this study as a volunteer. To measure anxiety, STAI (State Trait Anxiety Inventory) and to measure self esteem Cooper Smith Self Esteem Inventory was used. Data were collected in changing room by researcher. Descriptive statistics and Pearson correlation technique were used for statistical analysis. Significance was set at the $p<0,05$ level. Data was analyzed SPSS for Windows.

RESULTS The result of the statistical analysis, trait anxiety point (x:52,24+10,57), state anxiety point (x: 38,37+9,86), self esteem point (x:63,16+18,88) were found. The relation of the Variables was investigated, between age and self esteem point ($p<0,05$; r: 0,210), between trait anxiety point and state anxiety point ($p<0,05$; r: 0,716) were found positive relation significantly. However, the relation between trait anxiety point and self esteem point ($p<0,05$; r: -0,651), between state anxiety point and self esteem point ($p<0,05$; r:-0,508) were found negatively

CONCLUSION As a conclusion, if anxiety, self esteem and other psychological variables of disabled professional players are determined, players' mood and performance can be reached top and desired level. Moreover, disabled basketball players get pleasure much more from their activity and performance and trainers can compose training programs more affectively. Because of the fact that there are a few researches in this area, we cannot comparative and help them to increase their performance. Finally, we can say that we should add psychological training to the daily training program and study more research. Key words: wheelchair, basketball, anxiety, self esteem

THE COMPARISON OF SOME PSYCHOLOGICAL PARAMETERS ACCORDING TO EDUCATION AND SEXUAL STATES OF JUDO ATHLETES

Hakan Kolayis

INTRODUCTION the purpose of the study was investigate to The Comparison of the state anxiety, cognitive anxiety, somatic anxiety, self-confidence and self-esteem according To Education and Sexual States of Judo Athletes who joined to the big championship in Turkiye. To this end, data were collected 81 athletes whose ages were xage:20,17±2,64 years and experience; xexperience:8,19±3,25 years.

METHODS To measure anxiety and self-esteem, CSAI-2 (Competitive State Anxiety Inventory), STAI (State Trait Anxiety Inventory) and Cooper Smith self-esteem Inventory were used. Descriptive statistic techniques, Independent-Samples t Test and Pearson correlation test were used for statistical analysis. Significance was set at the p<0,05 level. Data was analyzed by SPSS for Windows.

RESULTS the result of the study, state anxiety point 40,73±9,2, cognitive anxiety point 19,6±4,29, somatic anxiety point 16,87±4,5, self-confidence point 27,04±5,4 and sel-respect point 64,56±5,4 were found. Moreover, it was found significant correlation between sexuality and state anxiety (r: .286, p<0.05), between sport experience and level of education (r: -.423, p<0.05), between sport experience and state anxiety (r: -,353, p<0.05), between state anxiety and cognitive anxiety (r:, 441, p<0.05), between state anxiety and somatic anxiety (r: ,530, p<0.05), between state anxiety and self-confidence (r: -,621, p<0.05), between cognitive anxiety and somatic anxiety (r: -,677, p<0.05), between cognitive anxiety and self-confidence (r: -, 302, p<0.05), between somatic anxiety and self-confidence (r:-,462, p<0.05), and between somatic anxiety and self-esteem (r: -, 336, p<0.05). Besides, it was found significant difference state anxiety between athletes' sexualities.

CONCLUSION it was concluded that there are relationship between psychological parameters as state anxiety, self esteem, self confidence, cognitive anxiety and somatic anxiety in judo athletes. However, there is only difference between state anxieties according to sexuality. Key words: judo, anxiety, self esteem

COLLABORATION WITH PHYSIOTHERAPY DEGREE PROGRAMME AND THE WORKING LIFE IN ADAPTED PHYSICAL ACTIVITY (APA) EDUCATION

Maija Koljonen and Teija Leminen
Helsinki Metropolia Unversity of Applied Sciences, maija.koljonen@metropolia.fi

INTRODUCTION The purpose of this presentation is to describe a good practice about the collaboration with practical education of Adapted Physical Activity (APA) and the working life at Helsinki Metropolia University of Applied Sciences. In Physiotherapy Degree Programme the APA- education for children and adolescents with special needs co-operate with The Finnish Association of Sports for Persons with Disabilities (Futuuri and Sport clubs) and with The Finnish Psychomotor Association (Moto Clubs). Sport clubs provide children and adolescents with recreation and hobby activities, but they also support diverse aims of functional capacity, health and rehabilitation. Physiotherapy students work as assistants and instructors in Futuuri and Sport Clubs for the disabled children and adolescents for 5 weeks. In Moto clubs 2-3 students work with the same group for one semester. The data was collected during years 2000-2009 through reflective learning diaries, reflective discussions and final projects. Learning and functional capacity of the children was assessed through observation in field works and with the MOT-Test. According to many studies the number of children and adolescents with special needs has increased and so has the need for professionals of APA. Physiotherapists in Finland are one important occupational group of APA in areas of health care and social services, sport organisations and associations for the disabled. The early cooperation with physiotherapy students and the working life response to the challenges of society, where interprofessional collaboration and network are in focus.

RESULTS The results indicated that sports clubs are excellent learning environments for physiotherapy students. They learned to integrate theoretical knowledge and practice: competences to observe holistic function capacity through ICF (International Classification of Functioning, Disability and Health), to plan, guide and evaluate interventions. The students' skills of collaboration and multiprofessional interaction with partners and parents developed. The sport clubs supported the children's movement and social -emotional skills.

CONCLUSION In the implementation of APA we need systematic multiprofessional co-operation between physiotherapists and other professional groups. This way we can advance the participation, activities, the evaluation and promotion of functional capacity and health. According to ICF the participation and the function-centred view of health instead of diagnosis is emphasized. It is very important for the holistic learning that students have practical sessions with the same group long enough. Physiotherapy students' positive experiences of the sport clubs have motivated them to work in children's and adolescents rehabilitation in the future. It is important to support and motivate children and adolescents in their everyday life and in their natural environments. The participant' parents see, that a diverse and individual contents as well small groups support the psychomotor development of the children. The aim is to diversify the clubs towards friend- and family clubs, which would promote the children's and adolescents' activities in everyday life and the participation of their neighbourhood.

MEDICAL TERMINOLOGY IN ANATOMY AND PHYSIOLOGY FOR UNIVERSITY STUDENTS OF PHYSICAL EDUCATION WITH HEARING IMPAIRMENTS AND THEIR TRANSLATORS

Pavla Kukolová
Palacký University in Olomouc, Faculty of Physical Culture, Department of Adapted Physical Activity, pavla.kuk@seznam.cz

INTRODUCTION Czech sign language is a visual-motor system for language of the deaf people and has got all natural attributes of a full Czech language. Sign language has got own lexicon, grammatical rules and is independent on the Czech language. Czech sign language is made up of manual and non-manual component. The purpose of this work is to create electronic translation dictionary, which translates czech language to sign language with selected terms from Anatomy and Human Physiology. This dictionary is designed especially for students and everyone who is involved in education of persons with hearing disabilities.

METHODS In co-operation with deaf students of Adapted Physical Activity in Palacky University and after consultation with professors of Anatomy and Human physiology was created glossary contains from 800 terms. All terms were selected with regards to students and professors needs for teaching Anatomy and Human Physiology. The main aim of this work was to search and compile symbols of czech sign language. All those symbols were discussed with deaf students using sign language in higher education who comes from different regions of the Czech Republic.

RESULTS We made up the dictionary that would facilitate learning, understanding and interpreting (anatomy and physiology courses) intended especially for students with hearing impaired. Dictionary works as a set teaching CD-Rom. Each contained charakter is recorded in two views- front and side. Include of the dictionary is translator from czech sign language to czech language, respectively searcher of czech meanings according to given parameters. To search required czech term is possible to use structure of thematic groups, services of quick search or trough the alphabetical register. The meanings of all slogans and symbols are briefly explained by explanatory captions.

CONCLUSION We realized that the terminology for Anatomy and Human physiology is not fully covedered. That is why we created dictionary with new characters and made up corpus of dictionary for students with hearing disabilities and their assistants.

MATCH ANALYSIS OF ELITE LEVEL GOALBALL IN MEN AND WOMEN

Henri Lehto[1], Mikko Häyrinen[1], Minna Blomqvist[1], Riikka Juntunen[2], Timo Laitinen[2], Kata Karhunen[2] & Kevin Collet[2]
[1]KIHU – Research Institute for Olympic Sports, Jyväskylä, Finland [2]Finnish Sports Association of Persons with Disabilities, Finland henri.lehto@kihu.fi

INTRODUCTION Goalball is a sport for persons with visual impairment (VI), played by two teams of three players and with a bell ball. The object is to throw the ball to the opponent's goal at the other end of the pitch while the other team tries to prevent this. There is no scientific knowledge of technical and tactical aspects of goalball. Thus the purpose of this study was to analyze the key aspects of the game to serve as a basis for the future development of the sport and also to compare the differences between men's and women's game.

METHODS Six men's goalball games from the 2008 Beijing Paralympics and six women's games from the 2009 European Championships were recorded and analyzed with Data Volley-software which is commonly used statistical and scouting software for volleyball. Now an adapted system was developed for goalball. The analyzed variables were: throws (all/normal/penalty), goals (all/from normal throws/from penalties), fouls and blocks (hands/torso/legs). The means and SDs for each team were calculated for men and women separately and the differences were compared using t-test for independent samples.

RESULTS The total number of throws was 79.8±4.4 for men and 76.0±4.8 for women per team (borderline significance, $p=0.06$). From these, 96.6±2.0 % and 98.4±1.8 % ($p<0.05$) were normal throws and 3.4± 2.0 % and 1.6±1.8 % ($p<0.05$) penalty throws, respectively. From all throws, 6.9±2.3 % and 5.4±3.9 % led to a goal and 3.5 ± 2.1 % and 1.6±1.8 % ($p<0.05$) to a foul, respectively. From the penalty throws, 45.9±31.3 % and 46.4±37.8 % led to a goal, respectively. During the game, one team scored on average 5.5±1.9 goals in men and 4.2±3.1 goals in women. The proportion of goals from normal throws was 73.6±27.8 % and 85.2±19.1 % and from penalty throws 26.4±27.8 % and 14.8±19.1 %, respectively. Men conceded more goals from their legs when compared to women (53.4±21.4 % vs. 35.8±30.8 %) but less from hands (41.2±23.9 % vs. 47.9±37.1 %) and from torso (5.5±8.3 vs. 16.2±31.0), respectively.

CONCLUSION Based on the results, the only significant difference between men's and women's goalball matches was detected in the number of fouls from throws and thus the number of penalties. When compared to women, men had more throws, a higher proportion of goals were scored from the penalty throws and more goals were conceded from legs. More research is needed to develop the understanding of the technical and tactical aspects of goalball.

SOCIAL EMOTIONAL LEARNING IN THE INCLUSIVE PHYSICAL EDUCATION CLASSROOM

Dr. Lih-Lin Leou
Taipei College of Maritime Technology Adjunct Assistant Professor Taipei Hutian Elementary School Teacher

INTRODUCTION There are a large number of pupils with different physical abilities, behavior, and diverse emotional states sharing the same classroom in Taiwan primary schools because of the return to "mainstreaming" education policies. For those teaching general physical education classes, the challenges to the fulfillment of all children's needs are especially intense. This study will address the issue of how to teach pupils with disabilities to own both their social emotional learning and their physical skills. The purposes of the research are: (a) to analyze inclusive physical education curriculum development and teaching in Taiwan. (b) to explore how pupils with disabilities in general physical education classes in Taiwan can deal successfully with real-world social emotional learning experiences; and. (c) to experiment with models of inclusive teaching and IEP policies to find those that are most effective.

METHODS The qualitative method was used to analyze the case study data in this paper. The study concerns one small elementary school (only six classes) over three years. The author designed the curriculum plan and performed the teaching in an inclusive physical education classroom and describes the activities and successful teaching strategies. Each pupil's physical fitness was measured before and after the semester. The author analyzed and demonstrated the data using physical fitness results, literature review, pictures, films, and interviews with parents and colleagues, cross-checked the results by triangulation.

RESULTS A belief in the "inclusive" approach led us to develop a curriculum for pupils with a disability in general physical education classes that emphasizes (a) rhythmic activities, (b) social-emotional learning and (c) a multiple- methods curriculum (including swimming, gymnastics, rope skipping, and hoop and movement education). This research resulted in a significant contribution to the success of pupils with a disability, allowing them to enjoy learning together with others and understand procedures in general classrooms. Rhythmic activities are helpful to pupils in their social emotional learning and in establishing a good friendship with peers. All the pupils showed improvement on their physical performance tests. The pupils indicated enjoyment of the teaching methods.

CONCLUSION This study addresses the challenges to physical education in the development of knowledge, skills, and a sense of accomplishment for pupils with disabilities. Three best practices of inclusive physical education were proposed: (a) teachers need to create spaces and modifying exercises where children are set suitable learning challenges, and to respond to pupils' diverse needs and help them overcome potential barriers. (b) teachers' use of rhythmic activates can increase pupil's dynamic factors into interactions with peers to extensive friendships; and (c) for good curriculum development and to construct the children's' tasks, teachers need to gain expertise in other, multiple approaches to ensure the pupil's success. Finally, we give specific suggestions on what support the IEP model can provide teachers in developing effective and successful teaching.

RELATIONSHIPS AMONG PHYSICAL ACTIVITY AND SELF-PERCEPTION IN ITALIAN INDEPENDENT YOUNG OLDER PEOPLE

Monica Emma Liubicich, Marco Pianotti, Daniele Magistro, Emanuela Rabaglietti, Gioachino Kratter & Silvia Ciairano
Motor Science Research Center, SUISM (University School of Motor & Sport Sciences), University of Turin, Italy, monica.liubicich@unito.it

INTRODUCTION In all the Western countries, there is an increasing number of older people. Although ageing is not always characterized by an unavoidable decline in physical and psychological functions, a decline is rather frequent (WHO, 2002). In fact, ageing is often related to a exacerbation of disability and physical diseases (i.e. at cardio-vascular, motor, bones, and articulation levels) and/or of psychological disorders (i.e. depression).
Thus, in order to individuate protective and risk factors of such diseases, it is becoming increasingly important to investigate the group of young older people (that is people who are less likely to have already developed these diseases) in order to examine: (a) their level of participation in physical activity, (b) the relationships among level of physical activity and self-perception.

METHODS Two hundreds and two young older people (124 men and 78 women; mean age= 66.86, st.dev.= 5.31) participated at the study. They were administered the SF-36 Questionnaire.

RESULTS 89% of this young older people (n=179) regularly participated at physical activity (mean= 3.2 times a week, st.dev.= 1.56, median= 3).

We showed that high level (above the median) of participation at physical activity is related to feeling full of energy [$F(1, 164)= 4.62$, $p<.03$, $\square 2= .03$] and no tired [$F(1, 165)= 3.88$, $p<.05$, $\square 2= .02$]. Besides, the profile of young old people who participate at high levels of physical activity includes a great attention for eating few [$\square 2\ (1)= 10.46$, $p<.001$] and following a healthy diet [$\square 2\ (1)= 3.15$, $p<.06$].

CONCLUSION Our findings underlined that successful ageing is likely to be related to healthy life-styles, although we need longitudinal and/or more in depth research for individuating the direction of causation, that is: is that high levels of participation in physical activity that promotes positive self-perception or is that positive self-perception that promotes high levels of participation in physical activity?

THE EFFECTS OF AN AEROBIC TRAINING ON THE PSYCHOLOGICAL AND PHYSICAL SELF-REPORTED CONDITION OF OLDER MEN AND WOMEN IN A RESIDENTIAL CARE FACILITY

Rabaglietti Emanuela[1], Magistro Daniele[2], Candela Filippo[1], Liubicich Monica Emma[2]
[1]Department of Psychology, University of Turin, [2]Motor Science Research Center, SUISM (University School of Motor & Sport Sciences), University of Turin, Italy
emanuela.rabaglietti@unito.it

INTRODUCTION The present study is aimed at investigating the changes between pre-test and post-test, after having introduced an aerobic programme of physical activity (one session, each of 45' per week for 15 weeks, over a span of roughly four months, delivered by specially trained instructor) in the psychological and physical self-reported condition (feelings of depression, perception that one's own health limits physical activities, negative self perception, and execution of activities of daily living) of a group of Italian older people slightly compromised at Mini Mental State Examination (MMSE: median 23) and living in a residential care facility in northern Italy.

METHODS The self-reported measures were drawn from the 36-Item Short Form Health Survey Questionnaire (SF-36), the Geriatric Depression Scale (GDS), and the Italian short version of Barthel's Index of Activities of Daily Living (BADL). The participants were 17 older people of both genders (10 women and 7 men) with a median age of 85.56 years.

RESULTS The findings (we used non-parametric statistical techniques) showed that: (a) dropping activities/interests (from feeling of depression) and taking a bath/shower autonomously (from activities of daily living) improved in women; (b) perceiving health as limitation for moderate physical activity and feeling really down (from negative self perception) improved in men.

CONCLUSION These results underlined the importance of taking into account gender differences when evaluating the effects of the participation at training of physical activity on the psychological and physical condition of very old people.

ISOKINETIC STRENGTH COMPARISONS IN WHEELCHAIR RUGBY PLAYERS

Laurie A. Malone[1], Crystal M. Russell[1], & J. P. Barfield[2]
[1]Lakeshore Foundation, Birmingham, AL, USA; [2]Tennessee Tech University, Cookeville, TN, USA lauriem@lakeshore.org

INTRODUCTION Wheelchair rugby is an exciting, fast-paced, dynamic team sport. Players are classified based on hand, arm, shoulder and trunk function. There are seven player classifications (0.5 to 3.5), with the lower classes having less functional ability and a lower corresponding point value. The fundamental skills of wheelchair rugby include ball handling, passing and catching, picking, blocking, screening, and wheelchair mobility. Strength is an important component for these primary rugby skills and differences in strength will dictate player positions, coaching strategy, and training routine. This study examined differences in upper body strength between high (HI) point (2.0 - 3.5) and low (LO) point (0.5 - 1.5) wheelchair rugby players.

METHODS Athletes (HI: n = 10, LO: n = 6) performed a closed chain chest press motion (concentric extension, concentric flexion) on a Biodex System 3 isokinetic dynamometer (Biodex Medical Systems, New York) at three speeds (120, 240, and 360 deg/sec). Bilaterally, five repetitions were completed at the two lower speeds and ten reps at the highest speed. Athletes were sitting upright with chest and lap straps; start position was shoulder slightly abducted, elbow at 90 deg. Values for the right and left arm were averaged for each variable. Student's t-tests were used to examine differences between the two groups on the ratio of peak force to body weight (%) and time to peak force (msec) during concentric extension and concentric flexion.

RESULTS Specific to concentric extension, no significant mean differences ($p < .05$) were found between high point and low point players in peak force relative to body weight except at 120 deg/sec (LO = 35%, HI = 51%). However, time to peak force was significantly faster at all speeds in the HI group (360 deg/sec: LO = 628 msec, HI = 270 msec; 240 deg/sec: LO = 683 msec, HI = 277 msec; 120 deg/sec: LO = 773 msec, HI = 357 msec). Specific to concentric flexion, no significant mean differences ($p < .05$) were found between groups in either peak force relative to body weight or time to peak force.

CONCLUSION Low point players were significantly slower in reaching peak force during concentric extension. This outcome supports the use of different strategy and game play options for high and low point players. However, the peak force to body weight ratio was consistent between groups, with the exception of concentric extension at the slowest speed, indicating similar performance capabilities for skills that emphasize relative force over power.

PARALYMPICS AND INCLUSION ON WHOSE TERMS WORKING TOWARDS A MORE EQUITABLE SOCIETY

Martin Mansell.
1. Consultant to The British Paralympic Association (BPA) and The National Association of Schoolmasters Union of Women Teachers, (NASUWT) Great Britain 2. International Paralympic Education Committee member 3. Former 5 times Paralympic Champion 84/88 Swimming

INTRODUCTION Unfortunately Societies around the world are often unwilling to incorporate persons with a disability into the mainstream of human life. More specifically they deny them the enjoyment of basic rights guaranteed to all people, such as the right to participate in sport and recreational activities. Currently, there is an urgent need to educate the youth and teach them of the importance of sports which give people with a disability the opportunity to reach their potential, achieve self-determination and most of all have fun. Education is considered the most viable mean to change people's attitudes towards disability in general and disability sports in particular, contributing to the successful integration of those people into society. Paralympics has recognized the value of education which helps children and youngsters become aware of their own values and attitudes towards people with different abilities. Paralympics GB (BPA) has since 2000 been working with a teaching union and the English Department of Education (DESC) specifically to develop educational materials using Paralympics as a catalyst towards inclusion. In order to implement this approach ParalympicsGB runs an education programme called "ability v ability" www.abilityvability.co.uk which seeks to engage schools, and other educational institutions/universities within the UK. The purpose of this workshop is to look at ways that the Paralympics can be used in a cross-curricular way e.g. Citizenship as well as physical education. The presentation will demonstrate outline programmes including the new "ability v ability" resource and a concept called reverse integration. With the Paralympic Movement becoming more and more high profile and with athletes with a disability gaining a higher profile in society then we need to be able to explain to our young people today what is it that makes a Paralympic athlete. Finally, the workshop looks at ways of addressing and understanding inclusion not just in school but also in broader life, giving true consideration to the different needs of individuals leading us to a more equitable society.

METHODS This programme is delivery directly to schools via the National PE and Sport programme in England

RESULTS Over some 10,000 schools in the UK are now using the ability v ability programme and in turn using paralympics as a way of looking and addressing inclusion

CONCLUSION As we get closer to the London 2012 games and with both the ParalympicGB "ability v ability" and London 2012 Education "Get Set" programmes then the issue of inclusion in PE and Sport is on everyone agenda in the UK

SPORTS THERAPY IN SPINAL UNITS

Gambirasio C.[1], Martinelli M.[2]
1. Sports Therapist AUS Niguarda onlus Milan, Italy 2. Motor Science, Catholic University, Milan, Italy and Study and Research Centre of CIP Lombardy, Milan, Italy .
Moreno.martinelli@unicatt.it

INTRODUCTION Sport is not only a time of aggregation and comparison, but in some cases represents a valid therapy especially for patients with spinal cord injury. It has been shown that in normal population a sedentary lifestyle can trigger the Hypokinetic Syndrome. In people with spinal cord injury this process appears to achieve higher levels, because there are not only the same risk factors of an able bodied person, but also specific deficits related to the injury. Since early 2004, the Spinal Units at Niguarda Ca \'Granda Hospital in Milan has turned the Sport Therapy as part of the rehabilitation process in people with spinal cord injury, in acute and post-acute phases.

The Sports Therapy program is formulated "ad personam" by a multidisciplinary team (medical physiatrist; physiotherapist; occupational therapist; therapist with a degree in motor and sports science, and a master in Preventive and Adapted Motor Activities; psychologist) and includes: Training for the use of a wheelchair oriented to a better targeted use of a wheelchair; Training with loads in order to increase strength and residual strength; Aerobic activities to increase the cardio-respiratory endurance, during which the heart rate is constantly monitored; Introduction to the sports area through the proposal of different activities, with the collaboration of many sports clubs; Functional review of sports therapy, which allows the therapist to create specific programs and also to monitor the potential improvements of the patients.

Based on the total patients resident in the Spinal Unit, considering each temporal zone, it has been calculated how many of these patients practiced sports therapy. There was an increase of 15% from 2003 to 2009; The same evaluation was made for outpatients: we have noticed that the increase was 21%; Some activities related to the introduction of different sports have been consolidated: table tennis, archery, hand bike, wheelchair basketball. New sport activities have been introduced: wheelchair fencing, tchoukball, blowgun, wheelchair tennis, shooting; Evaluations have been started in order to measure the physical improvements of the person with spinal cord injury practicing wheelchair fencing and blowgun.

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DEVELOPMENT OF A STUDY ABOUT PLAYING BOCCIA WITH WII SPORTS BY PERSONS WITH SEVERE DISABILITIES

Mendoza, N.; Fanego, A.; Rubiera, M.; Alegre, J.
Prometeo Innovations

AIM OF THE PRESENTATION To describe efficacy of the virtual Boccia (VB) activity in developing physical capacity, tactics and strategy within a motivational framework (Exercise and play are combined).

BRIEF DESCRIPTION OF THE PRESENTATION The "State Reference Center for the attention of seriously disabled people and for the promotion of personal autonomy and attention for the dependent" has three lines of services: adapted sports, rehabilitation and accessible technologies: (www.crediscapacidadydependencia.es). Additional, services offered by the assistance center include: 1. Personal health assistance and residence (boardingand day care) 2. Vocational, psychological and social rehabilitation, including workplace placement. 3. Family assistance 4. Sheltered Workshops.
In addition, the center provides the following professional capacities: 1. Analysis, systemization and diffusion of information and knowledge 2. Promotion of scientific investigation and the development and innovation of different methods and techniques. 3. Training of professionals 4. Assistance and advising to Institutions and organizations.
The VB study consists of the following phases: 1. Preliminary analysis of rules, types of disability and user interfaces. 2. Analysis of different software alternatives and selection a Windows solution. 3. Testing the VB with different interfaces. 4. Testing the VB with the users of the Centre to collect all their feedback.

RESULTS OF THE USERS FEEDBACK: The current version of VB has the following characteristics: 1. The VB enables teaching the game to users with disability 2. The VB has a user interface, enabling selection of proficiency level for playing the game, entering participants name and personal data, storing and retrieving this information as needed. 3. The current VB game has two modes of practice: (A) simulation, using the WII mote (accelerometers) and (B) the execution with hand movements for people who have no option to do a natural movement. 4. The VB system has the option of adding a pitcher and assistive devices 5. The system can also be used by a computer rather than the WII console.

CONCLUSIONS 1. The VB has proved to complement the physical training with the training of tactics and strategy through the use of technologies. 2. It enables faster learning of the rules of sport initiation stages compared to non virtual Boccia. 3. Due to the motivational aspect of the virtual environment, participants tend to train longer without costs and personnel assistive 4. Since the VB features different levels, the game becomes easier for participants who cannot get an overview of the field.

5. The WII mote is simple and intuitive, and thus, more accessible to many participants.
http://www.youtube.com/watch?v=S3oEqB0gDKg
http://www.youtube.com/user/crediscapacidad

UPPER LIMB ANAEROBIC PERFORMANCE OF ATHLETES WITH LOCOMOTOR DISABILITIES

Bartosz Molik1, Andrzej Kosmol1, James J. Laskin2, Laurie A. Malone3, Natalia Morgulec-Adamowicz1, Abu B. Yilla4, Judy Wilson4, Jan Gajewski1, & Kestas Skucas5
1Jozef Pilsudski University of Physical Education in Warsaw, Poland, 2The University of Montana, Missoula, Montana, USA, 3Lakeshore Foundation, Birmingham, Alabama, USA, 4The University of Texas at Arlington, Dallas, Texas, USA, 5Lithuanian Academy of Physical Education, Kaunas, Lithuania

INTRODUCTION The purpose of this study was to evaluate upper limb anaerobic performance (AnP) of male athletes with locomotor disabilities.

METHODS Participants included 320 athletes from 18 countries, training in one of nine Paralympic sport disciplines. Individuals were divided into three groups based on medical-functional ability (A - spinal cord injuries above T6; B - other locomotor disabilities, wheelchair users; C - lower limb amputation and other disabilities, ability to walk). Taxonomic analyses were used to determine if the group divisions were correct. To evaluate anaerobic performance each athlete performed a 30-s Wingate anaerobic test (WAnT) on a Lode Angio arm crank ergometer (Groningen, Netherlands). Peak power output (PP; highest 5-s power output) and mean power output (MP; average power sustained over the 30-s period) were measured. The WAnT software package also calculated relative peak power output (rPP) and relative mean power output (rMP) with respect to body mass. Average values for MP, PP, rMP, and rPP were calculated and compared between groups. Discrimination analyses were conducted to determine which variable had the greatest influence on anaerobic performance among groups. Reference values for each medical-functional group and age category (18-25, 26-35, and >35 years) were also determined.

RESULTS Significant differences ($p < .05$) were found between the three groups. Athletes with lower classification levels had lower mean scores for all four variables. MP had a greater influence on differentiation of groups than the other variables.

CONCLUSION Upper limb anaerobic performance corresponded to the athletes' medical-functional ability with mean power the greatest predictor of anaerobic performance.

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PHYSICAL ACTIVITY OF THE ELDERLY AT THE UNIVERSITIES OF THE THIRD AGE IN POLAND

Natalia Morgulec-Adamowicz, Izabela Rutkowska, Witold Rekowski, Andrzej Kosmol, Grzegorz Bednarczuk, Bartosz Molik
Józef Piłsudski University of Physical Education, Faculty of Rehabilitation
natalia.morgulec@awf.edu.pl

INTRODUCTION The idea of the establishment of the Universities of the Third Age (U3A) was started by Pierre Valllas in 70s. The first U3A in Poland was created in 1975. In 2008 in Poland were about 160 U3A. The physical culture was an integral part of U3A educational programs from the beginning. The purpose of this study was to analyze programs of physical activity at U3A with regard to content and participation of the elderly.

METHODS The questionnaire with introductory letter and gifts (CDs and DVDs about physical activity for elderly) were sent out to 160 U3A in Poland. This questionnaire consisted of 19 items. The overall response rate was 63%. The study included 100 U3A from all sixteen Polish provinces (except one province).

RESULTS Across the whole sample 47% of U3A were established after 2005. Majority of U3A members are woman (83,9%). In 97% of U3A physical activity was presented in programs. Majority of U3A declared organization of excursions (91%), regular sport/recreation sessions (87%) and walking tours (76%). In total, 52% of U3A members participated in such activities. The most popular forms of sport/recreation sessions were: health exercise programs (70%), conditioning (66%), swimming (59%), dance (51%), water gymnastics (47%) and Nordic Walking (44%).

CONCLUSION Results indicated that adapted physical activity is an integral part of programs in U3A, however rather low participation in physical activity revealed the need for future study.

INJURY INCIDENCE AND PREVALENCE IN SITTING AND STANDING VOLLEYBALL FOR ATHLETES WITH A DISABILITY - A LONG TERM PROSPECTIVE STUDY

P.Mustafins[1,3,5], P. Renström[2], A. Vetra[1], I. Schybria[4]
1 Riga Stradins University/Latvian Medical Academy, Riga, Latvia 2 Karolinska Institutet, Stockholm, Sweden 3 Latvian Academy of Sports Pedagogy, Riga, Latvia 4 NGO "Sports Medicine and Rehabilitation Centre", Riga, Latvia 5 World Organization Volleyball for the Disabled, Roermond, the Netherlands

INTRODUCTION The question of the sports related injury is in-between the most discussed ones in the international sports medicine literature. Though an athlete with a disability has a higher risk of sports injury, there are still only a few studies on the relevant topic in Paralympic sport. There are none available on the long term follow up of the Paralympic athletes. The aim of the present study was to prospectively investigate the incidence, type and extent of sports injury and musculo-skeletal complaints in volleyball for persons with a disability. The second aim was to study the effectiveness of some introduced preventive measures for the below mentioned group.
METHODS The international WOVD sitting (SV) and standing volleyball players of the both genders were followed prospectively during the years 1995 - 2008. The data was collected by different techniques: 1) interviews of the individual player by the team´s medical staff during the medical classification evaluations; 2) the original questionnaire was filled in by the team's medical staff. Sports injury has been defined as an injury in volleyball resulting in absence from training or match for at least one day.
RESULTS Valid results were obtained on 474 international SV players (88 female and 386 male) and 55 standing volleyball players (all male). An overall incidence of sports related participation limiting injury was calculated as 1.04±0.11 per player/season either 5.08±0.43 per 1000 training/competition hours. The most typical localizations of serious injuries in WOVD volleyball were the lower back, shoulders, arms and fingers. The prophylactic measures were reported to be of importance for the most teams on a highest level.
CONCLUSION Sitting volleyball has the same injury rate as a mainstream volleyball. The injury pattern in SV and in WOVD standing volleyball is different and has sport specific and disability specific features. The players in Paralympic volleyball have some additional internal and external overuse sports injury predisposing factors. The role of the preventive exercise programs in SV outweighs that of mainstream volleyball. Both, sitting and standing volleyball can be recommended to a wide scope of persons with a permanent disability as the safe and cheap sport and as physical rehabilitation. There is a need of the further research to find out on the sports injury predisposing factors and on the prophylactic measures in Paralympic athletes.

MOTOR PERFORMANCE CHARACTERISTICS IN 5-YEAR-OLD PRESCHOOL CHILDREN WITH DEVELOPMENTAL SPEECH AND LANGUAGE DISORDERS

Iti Müürsepp, Jaan Ereline, Helena Gapeyeva, Mati Pääsuke
University of Tartu, Faculty of Exercise and Sport Sciences, Institute of Exercise Biology and Physiotherapy

INTRODUCTION Speech disorders are the most common complaint in preschool-aged children. Usual treatment for them is mere speech therapy. The aim of the study was to evaluate motor performance in 5-year-old children with minor to moderate developmental speech and language disorders (DSLD) in comparison of age-matched healthy children.

METHODS Thirty-two DSLD children and forty-five control group (CG) children participated in this study. Vertical jumping was tested on the force platform. Bilateral and unilateral maximal isometric strength of the leg extensors was measured by electromechanical dynamometer. Isometric hand-grip strength was determined by mechanical hand dynamometer. The dexterity skills were measured by Complete Minnesota Manual Dexterity Test. Raven´s Coloured Progressive Matrices was used for the measurement of children's intelligence. One-way analysis of variance (ANOVA) following by Tukey post hoc comparisons were used to test for differences between groups of children. A level of $p<0.05$ was selected to indicate statistical significance.

RESULTS Dexterity skills and intelligence did not differ significantly ($p>0.05$) in the measured groups. DSLD children demonstrated lower ($p<0.01$) jumping height as compared to CG children. DSLD girls had lower ($p<0.05$) maximal strength of the leg extensors compared to all other groups. The hand-grip strength was greater ($p<0.05$) in CG boys compared to all other measured groups, but no significant differences were observed between CG girls and DSLD children.

CONCLUSIONS In children with minor to moderate DSLD the lag of voluntary muscle strength and especially muscle coordination is clearly evident, but these children do not differ from CG children in dexterity skills and in common intelligence. DSLD girls tended to have more affected gross-motor skills compared to DSLD boys. It would be appropriate to provide to DSLD children more multifarious therapy.

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PHYSICAL ACTIVITY AND MENTAL WELL-BEING IN THE 16-YEAR FOLLOW-UP STUDY AMONG THE ELDERLY

Päivi Mäkilä[1], Mirja Hirvensalo & Terttu Parkatti[2]
1 Turku University of Applied Sciences, Well-being Services, Finland paivi.makila@turkuamk.fi,
2 The University of Jyväskylä, Faculty of Sport and Health Sciences, Finland

INTRODUCTION Mental health is an essential part of health and well-being. Affective syndromes, especially depression, anxiety and loneliness are common among the elderly. This study examined the effects of physical exercise involvement on mood among aging people.

METHODS The data concerning self-reported physical activity, depression, anxiety and loneliness were collected by a structured interview at home during the eight and sixteen year follow-ups in 1988, 1996 and 2004 among non-institutionalized people born between 1914 and 1923. The symptoms of depression were measured using RBDI, Revised Beck's Depression Inquiry. McNemar and Cochran tests were used to study the change in frequency and intensity in physical activity. Repeated measures of ANOVA was used to study for changes in mood, anxiety and loneliness.

RESULTS The frequency and intensity of physical activity decreased with increasing age (in men, $p=0.30$ and in women, $p<.001$). Depressive symptoms ($p=.004$) and self-rated loneliness ($p=.003$) increased, and anxiety remained in the same level during 16 years. The proportions of those who reported depressive symptoms were 22% in 1988, 21% in 1996 and 28% in 2004. The corresponding proportions of loneliness were 18%, 29% and 35%. Proportion of participants who reported at least some anxiety was 16-17% in different follow-up years. Those men and women who had low physical activity level had more depressive symptoms in 1988, 1996 and 2004 regardless of diseases.

CONCLUSION This study shows that physical activity has a considerable significance on the mood among the aging population. The results can be used in planning health-preserving physical exercise programs, and planning future studies focusing on maintaining and improving mental well-being among older people.

EIPET: FILLING THE VOID OF PRACTICUM ACTIVITIES WITH 'BOLT-ONS'

Ng, K. W. and Rintala, P
University of Jyväskylä, Faculty of Sport and Health Sciences, kwok.w.ng@jyu.fi

BACKGROUND The European Inclusive Physical Education Teacher (EIPET) Resource pack was launched after a 2 year EU funded project. In its introductory section, it states, "This publication aims to provide an off the shelf module with all required background materials and class materials to facilitate easy inclusion into training programmes." The resource pack is aimed at instructors of undergraduate students and in-service modules providers of inclusive physical education.

At the launch, some of the key partners, alongside Institute Technology Tralee suggested further validation across various countries was needed. By using the resource in trials either in separate modules or the course in completion, the European community is gearing for versatile and high quality teaching of inclusive physical education. However, the resource pack seems to be low in content with practicum examples. A popular way to add content to an existing framework is to create 'bolt-on' courses. In a case study, the inclusive sport of Sitting Volleyball was examined in three ways, i) how to prepare it for EIPET, ii) how the sport was assessed and iii) what kind of reflective practice this has for future module 'bolt-ons'.

SESSION CONTENT This session aims to look at the findings from one week's worth (4 hours) of the course and aims to cover the following aspects.

- Discussions on the way the structure of an inclusive sport is included through examples of the adoption of Sitting Volleyball.
- Disclose findings and verdicts reached by the participants.
- Display future recommendations for running of the EIPET course/modules.
- Divulge on concerns of endorsements and validation of a European level bolt-on.

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NOTES The results of this session will be published in a Thesis and forms part of a broader and more expansive project undertaken at the University of Jyväskylä and partners.

PARTICIPATION IN ELITE SITTING VOLLEYBALL AND ITS AFFECT ON TRAINING FREQUENCY AND ATHLETES' EMOTIONAL STATE

Ng, K. W.[1] Ruiz, M. Kokaridas, D.[2]
1 University of Jyväskylä; 2 University of Thessaly. Kwok.w.ng@jyu.fi

INTRODUCTION Participation in a National Sport Team gives athletes with and without disabilities the opportunity to encounter the most rewarding experience that requires hours of training, competition and travelling. In disability sports, however, classification rules often reduce the number of potential participants resulting to the immediate introduction of novice athletes in national teams. Reviewing the literature it seems that this issue has not been yet examined as a motivation factor affecting athletes' training frequency and dedication towards exercise. Thus, the purpose of this study was to examine participation in elite sitting volleyball and its relation to training frequency, athletes' emotional state and types of activity perceived by athletes as training.

METHODS The sample consisted of 10 female athletes (mean age = 30.85, SD = 12.47), all national members of Sitting Volleyball Paralympics Team. Each individual was asked to complete and submit regularly training logs throughout a competitive season. An instrument was devised comprising of a log concerning duration and type of exercise, Borg's perceived rate of exhaustion, perceived level of difficulty (1-10) and idiosyncratic descriptors of athlete's emotions before, during and after the exercise. Selected words were categorised into negative and positive affects (Hanin, 2007) and global sums scores were contrasted between affect states.

RESULTS Some athletes had difficulty submitting the data, however most athletes (n=7) returned their training logs (n=496). The results found athletes trained infrequently (mean=2.28, s.d.=1.7) and were unable to reach the WHO's minimum requirement of healthy physical activity (mean=83.28mins) per week. 57.66% of the time, exercise (n=286) demonstrated positive affects, while 17.14% of exercise (n=85) had a positive change affect. 22.58% of exercise (n=112) started with a positive effect and consequently negative effects were reported. Training logs (n=337) were analysed from individual athletes (n=5) for types of activities. Popular categories of activities include Gym use (n=68), Club training (n=68), Skiing (n=55) and Cycling (n=36). Some other activities considered by individual athletes were seasonal and included Yoga, Wood Chopping, Swimming, Canoeing, and Walking.
CONCLUSION Although elite sport requires dedication including high amounts of training, elite sitting volleyball athletes of this sample seemed to balance between work, home and sport and hence had the tendency to train infrequently. An interesting finding was that athletes experienced negative affects after exercise although they were positive prior training. It seems that participation in elite sitting volleyball does not necessary lead athletes toward training competence and a positive psychological profile and it is probably counterbalanced by movement limitations due to disability existence. Thus, further research is warranted on emotions in sport and exercise.

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ADAPTED PHYSICAL EDUCATION METHODS IN THE SCHOOL FOR THE VISUALLY IMPAIRED IN JYVÄSKYLÄ, FINLAND (www.jynok.fi)

Satu Niemelä
The School for the Visually Impaired in Jyväskylä, Finland.

INTRODUCTION There are about 80 000 visually impaired people in Finland. Of them 1000-1500 are under 18 years old. Yearly, about 70-100 visually impaired children are born in Finland. The school for the Visually Impaired in Finland is a Resource Centre for Learning and Development. It provides Support Services for pupils with visual impairment in inclusive education all over Finland. The school arranges courses for teachers and teaching assistants, practical lectures, temporary education study weeks for students and there are also supplementary study materials to buy. The school also acts as a Special Education Institute. The school has 39 students (2009) and provides them education, rehabilitation services, boarding services and leisure time activities. The students are blind or have some other kind of visual impairment. Most students are multiply disabled. School education takes place on three levels: preschool, compulsory education (1-9) and in an additional 10th grade. The school employs a physical education teacher, a physiotherapist and a leisure time instructor who all give their best to keep the level of physical activity high for children. ACTIVITIES THROUGH P.E. IN SCHOOL a) Weekly P.E. lessons (2-3 hours a week by P.E. teacher) b) Sport Competitions (showdown, athletics, skiing, swimming, goal ball) c) School´s own activity days (outdoor day, dancing, skiing day) SPORT ACTIVITIES BY OTHER SECTORS a) Motor skills track for younger students once a week (by physiotherapist) b) Guided sports (leisure time instructor): Swimming, goal ball, sport clubs c) Swimming, gym and outdoor activities by dormitory counsellors One of the goals in Physical education classes is to maintain a wide variety of sports and similar to that of normal schools. The following sports and special methods are used in teaching physical education. Sports are given in the order in which they are taught in P.E. from autumn to spring. TRACK AND FIELD: Guide, using loop, running and jumping towards caller, jump side by side, manual assisting. SOCCER: Bright coloured ball, good contrasts, ball with sound, audible cues, keep the ball on the ground. ORIENTEERING: Better contrast colours in map, clearness, photo-orienteering, GPS-devices, embossed maps for blind. BICYCLING: Tandem biking with guide (2-wheel, 3-wheel bikes), biking with auditory instructions. JOGGING, WALKING, NORDIC WALKING: With loop and guide, walking alone behind guide, using tandem-poles. BASKETBALL: Basic skills, contrast colours of the ball, lower basket, sound near basket, softer balls. WALLBALL: Gym divided half by mattresses, big therapy ball (jingle bells inside), ball rolled, back wall a goal, allowed to pass the ball to a team mate. FLOOR HOCKEY: Normal ball but bells inside, balls and goal bright coloured, good contrasts. INDOOR SOCCER: Soft ball with bells inside, no boundaries, size of the goal. GYMNASTICS WITH APPARATUS: Movements in different levels, good assistance, balance beam on low level, parallel bars, rings, rope contact with apparatus is continuous. DANCING, AEROBICS, CREATIVE MOVEMENT, SOCIAL DANCE: Precise verbal instruction, learning takes time, no complex steps, physical assistance, easy combinations, modifying steps in social dance only when needed. SWIMMING: Swimming techniques, rescue skills, water gymnastics, water jogging, water games, fitness circle. CROSS-COUNTRY SKIING: Guide skier, good skiing tracks, auditory cues, no steep hills at early stages of learning. ICE SKATING AND ICE GAMES: Basic skills, skating support, auditory cues, modified games, physical assistance, safety. SNOW SHOE WALKING: Slow pace, trail, ice or forest, trekking poles, hiking boots, auditory cues, running loop. FITNESS BOXING, SELF DEFENCE, CIRCUIT TRAINING, STRETCHING,

RELAXATION: Normal basic techniques, physical assistance, learning takes time, clear rhythm in music when used. FUN GAMES: Social interaction, auditory cues, different ways of moving, different tasks, using guide, adapting equipment, clear colours and contrasts, marking boundaries, modifying rules, all can participate. GOAL BALL: Ball with bell inside, marked boundaries, rolling the ball, blocking the ball, blindfolds, pads in knee, elbow, hips, modifying the game when needed, using mattresses, softer balls. SHOWDOWN: Specially designed table, paddles, gloves, special ball, goal pocket, serving, hitting, blocking. BOWLING: Normal technique, using bowling rail for guidance, physical assisting, without steps at first. FRISBEE / ULTIMATE: Frisbee golf game, throw towards a target and count points, throwing relays, throwing techniques. PETANQUE, BOCCE: Indoors or outdoors, bright coloured "target ball", clapping hands above target ball. PARCOUR: Parcour park in Jyväskylä, climbing up and coming down, rope bridge, manual assisting. FINNISH BASEBALL: Batting support, ball with bells, bigger ball, modified game (bat, run to get points).

DANCE AND INTELLECTUAL DISABILITY: AN OTHER DANCE

Jannick Niort, Javier Hernández Vázquez, Ana Bofill Ródenas

INTRODUCTION: Our theoretical reflection goes in the sense of explaining the benefits of the dance and his potential as regards the Special Education and particularly targeted on Adapted Physical Education. We contemplate the dance like educational way and the dance like performance. Dance is analyzed from a multidisciplinary methodology that it is focused in a physical, psychological, cognitive and social dimensions and applying his different elements to intellectually disabled persons. We work to create new research lines with the aim to establish the merits of the dance and its importance in educational programs.

METHODS: Especial methodology. It's an experience of dance and performance with intellectual disability persons that results for them; it's an experience of life. Positive results en regards for psychological, physical and social domain. Concerning the psychological and physical level, we consider the features of each intellectual disability for getting the best of each person. In the cognitive level, the dance, in class or in performance, promotes to think, to remember, to take initiatives. We teach through the movement. About the social level, in performances we dance all people, with and without disability. It’s a way of approach to the society and for each one a possibility to enjoy and to live in the fiction that they cannot live in reality.

CONCLUSION: The dance is necessary in the education like physical activity for improving the life quality of persons with intellectual disability. It’s a way to introduce and normalize these persons and to enhance self-esteem of each one.

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THE EFFECTS OF BODY COOLING USING ICE VESTS IN WHEELCHAIR RUGBY PLAYERS DURING A SIMULATED GAME

Tommi Ojanen[1], Jussi Mikkola[2], Min Long[3] & Ari Nummela[1]
1Research Institute For Olympic Sports, Jyväskylä, Finland 2Finnish Paralympic Committee, Helsinki, Finland 3University of Jyväskylä, Department of Biology of Physical Activity, Finland

INTRODUCTION Spinal cord injury (SCI) leads in reduced vasomotor and sweating responses below the level of lesion and may cause thermoregulatory dysfunction (1). Therefore, athletes with SCI have an increased risk of heat strain and heat exhaustion during exercise relative to able-bodied athletes (1). Consequently, wheelchair rugby players (WRP) may be exposed to heat strain leading reduced performance capacity during the game situation. Thus, decreasing the body temperature before and during the game may be beneficial to WRP. The purpose of this study was to investigate the effects of body cooling using ice vests in WRP during a simulated game situation.

METHODS Seven WRP (lesion level of C5/C6 to C6/C7) performed two simulated game situations (3 x 8 min) in random order, with and without cooling using ice vest, in the indoor hall environment (22ºC). The cooling was executed 10 minutes before game and during the two 5-minute breaks between periods. Core body temperature using ingested telemetry pills (HQ CorTemp), blood lactate (LA), the rating of perceived exertion (RPE), heart rate (HR) and 20 m self-powered wheelchair rolling times during simulated game were measured.

RESULTS In both treatments mean core temperature, LA, RPE and 20 m rolling time increased significantly ($p<0.05$-0.001) during simulation. However, no significant differences between the two treatments in core temperature, LA, RPE, HR and 20 m rolling times were observed. CONCLUSION Based on the present results, we can conclude that the simulated game induced considerable fatigue. It can be also suggested that the intervention of the cooling vests that works via conductive cooling does not help WRP maintain core body temperature or performance capacity in indoor hall environment.

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DOWNHILL WALKING TO IMPROVE LOWER LIMB STRENGTH

Pallicca A.[1], Pallicca P.[1], Fattorini L.[2], Pittiglio G.[1], Rodio A.[1]
1 Department of Health and Sport Sciences, University of Cassino, Via Sant'Angelo località Folcara,03043 Cassino (Fr), Italy 2 Department of Human Physiology, University of Rome"La Sapienza", P.le Aldo Moro 5, 00185 Rome, Italy a.pallicca@unicas.it

INTRODUCTION Eccentric training can significantly increase muscle strength. There is a physiological decay of strength and muscle tissue with age. The aim of the study was to identify whether a simple activity as walking downhill improves strength and resistance to fatigue in the muscles of the lower limbs. During this type of activity the eccentric component plays a decisive role. The study was performed in the laboratory using a treadmill with slopes ranging from -20% to +20%. There is a double benefit as a result of this motor activity, a valid tool in the physiological decay due to aging and maintains or improves people's health through an aerobic activity.

METHODS Seven female students were subjected to the evaluation of the amount and type of motor activity performed six months prior to the experiment, using a recognised questionnaire, the Short Form 36 (SF36); body composition assessment; force measurements through the calculation of Maximum Voluntary Contraction (MVC), the resistance time at 60% of MVC, Squat Jump (SJ), Counter Movement Jump (CMJ) e Continuous Jump Bent Legs (CJb). Each subject was then required to walk on the treadmill at a speed for which the energy expenditure is minimal (optimal speed on the slope given). The duration of the exercise was 30 minutes, three times a week for 6 weeks.

RESULTS Among all parameters studied, only the Maximum Voluntary Contraction and the Squat Jump showed statistically significant results ($p < 0.05$). Maximum Voluntary Contraction increased in right leg from 289±58 N to 340±40 N and left leg from 270±33 N to 338±49 N. While Squat Jump increased from 48±4 cm to 50±4 cm. Regarding the resistance time of 60% of MVC, Counter Movement Jump and Continuous Jump Bent Legs there were no statistically significant results.

CONCLUSION Walking downhill a slope equal to -20% on a treadmill induces improvements in the muscle strength in the lower limbs. This type of motor activity can be used as a strategy to counter the physiological decay due to aging, in addition beneficial effects of aerobic training on health status are well known.

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HIGH-INTENSITY TRAINING AS A TOOL TO CHANGE THE BODY COMPOSITION

Pallicca P.[1], Pallicca A.[1], Fattorini L.[2], Pittiglio G.[1], Rodio A.[1]
1 Department of Health and Sport Sciences, University of Cassino, Via Sant'Angelo località Folcara,03043 Cassino (Fr), Italy 2 Department of Human Physiology, University of Rome"La Sapienza", P.le Aldo Moro 5, 00185 Rome, Italy p.pallicca@unicas.it

INTRODUCTION Motor activity, whether aerobic or anaerobic, is considered as an important factor to maintain and/or improve health in all ages of life. The aim of this research is to study the effects induced by a high intensity loaded training administered in a brief period of time (like an "all out" exercise) on upper limbs. An additional aim is to understand if the abovementioned training can be an effective tool to induce the same beneficial effects of an aerobic physical activity such as body composition changes and improvement of aerobic fitness, representing an alternative to the exercises actually suggested by the American College of Sport Medicine, that advices to perform a low intensity motor activity for 45 up to 60 minutes.

METHODS The research was carried out on 7 male subjects in good health (age: 23±2 years; weight: 71±4 kg; maximal aerobic power (V'O2max): 3 l/min). Each subject has been subjected to anthropometric measurements, evaluation of fat mass through skinfold method and measurement of low and upper limbs' circumference, evaluation of physiological profile through an incremental test to exhaustion by way of a crank ergometer. This test helped to evaluate maximal aerobic power and ventilatory threshold (TH) via metabolimeter. Moreover, through a correlation equation between the oxygen expenditure and the work intensity it was possible to determine the load relative at 150% of V'O2max which would be administered to the subjects during their training. All subjects have performed an exercise on the crank ergometer, consisting of 3 minutes warm-up followed by 5 high intensity repetitions at the 150% of V'O2max. Each repetition consisted of a maximal endurance exercise performed at the speed of 60rpm every 4 min (recovery = 4min minus exercise time). The overall duration of each single session was of 23 minutes. The training was performed 3 times a week for a total of 15 sessions training. After training program each subject was submitted to the evaluation tests mentioned above test.

RESULTS V'O2max increased from 2,9±0,4 to 3,4±0,5 l/min; V'O2TH increased from 2,1±0,2 to 2,6±0,4 l/min. Moreover, body fat percentage reduced from 9,6±2,9 to 8,6±2,6 %, total work time and endurance time of the first repetition increased suggesting a body composition chancing. T-Test for pair data was carried and all data resulted statistically different ($p<0.05$).

CONCLUSION From these results it is possible to deduce that a high intensity training improves whole body fat oxidation and capacity for skeletal muscle to oxidize fat, stimulating adaptations in skeletal muscle that improve performance and health. Our protocol can be used as tool to improve fitness with only ten minutes a day for three times a week, maximizing training adaptations in a short period of time.

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THE EFFECT OF AGE AND GENDER ON STUDENTS' ATTITUDES TOWARD THE INCLUSION OF CHILDREN WITH A DISABILITY IN GENERAL PHYSICAL EDUCATION CLASSES

Anna Panagiotou, Petros Grekinis, Agapi Doulkeridou, Theodoros Ellinoudis, Christina Evaggelinou
Aristotle University of Thessaloniki, Department of Physical Education and Sport Sciences, Adapted Physical Activity Laboratory, Serres, Greece apanagio@phed-sr.auth.gr

INTRODUCTION There are many factors which affect the attitudes of children without disabilities toward peers with disabilities. The aim of this study was to examine the effect of age and gender on students' attitudes toward the inclusion of peers with a disability in general physical education classes.

METHODS 378 (185 boys & 193 girls) Greek children from primary (N=178 M_{age} 10-12yr) and secondary (N=200 M_{age} 12-14yr) education participated in this study. For the assessment of children's attitudes a modified version of the questionnaire CAIPE-R (Block, 1995) was used (Panagiotou, 2006). The questionnaire consisted of two attitude subscales: the general subscale (attitude toward inclusion of a child with a disability in physical education class) and the sport - specific subscale (attitude toward inclusion of a child with a disability in adapted sports). T-test for independent groups was used to examine the differences by age and gender between primary and secondary education students' attitudes. Pearson's correlation analysis was used to examine the relation among the previous exposure to disability (as a family member or a classmate) and all students' attitudes.

RESULTS There were differences by grade and gender. Regarding grade, results showed significant differences in general ($t_{(1, 377)}$ = -12.71) and sport - specific attitudes ($t_{(1, 377)}$ = 2.54). Regarding gender, results showed significant differences only on girls' general attitudes at secondary education ($t_{(1, 199)}$ = -2.18) and more positive general and sport - specific attitudes of all girls related to boys. Statistical significant correlation, even if low, was found between general attitudes and exposure to a classmate with a disability in regular education classes and in physical education classes ($p < .05$).

CONCLUSION Conclusively, students from secondary schools were found to have more positive general but not sport-specific attitudes than students from primary schools. Also girls had more positive attitudes than boys on both levels of education. Exposure to a classmate with a disability in regular education classes and in physical education classes was found to affect only the general students' attitudes.

PRECOMPETITIVE ANXIETY IN WHEELCHAIR BASKETBALL: RELATIONSHIP WITH FREE THROW PREROUTINES AND EFFECTIVENESS

Javier Pérez & Adriana Charry
Facultad de Ciencias de la Actividad Física y del Deporte - INEF. Universidad Politécnica de Madrid (Spain)

INTRODUCTION In wheelchair basketball competition as a team sport, players´ perception of anxiety has been discussed as a factor for influencing performance, especially in a closed loop task like free throw. Moreover, preroutines in this task are used to control anxiety levels and to focus attention (Burke et al., 2006; Campbell & Jones, 1997). The aim of this work is to study the level of precompetitive anxiety and free throw preroutines used by elite wheelchair basketball players and its relationship with the performance in competition free throws.

METHODS 12 elite basketball players (11 men and 1 woman) from same team participated in the study. Correlational research method was applied, measuring precompetitive anxiety levels, free throw preroutines and effectiveness. Data were registered during 5 games from top European competition (Champions Cup, moment 2) and 2 trainings sessions (10 days before competition, moment 1). The Competitive State Anxiety Inventory-2 (CSAI-2, Martens et al., 1990) was used to measure precompetitive anxiety; free throw execution was videorecorded and their preroutines were analyzed per player; effectiveness was evaluated by percentage of shooting success. T Student test for related measures was used to determine differences from training to competition situation for previous variables and Spearman correlation coefficient was used to measure relationship between variables. Level of significance was established at $p<0.05$.

RESULTS No differences were found for anxiety levels for both moments; the use of free throw preroutines were stable for players in both moments and along the competition; shooting success for team was 53% during training and 77% during competition. Anxiety levels did not correlated significantly with shooting success, using preroutines for free throw or not. Players using preroutines showed a significant relationship between functional classification and shooting success.

CONCLUSION The level of precompetitive anxiety seems to be stable in experienced wheelchair basketball players, like the use of a fixed preroutine in free throw situations. Training situations for free throw need to reproduce emotional context of competition, introducing challenging situations or attentional work, when preroutines and appropriate technique in free throw has been already defined. The influence of precompetitive anxiety in non-elite wheelchair basketball players has to be studied.

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PERSPECTIVES FOR INCLUSION IN PHYSICAL ACTIVITY AND SPORTS IN EUROPE: THE CASE OF THE CENTER FOR INCLUSIVE SPORT STUDIES IN SPAIN AS STATING POINT FOR DEBATE.

Javier Pérez
Facultad de Ciencias de la Actividad Física y del Deporte - INEF. Universidad Politécnica de Madrid (Spain)

INTRODUCTION Inclusion is an issue at the forefront of sports practice for persons with a disability worldwide. With this perspective, on October 28th 2009, The Sanitas Foundation and the Polytechnic University of Madrid signed an agreement for the creation of the first Centre for Inclusive Sports Studies (CEDI) in Spain: its goal is to research and raise awareness of inclusion in sport with a special focus on a) real inclusive physical activities and sport and b) to facilitate inclusion in normalized and integrated sport settings (from individuals to institutions). The studies and knowledge it will generate are aimed at promoting a platform for action, especially among regular sports institutions, to promote equality and inclusion in disabled people sports practice. The Centre is working already with the Higher Sport Council, the Spanish Paralympic Committee, sports federations, universities, schools, sports clubs and other institutions. The presentation of CEDI at EUCAPA 2010 is aimed to generated debate from the Spanish situation in relation to organizations from other countries in the areas in which the presentation is structured.

NAME AND TARGET GROUP OF THE INNOVATION Persons with physical disabilities are the main target group, and wheelchair practices are intended to primarily deal with the practical inclusive setting. Moreover, institutions from regular sport are invited to share their interest in the inclusion of persons with disabilities in their practices or services.

BRIEF DESCRIPTION OF THE PRESENTATION a) Brief presentation of the Spanish situation and CEDI actuations and results regarding the following areas: • Research and knowledge: research work on APA and sports in Spain in relation to different fields, such as clinical/rehabilitation, education, sport and leisure. • Training and Skills. Inclusive Physical Education and/or Technical Sports Training professionals' analysis and requirements. • Adapted sports: wheelchair basketball for children with and without disabilities as example. The inclusion of children with disabilities in school sports competitions at the regional and national levels. • Awareness-raising. Publications, scientific forums and training courses on inclusive physical activities and Sports: materials and resources. C) Debate from European examples on the previous areas will be looked for.

CONCLUSION After presentation, the debate around the different areas will be stimulated. Connections of necessities all around Europe on Inclusion will be seek for. Next steps at institutional level for coordinating efforts will be search for.

A NEW SPEED MEASURING DEVICE FOR IMMEDIATE TECHNIQUE FEEDBACK IN WHEELCHAIR RACING

Piritta Poutiainen[1], Riku Valleala[2], Kaisu Mononen[2], Matti Salonen[2], Risto Toivonen[2], Harri Kapustamäki[2] & Lassi Korhonen[3]
The Department of Biology of Physical Activity, University of Jyväskylä, Finland1; Research Institute for Olympic Sports, Jyväskylä, Finland2; Finnish Athletic Association, Helsinki, Finland3

INTRODUCTION In recent years the progression of world records of wheelchair racing has became significantly faster. Because of that there is a need among wheelchair racers for new and enhanced ways to train and analyze the propulsion technique. The aim of this study is to develope and validate a new speed measuring and immediate feedback device for wheelchair racers to improve their training efficiency.

METHODS The new device has been developed by the students and staff of the Polytechnics of Jyväskylä in co-operation with the authors of this study and it is based on the accelerometer technology. The speed measurement is based on three-dimensional accelerometer collecting data at rate of 250 Hz. This raw data is sent real time to the laptop via Xbee radio protocol using IEEE802.15.4 standard. The first test measurements have been made in the autumn 2009. One able-bodied male subject participates in the experiment. The experiment consisted of one bout of 30 meters racing at self selected velocity. The new device was set in the wheelchair. In addition, the performance velocity was detected by the photocells and high-speed camera. The photocells were placed at 0, 10 and 20 meters distance from the beginning of the bout to detect the mean velocity and the whole performance was recorded by high-speed camera. From the video data, the hub of the wheelchair was digitized by APAS-program and the mean velocity of each 10 meters interval was calculated based on the lap times recorded by photocells. The data detected from the new device was analysed by Analyse-software programmed by KIHU. Analysis of correlation was used to compare the performance velocities detected by photocells, high-speed camera and the new device. The final validation of the device is going to take place in January 2010 in Kuortane. The best Finnish wheelchair racers (3 subjects) and the young up-and-coming racers (4-5 subjects) participate in this study. The validation will be made using the same protocol as explained before expect that also the radar gun will be included into the protocol.

RESULTS By the first test measurements it seems that the new device still needs some more elaboration to be able to give validative feedback. After the final validation the new device is supposed to give direct feedback from the performance velocity. From the velocity curve the athlete can get useful information about his/her weaknesses and strengths in propulsion technique. By the measuring system the velocity data can also be combined with a video clip from the same performance.

CONCLUSION In the future the racing times will continue decreasing so that small increments of change in training and propulsion technique become more important. Thus, we see useful to continue with the validation project of this new device because we find it to be a helpful for improving the individual´s training quality and for pursuing the development of the training process.

MODELING OF AN OBSERVATION CHECKLIST OF THE EXPRESSION OF INTERNAL PROBLEMS IN MOTOR BEHAVIOR

Jūratė Požėrienė, Diana Rėklaitienė, Rūta Adomaitienė
Lithuanian Academy of Physical Education, Department of Adapted Physical Activity
j.mikelkeviciute@lkka.lt

INTRODUCTION A child's motor development is closely related to the child's psychosocial development that encompasses emotions, personality, and interrelations with other people that surround him/her. Evaluation of children's motor behaviour differs from physiological measurements, physical capability tests, and even from children's motor development tests, assessed with the help of quantitative values. An assessment of motor behaviour can be grouped into two categories: 1) direct assessment, defined by observation in natural children's environment or in situations, analogous to natural environments, and self-observation; and 2) indirect assessment, defined by various surveys, reports, and questionnaires. This research project started with the hypothesis that direct observation of a child can be used as part of their assessment for various internalized problems. The results of recent observational studies on depressed children show that explicit behavioural symptoms of depression, such as psychomotor agitation and retardation, can be systematically observed during standardized play procedures (Mol Lous, Wit, De Bruyn & Riksen-Walrawen, 2002). The purpose of this study is to construct a check list of motor behaviour for children aged 11-12 years with internalized problems.

METHODS Items for the checklist were recorded from DSM-IV and ICD-I0. Sample: Children ll-12 years (N = 75) were videotaped whilst participating in physical education lessons. Achenbach\'s Child Behaviour Checklist (Youth Self-Report for Ages11 – 18 (YSR) and Teacher\'s Report Form for Ages 5 -18(TRF)) were applied to the same sample as well. The results from YSR and TRF were used for the development of validity statistics. Reliability statistics were calculated as well.

RESULTS Using diagnostic systems DSM-IV and ICD-10, a list of 68 statements was composed that codes the expression of internal problems in motor behaviour. Having performed statistical and empirical analysis of all statements, a checklist of 14 statements for observation of the expression of internal problems in motor behaviour was composed. The data showed that the researched children did not have internal problems. Statements that might describe motor behaviour of children with internal problems better than other statements were distinguished.

CONCLUSION The results showed that motor behaviour of children with internalized problems can be observed with the new checklist and results are valid and reliable. Practical outcome: the instrument will be useful in screening of children with possible internalized problems and in assisting of intervention planning aimed at influencing motor behaviour.

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THE INFLUENCE OF SOCIAL ENVIRONMENT ON PARTICIPATION MOTIVATION IN ADAPTED PHYSICAL ACTIVITY (APA)

Jūratė Požėrienė[1], Daiva Mockevičienė[2], Diana Rėklaitienė[1]
1 - Lithuanian Academy of Physical Education, 2 – Šiauliai University

INTRODUCTION Descriptive research has found that persons with and without disabilities have similar motives to participate in physical activity and sport including improving skills, attaining goals, enjoying competitions, being part of a team, being friends and family, having fun. Persons with disabilities have different cognitive abilities and perceptions about ability, because of that their reasons for participation in physical activity may vary from other populations and can be influenced by social environment. The aim of the study was to identify does social environment have an influence on participation motivation in APA.

METHODS Participants of this study included 92 children pupils from special schools for intellectually disabled children and 145 children from Primary Schools (age = 12.14, years, SD = 1.47). To measure participation motivation in APA the questionnaire survey was used. Statistical (frequency, average, standard error, Spearman Rank Correlation Coefficient, t-test) data analysis has been carried out.

RESULTS Research data showed that children participate in physical education lessons at school only because they are compulsory. 54% of pupils from Special Schools and 58% from primary school are not engaged in after school sport activities. Students from Special School evaluate their abilities inadequately: 22% of respondents claim that they care about their health a lot; 58% of intellectually disabled pupils state that they exercise enough to be healthy.

CONCLUSION Social environment influenced motivation of intellectually disabled students on participation in physical and sports activities. The data showed, that social environment of able-boded children stimulates to exercise and engage in sports activities more, whereas intellectually disabled children are more encouraged by teachers to get engaged in physical activity.

EFFECTS OF AN ADAPTED SPORT PROGRAMME IN SPANISH PHYSICAL EDUCATION ON THE ATTITUDES TOWARDS DISABLED PEOPLE

Reina, R., López, V., & Jiménez, M. Miguel Hernández
University of Elche (Spain), Faculty of Sport Sciences

INTRODUCTION Inclusion allows teachers to value and accept diversity and to use instructional practices that have a proven efficiency in heterogeneous classrooms. Student's attitudes towards participation of other disabled students are also a key issue for inclusion (1). Taking part in physical activity can have a positive impact in the way we experience our body: developing perceptions of physical attributes, redefining personal capabilities and potential, and enhancing independence and self-actualization (2). We have studied the modification of the attitudes towards disability after carrying out some activities where PE students took part in tasks with visual restrictions.

METHODS Three hundred and forty four Spanish PE students took part in the study, 180 male and 164 female. A group of 91 students participated in a day long activity where the players of a 5 a side blind soccer team performed a sport show and they later chatted with the students. The other 253 students took part in a 6 session programme which consisted in a session of teacher´s explanation of sport and they were shown a video, 2 sessions of games with visual limitations, 2 sessions with specific tasks of 5-a-side soccer for visually impaired people, and the same session than previous group of 91 students. Both groups filled in a Questionnaire of Attitudes toward Disability before and after their respective activities. The questionnaire contained 23 questions about the three components of the attitude concept: idea, emotion and intentional behaviour.

RESULTS A repeated measures ANOVA showed significant differences in the three components of the attitude ($p<0.001$), for both, the group of the day activity and for the group of the six lesson programme. The idea component had a higher effect size ($np2 = 0.296$). Also, this variable is the one that shows an interaction effect with the inter-group variable ($F1,333=16.47$; $p<0.001$; $np2=0.47$). Although both groups significantly improved their attitudes, the group of the six day activity had also higher effect sizes.

CONCLUSION Participation in inclusive settings can have an important role in how disabled people define themselves and can promote their sense of belonging (3). Simulated activities in educational settings towards visual disabilities create an environment of acceptance and improve the attitudes of PE students. Moreover, those activities could be carried out with low cost, and promote the social acceptance of disabled people. Nevertheless, more studies with other disabilities and sports may need to be carried out to confirm the present findings.

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THE INFLUENCE OF ADAPTED AEROBICS PROGRAM ON PSYCHOSOCIAL BEHAVIOUR AND COMMUNICATION SKILLS OF INTELLECTUALLY DISABLED GIRLS

Diana Rėklaitienė, Jūratė Požėrienė
Lithuanian Academy of Physical Education, Department of Adapted Physical Activity

INTRODUCTION Encouraging and fostering long term and constant participation in physical activity of intellectually disabled youngsters is the responsibility of APA practitioners. But the question is, what are most effective strategies for helping intellectually disabled not only to obtain good physical fitness during APA but also to get more positive interaction and prosocial behaviour skills, which encourage positive attitude towards those people and indicates processes of inclusion. The aim of this research was to determine the influence of adapted aerobics classes on psychosocial behaviour and communication skills of intellectually disabled girls.

METHODS Educational experiment was provided with a group (n=13) of intellectually disabled 18-20 years girls. Adapted aerobics program involved not only three times per week classes, but also participation in competitions, performances, and festivals. Using method of Observation we tried to disclose the changes of psychosocial behaviour and communication skills of intellectually disabled girls during one year. There were three main aspects of behaviour that we detected: response to their mistakes or incorrect performance, attendance of classes on schedule; competences of sharing the things with each other. Using unstructured interview with the girls and social workers our objective was also to determine other communication skills such as ability to get friends, helping others, toleration of others behaviour and different opinion, and other.

RESULTS The positive atmosphere of cooperation in adapted aerobic classes is effective mean, able to influence positively such behaviour as attention seeking, social dysfunction, dominance, communication of intellectually disabled girls ($p<0,05$). Common activities during aerobic classes had positive influence on attention towards friends, tolerance, forgiveness, sharing, and competence of offering, asking, encouraging each other, self-criticism and self-support.

CONCLUSION Qualitative analysis of observation determined, that the program which was applied and was oriented towards training of attention and toleration to each other and prosocial behaviour on the whole, had a positive influence on their behaviour skills not only during classes but also in their everyday activities. The main behaviour changes which we highlighted were attention towards friends, tolerance, forgiveness, sharing, competence of offering, asking, encouraging each other.

THE EFFECT OF SPORT ON QUALITY OF LIFE OF PERSONS WITH VISUAL DISABILITIES

Diana Rėklaitienė[1], Daiva Mockevičienė[2], Jūratė Požėrienė[1]
1 - Lithuanian Academy of Physical Education, 2 – Šiauliai University

INTRODUCTION Visual disability has been shown to have negative effects on quality of life (QOL) and a significant impact on daily functioning, including social activities. There is a growing recognition of the importance of person participation is sport activities. Because of that the aim of the study was to evaluate an influence of participation in sport activities on QOL of persons with visual disabilities.

METHODS 101 respondents with visual disabilities participated in the research. 55 of them participated in sports actively (3 – 4 times per week) and 46 – inactively (1 – 2 time per week and less). Using method of questionnaire survey we tried to disclose an effect of sports activities on quality of life of persons with visual disabilities. The statistical (descriptive of frequencies, averages) analysis of data was performed.

RESULTS Persons with visual disabilities, who participate in sports, satisfy one of the major social needs – the need for communication – by sports activities; it, in turn, improves their quality of life. They have better opportunities for integration into society in compare with persons who participate in sport irregularly. Persons with visual disabilities participated in sports inactively or irregularly pointed out such difficulties of participation in sport activities - physical environment, insufficiently developed transport facilities, lack of sports bases.

CONCLUSION Psychosocial health, biosocial skills and physical fitness of persons with visual disabilities can be improved by participation in physical and sports activities. Persons with visual disabilities participated in sports actively have showed better quality of life in compare with persons who participate in sport irregularly.

HEALTH EDUCATION FOR CHILDREN WITH MENTAL DISABILITIES

Christiane Reuter
Institut für Sportwissenschaft der Julius–Maximilians-Universität Würzburg, Germany

INTRODUCTION In answer to the lack of early prevention from disease of civilization in Germany many projects, that target the aid of children´s health, were realized in schools or kindergarden in present and past. In Germany the sanitary discriminated group „children with mental disabilities" falls through the cracks of efforts. These children are educated separately in special kindergarden and schools. So most of the projects located in regular schools don´t include them. To resolve this deficit, the graduation project confronts the challenge to create a conception to reach all children in consideration of current concepts of health promotion – including children with mental disabilities. The aim of the study was to find out if this concept is practicable and successful with this target group. As a product of this scheme an optimized manual should be created.

METHODS The pilot scheme was executed and guided by action research from September 2007 until July 2008. The data collection was done process-orientated by observation protocols during the movement units and by questionnaires (or interrogation) to measure the children´s health related well-being at the beginning and the end of the intervention (Mittag & Hager 2000). The analysis was done by connection of qualitative and quantitative methods.

RESULTS During the school year, there was a consistently positive effect on the children´s social behaviour and their capacity to act. The children reported that they had had a lot of fun, learned something new about their body and got to know new games and movements in the lessons. Their parents confirmed these states. The data was collected by a standardized questionnaire about health related well-being (by KINDL-questioner) (Ravens-Sieberer & Bullinger 2000) and showed no significant changes. 83.3% of the parents recommended a transfer of the project to other schools, 16.7% recommended limited transfer.

CONCLUSION This pilot project showed that health education can be successful with this target group in practice. After the appearance in print of the manual with instruction material, a research about implementation and effectiveness of this concept on a huge sample would be desirable.

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SPORT INJURIES AMONG TOP-LEVEL FINNISH MALE AND FEMALE CROSS-COUNTRY SKIERS, SWIMMERS, LONG-DISTANCE RUNNERS AND SOCCER PLAYERS

Leena Ristolainen, Jyrki Kettunen, Benjamin Waller, Ari Heinonen & Urho Kujala
ORTON Orthopaedic Hospital, ORTON Foundation, University of Jyväskylä, Faculty of Sport and Health Sciences

INTRODUCTION Although a high number of sport injuries occur each year, they are not usually severe. However, injuries usually cause time loss from training and competition, and in addition, subjects with a history of an injury are at an increased risk for re-injury. To date little is known about the role of gender as a risk factor for sports injuries. Also, there is little information on whether the gender differences found are sport-specific only, and thus related to training behaviours, or whether the difference in risk is related to biological gender differences.

METHODS This 12-month retrospective questionnaire study compared the occurrence of sports injuries and their gender differences in 149 cross-country skiers, 154 swimmers, 143 long-distance runners and 128 soccer players aged 15–35 years.

RESULTS The soccer players reported the highest number of acute injuries (73%) compared with the other studied sports (28–32%, P-values <0.001). The only sport group difference in the occurrence of overuse injuries was between the long-distance runners and the soccer players (59% vs 42%, P=0.005). A high number of the acute injuries were reported to occur in other event than the athletes' own (80% in cross-country skiing, 58% in swimming, and 51% in running). When acute and overuse injuries were calculated per 1000 exposure hours, no gender differences were found. After adjustment for sport event males were at increased risk for posterior thigh overuse injuries compared to females (relative risk (RR) 5.8, 95% confidence interval (CI) 1.3 to 26.4, P=0.022) while females were at increased risk for overuse injuries in the ankle compared to males (RR 3.1, 95% CI 1.0 to 9.3, P=0.049). Fifty-two (9.1%) athletes, 40 female and 12 male (P<0.001) quit competitive sports during the 12-month period. Seven female athletes (13.5%) reported that the main reason to stop the career was a sports injury. Twenty athletes who had stopped their career reported mild or moderate permanent disability because of sport injury.

CONCLUSION Acute injuries among cross-country skiers and swimmers occurred mainly in sport other than their own event. Acute injuries were common in soccer players and overuse injuries were especially common in long-distance runners. The overall gender-related risk for sport injuries in top-level athletes was small. However, we found some gender differences in the anatomical location of the injuries as well as in specific injuries in sports. Some of these differences seem to be explained by the differences in the amount of training.

EFFECTS OF PHYSICAL ACTIVITY ON CHAIR STAND TEST

Rosa Rosa Anna(1), Lovecchio Nicola(2), Cazzoli Stefania(3), Eid Luca(4)
1 MSc in Preventive and Adapted Physical Activity, University of Foggia, Italy. 2 Catholic University of Holy Hearth, Faculty of Motor Sciences, Milano, Italy. 3 SUISM, Torino, Italy 4 Agenzia Nazionale per lo Sviluppo dell'Autonomia Scolastica, Nucleo Territoriale Lombardia, Milano, Italy.

INTRODUCTION Aging and its consequences are natural and universal. Indeed the WHO have been estimated 1.2 billion elderly in the next 15 years (1). Several points of view are important to analyse the phenomenon.

In particular, this study examined the lower limb strength level before and after a 6 weeks of adapted physical activity. The Chair Stand Test (2) was used to quantify the performance because tests the subjects during a real and daily action such as the stand up from a chair.

MATERIALS AND METHODS Sixteen female aged between 65 and 82 years (weight 64 kg, standing height 164 cm) are recruited in a private physical course. All subjects before the statement of protocol signed a informed consent. In particular, the participants before and after a specific training, performed the Chair Stand test. This test collects the number of complete stand up action starting from seated position without the help of the upper limb. The maximum number of standing up in 30 sec is choose. All phases of the test had run by the instructor of the course. In particular the 'training protocol' focused on the isotonic contraction relative to all lower limbs and abdominal muscles (not isometric contraction). The training was divided in two sessions (one hour each) per week. The intensity, series and repetitions about exercises were increased every two week according to the subjects (max series 3 and 10 repetition).

RESULTS Before the training the performance was on average 12 (sd = 2,5) with an excellent performance close to 17 complete stand up. After training we collected better performances. Indeed, all subjects improved their own performance between 1 to 5 movements. On average the number of stand up were 14,1 and statistical significant differences were found ($p<0,01$).

CONCLUSION A high level of lower limbs strength is useful to improve the skill related to stand up from a chair without the help of arm-forearm pushing action. These results confirm the trend found by other authors (3) using strength protocol. Indeed, other protocols mostly focused on coordinative skills (4) did not found results comparable to the actual. Thus, the strength level seems to be the better way to improve this daily actions that underline the personal independence.

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THE EVALUATION AND COMPARISON OF LEVELS OF MOTOR FITNESS IN STUDENTS WITH AND WITHOUT DISABILITIES

Rosa, Rosa Anna; Sannicandro, Italo; Petito, Annamaria; Violante,Alessia
Master's Degree of Preventive and Adapted Physical Activity, University of Foggia, Italy

INTRODUCTION In individuals with mental retardation (MR), an active lifestyle and the regular practice of physical activity (adapted to a subject's specific of health conditions) can allow the person to acquire or maintain independence, personal and social autonomy and slow physical deconditioning (1) without aggravating the disability. The aim of this study was to assess levels of motor fitness in a group of students with MR and to compare them with those of same-aged students of normal development.

METHODS The sample was composed of n=38 male students (6 with Severe MR, 3 with Moderate MR, 11 with Mild MR and 17 healthy students of normal development), with an average age of 12.95 ±1.86 years, from first-year, secondary school classes. The Explosive Leg Strength (ELS), Arm Strength (AS), Local Muscle Endurance (LME), Speed (S) and Flexibility (F), from the Eurofit Special Test protocol (2), ware used to assess the motor capacities of the students.

RESULTS The Mann-Whitney test reveal statistically significant differences in motor performances between the two groups in ELS (U=0,000, p=0.000); AS (U=25,500; p=0.000); LME (U=69,000; p=0.001) S (U=48,000; p=0.000); F (U=108,00; p=0.035) Motor fitness in the students with RM resulted as being less than that of the same-aged students of normal development; this could be attributed to various factors such as: different functioning of the body structures and body functions, higher levels of inactivity, different time-scales for motor development and the amounts and quality of motor experience gained by the students with MR.

CONCLUSION The low levels of motor fitness observed in the individuals with MR are not surprising (3, 4): the two hours of physical education that the students receive at school are not sufficient to reach the optimal dose-response ratio between physical exercise and health benefits (1, 5). In Italy, work is still required to promote policies that support supplementary physical activity opportunities in the community and active lifestyles through the practice of regular physical activity exercise and sport in disabled persons.

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PILOT EVALUATION OF METHODS FOR MEASURING SPORTS-SPECIFIC COORDINATION

Isabel Rossignoli Fernández[1], Sean Tweedy[2] and Alice Neiuwboer[3]
1Polytechnic University of Madrid, Facultad de Ciencias de la Actividad Fisica y el Deporte 2University of Queensland, Faculty of Human Movement Studies 3Katholieke Universiteit Leuven, Faculteit Bewegings- en Revalidatiewetenschappen

INTRODUCTION Competition in Paralympic sport is based on systems of classification. A new method to classify athletes based upon empirical scientific evidence has been advocated. The aims of this study were to develop and refine a protocol of coordination tests developed by a panel of experts; to provide an estimate of normal values of Movement Time (MT) for the test described; and to evaluate if the tests developed complied with Fitts' Law in healthy adults.

METHODS This study is a contribution to the International Paralympic Committee (IPC) Athletic Classification Project. Its objective is to develop a taxonomically valid, evidence based system of classification for athletes previously classified under the following systems. Data were collected using a coordination test adapted from Fitts experiment. The total sample consisted of seven females and four males who completed two cyclical tasks (hand and foot tapping tests) and two discrete tasks in the sagittal and vertical planes with the dominant hand.

RESULTS The results revealed that MT for the preferred hand and foot were faster than for the non-preferred hand and foot, respectively. MT for the hand was less than for the foot for the same Index of Difficulty (ID). Regression analysis showed that MT increased linearly when ID increased, corroborating that, in general Fitts' Law holds, except for ID below 2.2.

CONCLUSION Current test battery is a useful tool to measure the gross motor coordination, because people with good coordination will perform these tests better than worst coordinated population. Tests fulfilled the criteria for test of impairment as they only reflected the impairment of interest (coordination), isolating other effects coming from strength or ROM; they assessed the body structures that influence performance; each test was specific of an athletic discipline; and they were resistant to training. Further research involving people with disabilities would need to be studied. Other future works should focus on comparing equal IDs configured with 2.5 cm W and 1.3 cm W for cyclical tasks, and performing discrete tasks with limited "movement planning time".

NEW GLOBAL INITIATIVES AND RESEARCH OPPORTUNITIES FROM SPECIAL OLYMPICS

Roswal, G.M.[1], Damentko, M.B.[2]
1 Jacksonville State University, 2 USA Special Olympics Europe-Eurasia

INTRODUCTION Special Olympics has launched a series of global initiatives dedicated to creating research opportunities in expanding sports programs for athletes with intellectual disabilities. The presentation will discuss opportunities for funding and research through Special Olympics Healthy Athletes, Young Athletes, Unified Sports, Coaching Excellence, and Open Division Competition. Healthy Athletes is an initiative which examines the vision, hearing, dental, posture, fitness, and nutritional status of Special Olympics athletes. Young Athletes is a pre-competition sports play and motor development program for children ages 2 ½ through 7 years. Unified Sports focuses on athletes who can benefit from social interaction with their peers by combining approximately equal numbers of Special Olympics athletes and athletes without intellectual disability on sports teams for training and competition. The Coaching Excellence program promotes innovative best practices to train a new generation of Special Olympics coaches. Open Division Competition is a new initiative to foster competition among elite Special Olympics competitors. New initiatives between Special Olympics and university researchers will include study of athlete health care, public perceptions of people with intellectual disabilities, impact on families and community, and research policy papers which distill scientific findings into summary overviews.

INCLUSION OF STUDENTS WITH PHYSICAL DISABILITIES IN PHYSICAL EDUCATION IN THE CZECH REPUBLIC

Lucie Rybová & Martin Kudláček
Palacký University in Olomouc, Faculty of Physical Culture, Department of Adapted Physical Activity

INTRODUCTION The purpose of this study is to analyze current position of inclusion in general physical education (PE). Even though students with disabilities constitute the majority of individually integrated pupils, this topic isn't very well understood. Inclusion in the context of school physical education is definitely unique phenomena enable comprehensive development of pupil's personality. The main aim of that study is to present the results of the research on how many integrated students with physical disabilities are part of PE.

METHODS The survey was organized in 2007 in primary schools and research sample consists of 254 respondents (PE teachers of 164 boys and 90 girls with physical disabilities). Data were brank out trough the standardized questionnaire.

RESULTS We found out that from 254 integrated students are160 the part of the PE. The most of them (76%) are with the lightest disabilities. Students with more severe disabilities are using crutches (48%) and the rest of them are using wheelchairs (36%). Through these surveys was found that less than half of parents (38%) supports inclusion of their children in physical education as well as managers of schools (37%). The most common complications are based on the type of disability. Muscles rigidity, dyscoordination, ease fatigue and fear of failure may negatively affect the course of instruction. Another issues affecting participation students with physical education in PE are connected with the lack of the teacher assistants (54%), compensatory tools (25%), barrier accesses (17%), experience in the field of Adapted Physical Education (APA) (16%) and the lack of professional knowledge (14%).

CONCLUSION There are a number of important factors affecting the ease of inclusion – lack of funds, poor support family, lack of teacher competence in the field of APA. These decisive factors significantly affect process of inclusion. Essential premise of successful integration of student with physical disability is to create optimum conditions particularly from schools (material, personal) and also the family of the child with a disability must take certain steps to improve the process.

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THEORETICAL PERSPECTIVES ON INTEGRATION AND INCLUSION IN SPORT POLICIES

Aija Saari
Jyväskylä University & Finnish Sport Association of Persons with Disabilities

INTRODUCTION The idea of using sport as a vehicle for promoting social integration of socially excluded groups has become more popular largely because of increasing migration and consequent cultural heterogeneity. European Union initiatives reflect a growing concern to explore the uses of sport as a cultural bridge for ethnic minority and other excluded groups. The "integrating" potential of sport at the societal level, like participation in sports clubs, can also be explored from the point of view of people with disabilities as a social minority. The purpose of this presentation is to bring an understanding of these phenomena from the perspective of a disabled minority, and present a theoretical framework for further study and for the practical work in sports organizations.

METHOD This presentation is an attempt to create a conceptual framework or model, to be tested later, for characterizing the different integration approaches evident in sport policies. It is based on data from recent social and sport policy interventions aimed at social inclusion, and the researcher's own review of relevant literature in studying for her PhD. The inclusion and exclusion four-field was created by using John Berry's model of integration, assimilation, marginalization and separation (1992) as a starting point, and adding concepts from multiculturalism like 'together-in-difference' by Iris Marion Young (1999).

RESULTS In the first field of "cure", segregation can be seen as a personal problem. Specially trained experts are needed to determine the readiness for, level of and future steps in integration. In the second field of "control", sport is often seen as a tool to prevent social exclusion. The third field can be described as "separate, but equal" (see Henry, Amara & Aquilina 2007), where minority sports associations (such as those representing disability sports) promote positive discrimination, peer support and empowerment. The fourth field of "multiculturalism" emphasizes the nature of inclusion as a personal choice and question of human rights, and uses rhetoric such as valuing diversity, inclusive design and tolerance.

CONCLUSION The main problem with the first two fields is that integration is seen as a goal, a personal problem, physical status or placement not valuing the person's own choice, and possibly resulting in that person being stigmatized or regarded as an object rather than an individual human being. For example, the disability movement sees the concept of integration as patronizing, resembling assimilation (Oliver 1996). The last two fields explore disability as a social construction (see Hacking 1999) or as a social minority, which may help to address the multiple barriers to accessing sport. The social minority perspective may offer a more promising way for disability sport officers and APA consultants to work as critical friends (Booth & Ainscow 2002) or case managers (Australian Sport Commission's Sports Connect) in integration processes with mainstream sports.

PSYCHOLOGICAL SKILLS OF ELITE ATHLETES WITH A DISABILITY

Rainer Schliermann[1], Diana Danders[2]
1 Research Institute for Disability & Sport Cologne / Germany, 2 Martin-Luther-University of Halle-Wittenberg / Germany)

INTRODUCTION For able-bodied athletes there is a great body of knowledge concerning the application of psychological skills and methods in practice as well as competition. Conversely, little is known for athletes with disabilities (AWD). The aim of this study was to get an in-depth understanding of the psychological skills and methods used by elite-AWD to enhance their performance means Psychological Skills Training (PST).

METHODS Sample: The sample consisted of 73 (32 females) top-level athletes from Germany (n=60), Austria (n=9) and Switzerland (n=4) aged between 16 and 51 years (M=29.63; SD=10.19) participating at the Paralympics 2008. The minority (n=29; 39.7%) already worked (mostly in a less systematic and continuous manner) with a sport psychology consultant. Between February and April 2009, the Test of Performance Strategies (TOPS) in a reliable and valid German version (Schmid, Birrer & Reusser, 2007) along with a sport-biographical data sheet was completed. The TOPS is a 64-item instrument measuring the frequency of application (1=”never”; 5=”always”) of important psychological skills and methods in practice and competition.

RESULTS TOPS-profile: The majority of skills/methods are used more often in competition comparable to practice situation (exception: automaticity). Focussing on the different TOPS-dimensions, goal-setting techniques are applied most frequently both in practice and competition setting. Conversely, self-talk and relaxation methods rarely used by the top-level athletes. Activation seems to be especially relevant with regard to competitive situations. Group-comparisons: Several subgroups were compared in respect of significantly different use of psychological skills as well as methods. We here just mention selected results. Firstly, ANOVAs associated with sex (independent variables; iv) showed rarely differences. Regarding congenitally vs. acquired disabled, relaxation, emotional control and automaticity the latter group scored higher. Focussing on performance and success criteria, most notably activation as well as imagery seem to be crucial psychological factors. Both athletes having won at least one paralympic / world championship medal in her/his career and those demonstrating a positive (>.50) medal-participation ratio in international competitions over the last eight years scored these TOPS-dimensions higher than their comparison groups

CONCLUSION In regard to stable use of psychological skills and methods in competition, they have to be frequently applied in practice situations as well. The results demonstrate the necessity to stress this. Furthermore, applied psychologists should focus on activation and visualisation techniques being linked with performance as well as success in this study. NOTE: The project was supported by the International Paralympic Committee (IPC)

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EFFORT'S EVALUATION IN SPORTS FOR PEOPLE WITH MENTAL, PHYSICAL AND SENSORY DISABILITY

Seregni Roberta, Prof. Martinelli Moreno, Prof. Casolo Francesco
Catholic University of Milan (Lombardia - Italy), Degree in Sciences and Techniques of Preventative and Adapted Physical Activity

INTRODUCTION Sport represents, for people with disability, a tool for enhancing mental and physical health, for preventing diseases caused by disability and improving personal independence in everyday life. Intense and continuous training causes structural and functional changes in the cardiovascular system and the active muscular districts, with a consequent improvement of the performance. This study examined the cardiovascular effort during competitions in five sports: wheelchair tennis, wheelchair fencing, handbike, showdown, futsal for mentally disabled.

METHODS Data were collected, from March to November 2009, through HOSAND TMPRO SW200 cardio, which uses telemetry to monitor the athletes' heart rate. The sample consisted of 9 subjects for wheelchair tennis, 8 for wheelchair fencing, 14 for handbike, 4 hypo-blind athletes for showdown and 12 mentally disabled for futsal.

RESULTS In wheelchair tennis, the heart rate trend is discontinuous due to several breaks during the match and it is characterized by middle-high values (medium heart rate: 76,7%; maximal heart rate: 89,1% of the theoretical maximal heart rate). The results obtained in wheelchair fencing, during the assault on 15 points, show a minimum cardiovascular effort (medium HR: 69,9%; maximal HR:77,6%). Handbike, instead, is an aerobic sport which shows a maximal and over-maximal cardiac effort, regardless of the type of disability (medium HR: 92,4% for road races and 91,7% for time trials; maximal HR: 105,3% for road races and 99,5% for time trials). In showdown the cardiovascular effort is intermittent, not high (medium HR: 64,4%; maximal HR: 76,3%) and it is strongly influenced by the course of the match. In futsal for people with mental disability, middle-high values have been achieved (medium HR: 66,5%; maximal HR: 81,2%). This data shouldn't be underestimated, because these subjects have often heart congenital defects.

CONCLUSION Handbike is the sport with the greatest cardiovascular effort, while lowest heart rates were obtained in wheelchair fencing. Measurement of heart rate in competitions may be useful to monitor athletes, to create specific trainings aimed at improving the performance, to maintain good health and for prevention.

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ADAPTED GAME BAG –TRAINING FOR PROFESSIONALS WORKING WITH ADULTS WITH INTELLECTUAL DISABILITIES

Anna Setälä[1] & Riikka Tupala[1] Kati Karinharju[2]
1 Satakunta University of Applied Sciences, 2 Faculty of Social Services and Health care Pori, Finland

INTRODUCTION This research is part of a larger project at Satakunta University of Applied Sciences with the purpose to increase participation for people with disabilities in all inclusive physical activity in area of Satakunta. The main purposes on this research was to study 1) the possibilities and the main barriers for professionals working in the group homes to organize physical activities for adults with intellectual disabilities and 2) does Adapted game bag –training increase possibilities to organize physical activities in the group homes. Adapted game bag- training [Säpinää sisällä –pelilaukkukoulutus] is created to support professionals working in residential homes for adults with intellectual disabilities. It consists of five easily adaptable games: boccia, curling, blow darts, table bowling and table game.

METHOD In order to measure the possibilities and the main barriers, 77 professionals answered in preliminary survey questionnaire. The quality of Adapted game bag –training was measured by organizing Adapted game bag –training day and post-survey questionnaire for 25 professionals working in five group homes in Satakunta. The effects of the games included in the game bag were examined by using ICF-classification.

RESULTS The preliminary survey indicated that the lack of proper facilities, equipment, residents' motivation and workers´ knowledge are the biggest limitations to organize physical activities in the group homes. The post-survey carried out for professionals revealed that the Adapted game bag –training achieved positive results. According to answers participants received knowledge, motivation and plenty of ideas on how to support and promote physical functioning and physical activity among adults with intellectual disabilities. The participants stated that the game bag is useful since it's very easily adaptable in different environments, easy to instruct and it considers clients' individual needs.

CONCLUSION Adults with intellectual disabilities are physically less active than other people. This research indicated that there is a demand for physical education training among the professionals working in group homes and Adapted game bag- training is excellent solution for that need. Adapted game bag- training offers professionals useful method to increase physical activities in group homes through easy and adaptable games. Adapted game bag –training will continue in future with purpose to cover all the group homes in Satakunta Hospital District.

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PHYSICAL ACTIVITY OF CHILDREN IN SPECIAL SCHOOL ENVIRONMENT

Cindy Sit[1], Ester Cerin[1], Thomas L. McKenzie[2] & Alison McManus[1].
1Institute of Human Performance, University of Hong Kong 2School of Exercise and Nutritional Sciences, San Diego State University

INTRODUCTION Schools are considered important environments for promoting physical activity (PA) in children, especially those with disabilities. To be sufficiently active, children require a supportive school environment throughout the day. Objective: To examine children's PA throughout the school day in structured (physical education) and unstructured (recess, lunch, and before and after school) settings; and to determine the associations between children's PA and the contextual characteristics of school environments (e.g., area accessibility and usability and the presence of equipment, supervision, and organized activities).

METHODS Ten special schools in Hong Kong, hosting children (N=1176) with visual impairment, hearing impairment, physical disabilities, intellectual disabilities, and impaired social development were assessed using the System for Observing Play and Leisure Activity in Youth (SOPLAY). Over a period of 2 months, all school spaces that provided opportunities for children to be physically active were observed systematically during five normal school days.

RESULTS During the 50 days (5 days x 10 schools), observations were made before school (50), at lunchtime (50), after school (50), and during recess (105), and PE lessons (135). Children were observed being sedentary more than half the time during both structured and unstructured periods, and children with physical disabilities and severe intellectual disabilities were the least active in both settings. A greater proportion of children with visual impairment engaged in walking and vigorous activity than did those with other disability types. Physical education and recess periods facilitated children's engagement in PA more than the other school settings. Area accessibility and usability, and the presence of supervision were more strongly associated with children's PA in unstructured than in structured settings.

CONCLUSION Children with disabilities accrue low levels of PA in special schools. The school environment plays an important role in influencing children's PA.

LABORATORY CONFIGURATION FOR THE KINETICS, KINEMATICS, AND PHYSIOLOGICAL STUDIES OF THE SPINAL CORD INJURY IN GAIT ANALYSIS

Marta Solis-Mozos, Angel M. Gil-Agudo, Soraya Pérez-Nombela & Beatriz Crespo-Ruiz.
Biomechanics and Technical Aids Department. National Hospital of Spinal Cord Injury of Toledo. msolism@sescam.jccm.es

INTRODUCTION To develop a methodology that will allow the study of the biomechanic behaviour of the lower limbs of people with spinal cord injury when gait takes place; also study their physiological behaviour and its adaptations to the effort. On the other hand we expect to emphasize the functional model of this methodology in a hospital environment as scenary of initiation of athletic skills for disabled people.

METHODS We present acquisition results of the equipment and the tasks necessary to equip a complete laboratory that include a 10m walk away, an EMG system (Noraxon), a portable metabolic test system (Cortex-Metamax 3B) synchronized with a three-dimensional motion analysis system (Coda Motion®) and Kinetics Analysis Force Platforms (Kitsler®) The pathological group walks alone a walkway at a free gait velocity and with the aids that are necessary in order to be able to have independent gait without assistance from another person. The gait parameters are spatial parameters (gait velocity, stride length, stride time, step length, step time, strides/minute, steps/minute, percentage duration of the stance phase, single support time and double support time), kinematic (maximum, minimum and the articular range of motion of different joint of the lower limbs), Kinetics (Moments, Reaction forces) and Physiological (VO2peak, VO2, VCO2 VE, RER, FetO2, FetCO2).

RESULTS We present acquisition results of the equipment and the tasks necessary to equip a complete laboratory that include a kinematics, kinetics and physiological equipment.

CONCLUSION We present all the operational, structural and programming tools to make effective this biomechanical and physiological analysis of the gait analysis. We also conclude in regards to future investigation lines applied to physical activity in a hospital-athletic environment. Keywords: Spinal Cord Injury, Biomechanics, Gait Analysis, Physical Activity.

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PHYSICAL ACTIVITIES OF PUPILS WITH CEREBRAL PALSY

Miroslava Spurná & Martin Kudláček
Palacký University in Olomouc, Faculty of Physical Culture

INTRODUCTION Regular and optimal physical activity presents one of the assumptions for gaining and preservation of the person's physical and psychical condition. Appropriately chosen physical activities for physically disabled pupils are considered to be the right social element and the mean of integration of these pupils into the intact population. We can find out now many literature sources about the importance of the physical activity and its PE realization in the context of the disabled pupils' common school integration. On the contrary, there is only little information in the special pedagogy literature about the PE and the physical activity of those pupils attending special schools. The aim of this report is to describe the current status of the disabled pupils' participation in physical activities. The target groups are pupils with cerebral palsy (CP) who attend the Primary and Secondary school in Olomouc intended for pupils with physical disabilities and multiple disabilities.

METHODS In the survey organized in 2008 participated pupils from Primary and Secondary school Credo in Olomouc who fulfilled the following criteria: a) pupil with CP, b) the age of 12 – 14, c) IQ higher than 70. The research sample was presented by 11 pupils, 5 of them are from group "standing pupils" and 6 of them are from group "sitting pupils" (wheelchair users). There was a semi-structured interview used for gaining the information from the participants about the school physical activities. There was a weekly time-picture technique used for gaining the information about the leisure time and leisure activities of participants. The preferences of sport activities was elicit by the pair-comparison method.

RESULTS The survey shows that the school PE and the school sports groups represent the most pupils' physical activity during the whole day. The physical activities represent only 0.4% of the whole leisure time activities of the participants. The majority of the leisure time the participants spend with their family, which shows the significant influence of the family when choosing a leisure activity of pupils. Only 3 of 11 participants devote their leisure time to the physical activities. The main reasons why the physical activities are missing in the participants' leisure time is the preference of the passive leisure activities such as watching TV, playing PC games, as well as low pupils' and parents' awareness of the leisure time physical activities of pupils with CP. Among the participants' most preferred sport activities belong mostly these where the participants have their own experience and where they feel more competence (within their own level of mobility).

CONCLUSION It can be seen from the results that there is a great importance of organized physical activities such as school PE and school sport groups which represent the only pupils' physical activity during the whole day. Other factors highly influencing the level of pupils' participation on physical activities are the level of pupils' mobility, the family approach to the physical activities and the pupils' physical activity awareness. These are the main aspects we should take into consideration when planning and implementing the physical activities for the pupils with CP.

THE IMPORTANCE OF "GIVING VOICE" TO YOUNG PEOPLE WITH DISABILITIES IN CREATING AN INCLUSIVE ENVIRONMENT IN PE

Ellen Berg Svendby
Phd student Norwegian School of Sport Sciences and TRS Resource Centre for Rare Disorders, Sunnaas Hospital. ellen.berg.svendby@nih.no

INTRODUCTION I believe that researching children's experiences in PE is crucial if we want to develop PE as a subject for all pupils. Fitzgerald, Jobling & Kirk (2003) and Goodwin & Watkinson (2000) have all stressed the importance of giving voice to pupils with disabilities, but so far little research has been undertaken. In this paper I will use data from my on-going Phd project as a starting point for a discussion about the importance of "giving voice" to young people with disabilities in creating an inclusive environment in PE, and the inherent challenges of this goal.

METHODS My interpretive-critical Phd project aims to deepen our understanding about adapted learning and inclusion in physical education for pupils with rare disorders (physical disabilities). In particular it aims to illuminate the subjective experiences and attitudes of young people, as well as the attitudes and experiences of their PE teachers. For this purpose I am using in-depth, reflexive interviews as a method for co-constructing the children's social worlds, with children aged between 10-19 years, all of whom are diagnosed as having a rare disorder. In addition I am using document analysis and log. This paper draws upon the preliminary analyses of data generated from1-2 interviews with 9 children/young people (6 girls and 3 boys).

RESULTS The preliminary analyses of the data reveal that pupils with disabilities experience a wide range of definitions of inclusion and / or exclusion in their own learning processes within the subject of PE. I will illuminate some of the dilemmas of realizing the principles of adapted learning and the ideal of an inclusive environment into practical work, as experienced by the children/young people. The following themes are emerging in the analysis of the young people's narratives: the individual's ability to contribute to decision-making processes; the PE teacher's attitudes towards a pupil with a disability; and the importance of sharing information about the rare disorder.

CONCLUSION There appears to be a significant gap between "theory" and "practice" when it comes to pupils possibilities to make choices which can strengthen their participation in the learning process in PE

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NEW WAYS OF ORGANIZING PHYSICAL EXERCISE FOR OLDER ADULTS

Minna Säpyskä-Nordberg, Heli Starck, Pirjo Kalmari, Elina Karvinen
Age Institute, Finland, minna.sapyska-nordberg@ikainst.fi

INTRODUCTION The aim of the presentation is to describe best physical exercise practices developed by the health exercise programme Strength in Old Age.

NAME AND THE TARGET GROUP OF THE INNOVATION OR BEST PRACTICE The aim of Strength in Old Age programme is to produce best practices for the strength and balance exercise of independently living 75+ older adults with decreased functional capacity. The programme is carried out in 35 local, three-year projects mentored by the Age Institute.

BRIEF DESCRIPTION OF THE PRESENTATION Local projects have come up with new ways of organizing physical exercise for older adults. The presentation shows how the target groups were reached, how the exercise was organised and how it benefited the older adults. We present four activities that reached and motivated older adults who previously did not get adequate exercise.

1. Home exercise.
A ten-week home exercise programme with a trained peer instructor for convalescents after discharge from hospital. Gradually intensified home exercise was eventually followed by group exercise. If necessary, peer instructors and older adults were supported by a physiotherapist.

2. Peer instructors and creative facility solutions.
Older adults in rural areas were contacted personally and offered exercise opportunities near home when vacant business premises were turned into exercise facilities. Fit older adults were trained as peer instructors.

3. Generations meet.
A joyful exercise session was organised at a rural village school. Older adults were contacted personally. They joined school children’s physical education class in strength and balance exercise in the guidance of a trained instructor.

4. Joining forces with family caregivers.
Older adults with their family caregivers were transported to exercise sessions. A service house together with local sports authorities organised exercise activities in a fitness center with a walking track and a gym. The family caregivers exercised in a separate group and were able to concentrate on their own rehabilitation and enjoy peer support.

CONCLUSION Carefully chosen target group, training of peer instructors and easy access guaranteed regular physical exercise for older adults who previously lacked opportunities for exercise. In the future, there is a need for more peer instructors, innovative cooperation, new solutions for facilities and a deeper understanding of the life situation of older adults. All activities in the programme improved the functional capacity of the participants, both measured and self-rated capacity. In group exercise, older adults made new friends.

PARALYMPIC EQUESTRIANS: MOTIVATIONAL CHARACTERISTICS AND HOW THEY GOT STARTED

Marit Sørensen & May Hynne
The Norwegian School of Sport Sciences marit.sorensen@nih.no

INTRODUCTION While youths with a disability generally seem to be less physically active than their able-bodied peers, some individuals with a disability engage actively in sport and become top level athletes at an international level. Role models are important for motivation. Para-Equestrians, with their ability to work with and influence a large and powerful animal, are potentially among the most important role models. Through this project we therefore wanted to learn from the athletes themselves more about how successful Para - Equestrians start, develop and maintain their motivation. Motivational issues were founded in self determination theory and achievement goal theory.

METHODS This study has been performed in cooperation with The Norwegian Equestrian Association and Ann Kern Godal. All international equestrian associations that had riders who qualified for the 2008 Beijing Paralympics in Hong Kong were asked to forward an invitation to their para-equestrians to participate in an electronic survey. Total N that qualified was 139. The number of athletes that completed the questionnaire was 47. The questionnaire consisted of both open ended questions, categorical data and scales (for task – and ego orientation, motivational climate, basic need satisfaction through the sport, and coach autonomy support).

RESULTS Para equestrians from 15 different countries from 4 continents took part. Among them, there were 36 females, and 11 males; 21 had a congenital disability, 26 had acquired their disability at various stages of life. The majority was classified as class 2 or 3, but all classification groups were represented. They were very experienced riders, 38 of them had participated in Paralympics, some in all, and/or competed in 1 to 4 world championships. Horses, and love for horses were clearly the most important for getting these athletes started in their sport, but also love for competition and challenges. Finances and costs represented the biggest challenge, but also management and administrative issues. The successful para-equestrians were characterised by much of the same mental and emotional skills as we see in other top athletes. Their sport satisfied basic needs for autonomy, competence and relatedness to a high degree.

CONCLUSION The para- equestrians share several characteristics with other top level athletes. However, they demonstrated clearly that the mental and emotional relationship with the horse makes their sport unique! The experiences reported by these athletes may be helpful in the recruitment of new para- equestrians.

APA PROGRAM FOR A PERSON FORCED TO BED AND WITH SEVERE DISABILITIES: IMPROVEMENT OF COORDINATION AND RESISTANCE

Tasso E. Vitali F
University of Genoa

INTRODUCTION We present a case study on home-care Adapted Physical Activity (APA) program for a person forced to bed, mechanically ventilated and with severe disabilities due to EDS (Ehlers Danlos Sindrom) and GBS (Guillan-Barrè Sindrom). This study examines the longitudinal results of an home-care APA program conducted for 6 months on this person, with the aim to improve coordination, choreography and increase the resistance to work.

METHODS We considered several psycho-physical performances measured by Vineland Adaptive Behavior Scales (Sparrow, Balla and Cicchetti, 1984), A.D.L. (Katz et al., 1963), I.A.D.L. (Lawton and Brody, 1969), Modified Barthel Index (Shah et al., 1989). In addition, we assessed subjective well-being (GHQ-12; Fontanesi et al., 1985), self-efficacy (General Self-Efficacy Scale; Sibilia et al., 1995), self-esteem (Rosenberg Self-Esteem Scale; Rosenberg, 1965) and perceived social support from significant others (Multidimensional Scale of Perceived Social Support; Zimet et al., 1988). Training conditions are settled to improve the execution of several upper limb exercises. We evaluated the residual activity of the upper limb, investigating physical abilities and functionalities measured through precision throwing and resistance in a choreography into the bed.

RESULTS Data collected are analyzed according to qualitative and quantitative statistical procedures. We found significant results of improvement of observed measures over time referred to coordination, choreography and increase the resistance to work.
CONCLUSION From results important suggestions come out, supplying information to develop the theoretical debate on APA and disability, focusing on the health-related quality of life, useful to support interventions promoting health and wellness for people forced to bed and with severe disabilities.

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APA HOME-CARE SERVICE FOR ELDERS WITH DISABILITIES: A LONGITUDINAL ANALYSIS

Tasso E. Vitali F.
University of Genoa

INTRODUCTION Aging boom has produced a real emergency, since the society did not prevent the development of frailty and disability of elders. Personal autonomy is one of the most important demand from ageing citizens and from society. Diseases, multi-pathologies, inactivity, depression increase the risk of disability and demand of intensive and extensive assistance. According to World Health Organization (2002), measures to keep elders healthy and active are a necessity, not a luxury. Regular, soft and adapted physical activity (APA) can contrast the progression of disability and can improve the quality of life of elderly, as long as possible. APA is defined as "the whole physical experiences motivated from therapy, rehabilitation, education, recreation or competition" (De Pauw, 2000). Considering international data, on 31th December 2007 (last date available for comparison), Italy is the second European country with the highest process of aging population, preceded only by Germany. In Italy, laws for wealth and welfare rationalization try to find a balance for assistance of chronic diseases of elderly. This research takes place in Liguria, the Region where the presence of elderly is the highest in Italy (26,7% of people in Liguria are more than 65 years old, while Italy's national percentage is 20,1%; Istat, 2009).

METHODS The Course of Bachelor in Sport Sciences of the University of Genoa and the Sanitary Aging Department of Genoa have realized an APA home-care service. The general purpose of the service is to bring APA to the elderly at home. Specific aims focus on the improvement of personal autonomy and reduction of pain, increasing subjective well-being and improving self-efficacy. The study investigates some physical abilities and functionalities (Barthel Index; A.D.L.), measuring rising, walking and getting up independence (Timed Up and Go Test; TUGT), estimating different physical measures of strength, global and district flexibility (Physical Balance Test; PBT). The research focuses on subjective well-being (GHQ-12; Goldberg, 1972; Fontanesi et al.; 1985), self-efficacy (Pierro, 1997) and perceived social support from significant others (Zimet, Dahlem, Zimet and Farley, 1988). Examined subjects are two groups of elders, former patients of the Sanitary Aging Department, previously physically rehabilitated, in consequence of acute pathological events. The first group of 12 subjects (M = 4, F = 8) (Experimental Group, EG), whose age varies from 69 to 99 years (medium age: 83,5 years; S.D. 8,4) have participated since 2003 to the adapted physical activity home program. The second group is composed by 12 subjects (M =4, F = 8) (Control Group, CG), whose age varies from 63 to 96 years (medium age: 79,3; S.D. 7,7). Considering low number of subjects and not-normal distribution of data, non-parametric analyses were used to assess differences on repeated measurements on each of the single group (Wilcoxon signed-rank test) and to value differences on the two independent groups (Mann–Whitney U test), both for physical both for psychosocial level. Longitudinal analyses were conducted over time (from baseline to T_1, T_2, T_3, T_4 : measures were collected each 3 months, for an overall period of 1 year).

RESULTS Non-parametric and longitudinal analyses on results collected administering the TUGT and the PBT on EG subjects, reveal significant differences over time. In details, from TUGT emerges a a significant difference between T_1 and T_4 . Results highlight an improvement with regard to decreased execution times (p = .012), while balance and global strength remain

stable from a qualitative perspective. Administering PBT, we found significant differences between global flexibility (p = .000), balance (p = .000) and global strength (p = .000) measured on T_1 and on T_4 . In particular, while global flexibility decreases, both balance both global strength increases. We found significant improvement in indices for physical and conditionals abilities and for balance. Collected results on EG subjects for what concerns psychosocial dimensions, show significant differences on measures conducted on T_1 and on T_4 for perceived self-efficacy (which increases) and for perceived social support from a special person, that on T_4 (p = .000), while perceived social support from family increase (p = .001). No significant differences was found for CG over time. Conducted analyses reveal how for EG subjects the APA program has had a significant impact on global strength, balance, and global flexibility. Both for coordinative both for conditional abilities, increasing values show an improvement and although time had passed, execution times decreased. Collected high mean values show that elders examined functioned at an intermediate level, between successful aging and disability. We can interpret examined trends as a positive result, since people naturally tend to decline in spite of development, and de-conditioning prevention is one of the most important aims for current sanitary policies. Moreover, increasing values on perceived self-efficacy is an remarkable result, due to the facilitating role that perceived self-efficacy has on prevention and on maintenance process.

CONCLUSION From results important suggestions come out, to empower the assessed APA Home-Care Service and to improve the quality of life of elders that have to cope with pathological chronic disease and different levels of disability. Moreover, this study supplies information to develop the theoretical debate on APA and aging, useful to support interventions promoting health and wellness at a more general level.

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DEVELOPMENT PROJECT: STRENGTHENING LOCAL COLLABORATION OF VOLUNTEERS AND OFFICIALS IN FINLAND

Anne Taulu[1], Heidi Hölsömäki[2]
1 Executive director of The Finnish Federation of Adapted Physical Activity (SoveLi), 2 Information officer of The Finnish Federation of Adapted Physical Activity (SoveLi) E-mail: tiedotus@soveli.fi

INTRODUCTION Physical activity is extremely vital when promoting health and preventing diseases of people with disability or long-term disease. Public or private actors can\'t offer enough activity for these people in Finland. Peer support groups with needed adaptation can offer safe and low level start for activity if supported enough. The Finnish Federation of Adapted Physical Activity (SoveLi) organized a project Virveli (2006–2009), which promoted local collaboration and networks of physical activity. Especially non-profit associations of people with disability or long-term disease were wished to be more involved. The project actualized at 5 municipality in Southwest Finland: Turku, Halikko, Salo, Rauma and Ulvila. Basis of project was respecting local culture. Every city chose actions suitable for their needs and operational environment. Results were more than expected: many new volunteers, 2 new posts for APA, many kind of common meetings, happenings, groups and equipments to lend for physical activities. Smaller municipalities lacking volunteer associations focused to cross-governmental services or inclusive services. Bigger municipalities developed deeper level structures for long-lasting collaboration and organizing of associations physical activities. We concluded that it is very important to disseminate results of the project and continue work as supporting local volunteers and professionals working among APA.

THE EFFECTS OF THE WII FIT BALANCE GAMES ON STATIC AND DYNAMIC BALANCE OF 9-11 YEAR OLD BOYS WITH DEVELOPMENTAL COORDINATION DISORDER

S. Krasniuk, J. MacLeod, S. Matthews, J. Twahir, & J. Taylor
School of Kinesiology, Lakehead University, CANADA

INTRODUCTION The development of balance is of major importance in the motor development of children and a major area of concern for many children with DCD. Most research has compared balance performance of children with DCD to children without DCD. Few studies have looked at the effect of specific balance training on the balance performance of children with DCD. The present study examined how training using Wii Fit Balance Games affected balance in three boys with DCD aged 9-11 as observed using single subject design.

METHODS Balance status was evaluated pre- and post -intervention by sway measures on an AMTI force plate and static and dynamic balance scores on the Movement ABC (MABC). At the beginning of the intervention, the participants completed 5 predetermined games: soccer header, ski slalom, ski jump, tight rope, and hula hoop, with 5 trials for each game. After scoring 2 or 3 stars, on 3 out of 5 trials for 2 sessions in a row, they moved to more difficult games/levels. Each training session lasted 60-90 minutes and there were 9 sessions in all.

RESULTS All participants advanced in the Wii Fit balance games throughout the intervention, scoring 1-2 stars the majority of the time. Of the predetermined games, participant 1 advanced in 3/5 games; participant 2 advanced in 4/5 games; and participant 3 advanced in all five. The post-intervention sway values illustrated that all participants increased their area of sway in eyes open and closed conditions. Comparison of eyes open, eyes closed tasks illustrated that participants 1 and 2 relied more on vision for maintaining balance. Increases in Medial Lateral sway were also recorded for all participants in the eyes open tasks but decreased in the eyes closed condition for participant 2 and 3. Increases in AP sway were noted in eyes closed for participants 1 and 2. Path length increased in eyes open for participants 2 and 3 and decreased in eyes closed. Similar results were recorded for participants 2 and 3 in the balance space task; increased area and decreased path length. Other results were mixed. Post Wii intervention MABC balance scores for participant 1 improved (<5%ile to >15%ile); for participant 2 remained the same (>15%ile); and for participant 3 decreased (5%ile to <5%ile).

CONCLUSION Although results were mixed and opposite to what we expected in some cases, the Wii fit proved to be a motivating tool to encourage boys to practice balance games (they enjoyed it), react more quickly, and develop balance and cognitive strategies. The Wii fit can be seen as a potential tool for balance improvement.

THE BENEFITS OF A TAIJI QUAN INTERVENTION FOR PEOPLE EXPERIENCING SIDE EFFECTS OF CANCER TREATMENT

Yijian Yang & Jane Taylor
Lakehead University, School of Kinesiology CANADA jane.taylor@lakeheadu.ca

INTRODUCTION Cancer treatments cause side effects leading to mobility and balance deficits and a decrease in quality of life. Research has shown promising effects of exercise on people with cancer during and after treatment.

PURPOSE The purpose of this study was to investigate the effect of a Taiji Quan exercise intervention on people experiencing side effects from cancer treatment.

METHODS Eighteen cancer patients aged 42 to 85 participated in this study. Eleven participants comprised the Taiji group and took part in twice weekly 60 minute Taiji Quan for nine weeks. Seven participants were assigned to a control group who refrained from Taiji Quan during a nine week waiting period. All participants completed pre and post assessments on: postural control on the AMTI force platform, the Adapted Timed Get Up and Go (ATGUG), the Rivermead Mobility Index (RMI); and quality of life questionnaires including MOS SF-36 and EORTC QLQ-C30.

RESULTS Statistically significant decreases in anterior-posterior (AP), area of sway (AS) and path length(PL) in quiet standing with eyes closed; ATGUG time; and fatigue in the Taiji group from pre to post assessment resulted. The Taiji group also had significant increases in all measures of the balance space task (AP, AS, PL); physical, mental, and social function. However, the control group demonstrated significantly decreased measures in balance, mobility, and quality of life. A two by two mixed factorial ANOVA also showed strong interactions of time*group with small to medium effect sizes in the balance space task, RMI, ATGUG, mental and social function, fatigue, and nausea.

CONCLUSIONS: Taiji Quan exercise intervention may be beneficial for people experiencing the side effects of cancer treatment.

COOPERATION WITH VISUALLY DISABLED ATHLETES FROM THE PERSPECTIVE OF 'GUIDES' IN SPECIFIC WINTER SPORTS

Reinhild Kemper & Dieter Teipel
Friedrich Schiller University Jena, Institute of Sport Science reinhild.kemper@uni-jena.de, dieter.teipel@uni-jena.de

INTRODUCTION The visually impaired athletes need the cooperation with nondisabled athletes for their sport in general and especially for their high-level sport. The support of visually disabled athletes is obligatory in dancing by a partner, in tandem-biking by a pilot and in middle distance running, cross-country skiing, biathlon and alpine skiing by a 'guide'. The nondisabled 'guide' must take over the role of a teammate, but also of a counsellor and a coach of the visually handicapped athlete. These manifold roles had been investigated in terms of single case reports quite rarely. Therefore the subject of the present study was related to the specific form of cooperation between visually disabled athletes and nondisabled 'guides' especially in winter sports.

METHODS Focussed interviews were conducted with male 5 pairs of visually disabled athletes and their 'guides'. These pairs consisted of 5 experienced nondisabled 'guides' of 3 male and 2 female visually disabled athletes in the winter sports biathlon, cross country skiing and alpine skiing. The age of the 'guides' ranged from 24 to 46 years. They had contributed to several medals of the visually impaired athletes in the Paralympics and in international competitions.

RESULTS The nondisabled 'guides' had been high-level athletes in national and also international competitions. Important motives for the cooperation with visually impaired athletes were the personal contact and emotionally sound atmosphere in a small team, the participation in national and international competitions, the continuation of the career in a new area and the preparation for the future role of a coach. The 'guides' were required to show an extraordinary high physical and psychological engagement and time investment in training and competitions. The 'guides' in biathlon and cross country skiing had developed specific ways of verbal communication with the visually disabled athletes to introduce curves, slopes and sections of downhill skiing. In alpine skiing the 'guides' could apply only a short verbal communication, due to the high speed, the medium spatial distance and the high environmental noise. In some instances, false instructions had resulted in accidents of the visually disabled athletes and team disqualifications. In general, interpersonal conflicts were positively solved within the teams.

CONCLUSION The high-level sport of visually impaired athletes and nondisabled 'guides' requires specific forms of individual counselling and coaching and should be supported in respect of the recruitment and the special education of former nondisabled athletes.

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SPORT, INTELLECTUAL DISABILITY AND ADULTS: TODAY'S SITUATION IN OCCUPATIONAL THERAPY IN CATALONIA

Álvaro Terreros Martínez, Anna Fillat Prat
Allem-Acell-Special Olympics Catalunya research group.

INTRODUCTION It is known that regular physical activity helps to improve people's life quality. More and more one can see people doing physical activities daily such as walking on the street or using private and public gyms to reach their goal. This social well-being is also seen when we talk about individuals with intellectual disabilities since that the practice of physical activity and sports are becoming more common nowadays in this group of people. In Catalonia, the federation of sports and leisure for intellectually disabled people (ACELL) has been offering their services since 1971 to the centres, associations and institutions that work with the mentally disabled people. The goal of the federation is coordinate sport and leisure activities starting from the needs of each centre to improve the life quality of this group of people.

METHODS We conducted a closed survey to all the centers and the schools that work with individuals with intellectual disabilities (send by mail), because we think that now is the moment to help them to improve their work. This survey has been validated by a sociologist from the educational field. The survey results give us a real idea of which things have to be improved. At the end, this survey helps us to understand what is out there in relation to physical activity and sports offered to intellectually disabled people.

RESULTS This research can be useful to clarify which activities are taking place in each centre and school. Furthermore, it will let us know who is in charge to improve the most important aspects that affect the life quality of individuals with intellectual disabilities. In the first trial of the survey we passed (the results can be found in www.esportidiscapacitat.org/pdf/talleres-29-11-08.pdf), we could prove significative differences between the people working in Occupational Therapy and the people working in Special Work center. We can see that the people doing adapted physical activity in occupational is the double than people doing these activities in Special work center. Although, all the data are still under collection , we will have the results in 2010 April.

CONCLUSION The survey data will be analyzed with the help of a computer program, SPSS, which will be the first step to design new and better guidelines. We can advance that all the people working in adapted physical activity with individuals with intellectual disabilities, think that this individuals need more adapted physical activity and that they use this kind of activity to integrate and improve the quality of life of the people. Therefore, these guidelines will yield enough knowledge to help us design a general physical activity program to different centers around Catalonia.

SWIMMING FOR THOSE WITH SPECIAL NEEDS IN FINLAND

Anneli Toivonen
The Finnish Association for Swimming Instruction and Life Saving, training coordinator
anneli.toivonen@suh.fi Helsinki, Finland

INTRODUCTION In Finland knowing how to swim is regarded as a basic life skill. Every person should have the opportunity to attain, if not swimming, at least water skills. By water skills we mean the ability to be in and under the water without fear and with confidence and enjoyment. Swimmers with special needs can practise in many different ways in Finland. The most suitable for each one depend on the services and facilities offered by their place of residence. Swimming activities are organised at all levels, from baby and family swimming through to adult lessons and water gymnastics. Some swimmers may be able to use an ordinary pool, others will prefer group lessons intended for special swimmers or some can be integrated with regular groups. According to survey 22 % (Statistics Finland, 2009) of students are with special needs in primary and middle schools in Finland. Our conclusion is that almost every swim school has students with special needs. That is why swimming teacher should have special swimming skills to be able to instruct swimmers with special needs. Some swimming teachers are afraid to take these swimmers in their group because they have not knowledge or experiences to teach special swimmer. According to survey (SUH 2008) swimming teachers and other instructors have lot of prejudice and negative attitudes against swimmers with special needs. Teacher might like the idea of integration but still special swimmer in teachers own group is troublesome and burden. The Finnish Association for Swimming Instructions and Life Saving (SUH) is an educational and information organisation established in year 1956. It has 12 member associations and aims at improving the swimming skills of Finns and at reducing the number of fatal drowning accidents with the aid of education and instruction. Swimming for those with special needs (Special Swimming) has been part of SUH for 25 years. The aim of our Association is to further and to develop swimming for those with special needs in Finland. SUH Special Swimming is adapted swimming instruction; it takes into account the capabilities and strengths of the individual. Many other methods have also influenced to SUH Special Swimming. SUH offers education: At home in the water –course gives basic information of special swimming. In Swimming Assistant –course you learn how to help swimmer in different situations. Special Swimming Instructor –course teaches you to adapt swimming instruction and gives you a lot of practical experience. You can also join Special Swimming technique –course if you want to learn more about adapted swimming techniques and modifications. The badges awarded by SUH are eminently suitable for all swimmers. Swimming Skills Table is same for everyone and encourages the swimmer to practise thoroughly the different areas of swimming. We have also disability modifications.
Since 2008 the development of swimming for those with special needs has taken remarkable steps forward SUH has got its own training coordinator to develop Special swimming. Also the Finnish Swimming Association was the first sports organization in Finland, who hired Disability Swimming coordinator to develop swimming for disabled, including elite disability swimming in autumn 2008. These two coordinators co-operate with good results. The intention of this work is to present the organization of Special swimming and the results of the work that has been done to promote Special swimming in Finland.

THE EFFECTS OF WII FIT® TRAINING ON BALANCE OF INDEPENDENT SENIOR SUBJECTS

Toulotte Claire[1, 2, 3], Toursel Cindy[3], Fabre Claudine[1]
1 ctoulotte@wanadoo.fr Faculté des sciences du sport et de l'éducation physique, Lille 2, 9 rue de l'université, 59790 Ronchin, France. 2 Institut Universitaire de Formation des Maîtres, Centre d'Outreau, 2 Rue Adam Hyppolite, 62230 Outreau, France. 3 Faculté des sports et de l'éducation physique, Université d'Artois, Chemin du Marquage, 62800 Liévin, France.

INTRODUCTION: Ageing-associated decline of sensorial function and muscular weakness of the lower limbs in the elderly leads to a gait pattern, which, associated with postural instability, could cause falls (Medell et al., 2000). These walking disorders are a contributory factor in the increase in falls for many older adults (Woollacott et al., 1986). The prevention by training is vital in order to maintain muscular strength, to decrease the physical risks of falls in fallers and to prevent falls in non-fallers. The Objective of this study is to show that Wii Fit® equipment can be a useful prevention tool by comparing four kinds of training (Adapted Physical Activities (APA), Wii Fit®, APA+Wii Fit®, and Control) which have an effect on the balance of independent senior subjects.

METHODS: Thirty-six subjects took part in this study. Their average age was 75.09 and they were divided into four groups. The first group followed an APA training program (G1) while the second group (G2) followed a Wii Fit® training and the third one (G3) combined both of these methods. There was no training for the fourth group (G4). Every person might fall during the tests. All subjects trained once a week for 20 weeks and had to take initial and final tests. It consisted in taking the Tinetti test (measure static and dynamic balance), unipedal tests (number of times suspended foot touched the floor during the single leg balance test in conditions eyes open and eyes shut) and the Wii Fit® Tests. The Wii Fit® tests measure the centre of gravity position and calculate Wii Fit® age (given by Nintendo software) with the position of centre of gravity, age and IMC. For the four groups, the Tinetti test, the unipedal tests (with open and closed eyes) and the Wii Fit® tests before and after training were compared using a one-way analysis of variance repeated measures (ANOVA RM).

RESULTS: After training, the scores to the Tinetti test decreased significantly ($p<0.05$) respectively for G1, G2 and G3 in static condition and for G1 and G3 in dynamic condition that showed a improvement of balance. After training, number of times suspended foot touched the floor during the single leg balance test in conditions eyes open and eyes shut decreased significantly ($p<0.05$) for G1 and G3. G1, G2 and G3 have decreased significantly ($p<0.05$) their Wii Fit® age after training. The position of centre of gravity was modified significantly ($p<0.05$) for G2 and G3.

CONCLUSION: Wii Fit® proposes only activities with static balance in bipedal condition contrary to Adapted Physical Activities based on static and dynamic balance in unipedal and bipedal conditions. After training, G1 (APA), G2 (Wii Fit®) and G3 (APA and Wii Fit®) increased their balance. But, G1 and G3 increased more their dynamic balance in unipedal and bipedal conditions than G2. After 20 training sessions, Wii Fit® and APA could be essential for the improvement of independent senior's balance.

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PROPOSAL FOR BUILDING A SHARED FRAMEWORK AIMED TO CLASSIFY THE DIFFERENT INCLUSION METHODOLOGIES IN APA

Alexy Valet
Apaitaliana Association (Italy)

INTRODUCTION: All over the world, the cultural paradigm of inclusion is emerging in different areas of life, especially in the field of education where the "two-track approach" (normal and special schools) is progressively overcome by the "one-track approach" through inclusive schools. This evolutionary process of society will hardly return to the past and it has already started to extend its cultural influence on the other areas of life, like work or sport: moving from normal and special work to inclusive work, or from normal and special sport to inclusive sport.

QUESTION: Indeed, in recent APA's story, the emphasis on the theme of inclusion in all international APA's meetings indicates a clear evolution. Nevertheless, we observe that it remains difficult to translate this consensus on purpose into concrete and sharable methods. That's why we believe that practical guidelines have yet to be designed for a more concrete \"inclusive future\" in APA's world. There are already several practical attempts which try to make concrete the inclusion principle in the field of sport and in physical education. But we can note three main formal limits in this evolution: a) the first one concerns the arbitrary interpretation of inclusion's meaning; b) the second limit concerns the disconnection of these multiple pedagogical experiments that remain often scattered with each other, without the benefit of a possible mutual enrichment; c) the third limit concerns the lack of structuration in the unformal development of these daily practices, depending too much of a random convergence of personal factors.

PROPOSAL: We do believe that APA's world needs to develop a common classification of the different inclusive methodologies. Indeed, such classification could offer landmarks to all APA's operators, helping them to contextualize their experience and their methodological approach in a shared framework. This would increase awareness too about the different types of inclusion that can be achieved depending on the methodology used. We'd like that this session be a call to create a specific European network aimed to build this classification.

METHOD: Here the three steps of this proposal, following a bottom-up approach: a) a European collaborative research which collects existing practices that operators consider "inclusive"; b) an analysis of the technical and pedagogical structure of these practices; c) a classification of the different pedagogical methodologies and consequently a classification of the different inclusion meanings.

CONCLUSION: We expect this proposal can contribute to a sociological deconstruction of inclusion concept, moving from an "ideological perspective" to an "object of study" inside APA's world.

TOWARDS A NEW INCLUSIVE MODEL OF SPORT: THE EXAMPLE OF BASKIN

Alexy Valet
Baskin association (Italy) APAITALIANA (Italy)

ABSTRACT History shows that civilisation has explored different ways of dealing with "human diversity", moving from a model based on the exclusion of vulnerable minorities to the gradual construction of a new model that takes these minorities into account to an ever-increasing extent. From the late twentieth century onwards, this cultural process has continued, but seems to have brought a new paradigm shift: from "integration" to "inclusion". Vulnerability is not only something to be handled in special institutions but rather a universal human condition that should be hosted in a global system. Inclusion has even become an official goal of recent international policies, what indicates its progressive rooting in society.

Furthermore, we intend to show a suggestive parallel between the evolution of the school and that of sports towards human diversity, since both fields represent two macro-phenomena which were born in the same period, at the end of the 19th century, but have, up to now, followed two completely different trajectories. On the one hand, public education has followed an important cultural trend towards disability up to the current international situation which prefers the inclusive education model ("one-track approach") over the model of special schools ("dual-track approach"). On the other hand, the international sport movement has remained almost on its old pattern, stopping its evolution towards disability with the creation of "special sports" (understood as adapted sports only targeted at disabled people).

So, building a new inclusive model of sport can be interpreted as a real challenge for our society in the 21st century.[1] We'd like this presentation be a call to open a big "pedagogical shipyard" in APA's world with the purpose to reinvent the different sports in an inclusive way. In order to show that it is possible we want to present a very concrete example called BASKIN, born in Italy at school. Transforming Basket-ball into a new inclusive sport, Baskin has been gaining ground continuously in North Italy since 2003. Its innovative pedagogical identity really manages to appreciate human diversity. We do believe that Baskin's methodology could be considered a structural proposal for a new "inclusive sport model".

Our proposal is to invite several organizations to build a concrete partnership aimed to exchange good practices about "inclusion in sport". The concrete idea would be to participate in specific meetings ("study visits", "job shadowing", "exchanges", "specific trainings", …). More specifically, we suggest two starting proposals: (1) a "study visit" in Italy in 2011 aimed to learn more about Baskin and to study how to import it from Italy; (2) the creation of a specific Forum to facilitate a European cooperative e-work aimed to reflect about making "inclusive" the different sports (like Baskin did with Basket-ball) reinventing their pedagogical structure.

[1] Let us note that this challenge is especially urgent at school in physical education, where the inclusive purpose of education emphasizes the question of the nature of sport proposed to the pupils.

ASSESSMENT OF PHYSICAL ACTIVITY AND SELF-PERCEPTION IN INTELLECTUALLY DISABLED CHILDREN: AN EXPLORATIVE STUDY

Michaela Pluck (1,2), Hana Valkova(2), Jeff Walkley(3), Miroslava Pridalová(2), Josef Mitas(2), Ales Gaba(2)
(1)Faculty of Kinesiology and Rehabilitation Sciences, Catholic University of Leuven, Leuven, Belgium (2)Faculty of Physical Culture, Palacky University, Olomouc, Czech Republic (3)School of Health Sciences, RMIT University, Melbourne, Australia

INTRODUCTION Little is known about the physical activity behaviour, self-perception or social acceptance of children with an intellectual disability, and what is known is based primarily on research undertaken in countries outside of Europe. Limited available evidence suggests that children with an intellectual disability tend to be less physically active and have lower self-perception and social acceptance than their peers without a disability. In response to the lack of available information, the current study was undertaken to explore the physical activity behaviour, self-perception and social acceptance in children with mild to severe intellectual disability.

METHODS Participants were six intellectually disabled male children, aged 7-11 years, who attended a school for children with a disability located in a regional city in the Czech Republic. Participants' body mass and composition was assessed using height, weight and bio-impedance measures, physical activity was assessed using an accelerometer worn for 7 consecutive days, while self-perception and social acceptance were assessed using Harter's Pictorial Scale.

RESULTS Half of the participants were found to be underweight, while two were overweight or obese and one was normal weight. Participants were found to be physically active between 65 and 74% of the day, but did not engage in enough moderate- to vigorous-intensity physical activity to meet recommended guidelines for physical activity. Most participants displayed low levels of cognitive competence, while all displayed low levels of motor competence. The majority of participants were found to have above average levels of perceived peer acceptance, while most had below average levels of perceived parental acceptance. Reciprocal relationships were found between physical activity and self-perception, physical activity and perceived social acceptance, and perceived parental acceptance and motor competence.

CONCLUSION Young Czech Republic male children with an intellectual disability do not meet recommended guidelines for physical activity. The children displayed low cognitive and motor competence, and perceived parental acceptance, but above average perceived peer acceptance. Given the reciprocal relationship between physical activity behaviour and aspects of self-perception and social acceptance among this group, interventions designed to improve physical activity participation, may have associated benefits for the children.

ADAPTED PHYSICAL ACTIVITY(APA) MASTER'S GRADUATES AND THE JOB MARKET IN THE CZECH REPUBLIC

Hana Válková, Jan Belka
Faculty of Physical Culture, Palacký University, Olomouc, Czech Republic

INTRODUCTION Both educational institutions and the employers who hire their graduates are interested in the topic of application in the profession of graduates in practice and their professional competences. The competition in the job market makes educational institutions deal with models of study curricula. If there used to be a unified education in the field of physical education for decades (recently in the field of kinanthropology) and a unified outcome – the teacher of physical education, today there are diversifications of the educational contents in the field of kinanthropology, as well as the same broad spectrum of possibilities of finding one´s profession among the graduates, including potential employment abroad. GACR Project Nr. 406/05/2670 (Possibilities of the graduates of "Physical Education and Sports" Program in the job market in the Czech Republic) arose from the pursuit to answer to basic relationships among some parameters of the educational process in kinanthropology, demographic indicators of the nation-wide and/or regional character, and the forms of application in one´s profession. Adapted Physical Activity study program started in Olomouc in 1991. The purpose of the study was to examine students' satisfaction with their course of study as well as job preference and availability for APA graduates between1998–2005.

METHODS An original questionnaire was developed to solicit information from APA graduates about satisfaction with their university course of study as well as their job preference and employability. Responses were obtained from fifty- two graduates, 16 males/36 females, which represented 48 % of all MA level graduates of these period. All graduates had passed the two level study structure: APA Bc level and then MA level. Categorical data including demographics, study motivation, job satisfaction were analyzed using descriptive statistical procedures.

RESULTS Motivation for the study: an active, positive attitude to sports prevails in relation to interest to work with people, youth, population with disability. Seeking for and the job acquisition process: it goes via friends and acquaintances, advertisements, even in the final years of study. Job centers or job agencies are not used for this purpose. Demographic data (size of the city, regional economy situation, unemployment) play role for keeping job, disadvantage for women. Work discontent is counterbalanced with a higher financial evaluation, the job satisfaction on the contrary is counterbalanced with acceptance of a lower financial evaluation. Generally, the graduates feel that they are adequately prepared for their professional practice.

CONCLUSION Graduates are interested in teaching individuals with disabilities; however, there are not many position available due to mistakes in the national disability legislation. Another problem is low salary in this sector. All of graduates were employed without re-qualification, but in other sectors.

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PE LESSONS ASSESSMENT WITH THE INSTRUMENT DIDACTIC INCLUSIVE CATEGORIES – CRITICAL INCIDENT TECHNIQUES: METHODOLOGY STUDY

Hana Válková, Adnan Ahmetasevic, Radka Bartonova
Faculty of Physical Culture, Palacký University Olomouc, Czech Republic

INTRODUCTION Inclusion of students with disabilities can be considered as the current trend of the school education. The trend is supported by European (world) school legislation, in Czech Republic, too. A majority of published research studies covers teachers' and peers' attitudes toward the included children, only limited information has been reported regarding the attitudes of included children toward inclusive process. Real situation in inclusion of student with disability into regular PE lessons is not developed: real activity of included student as well other school-mates, their acceptance, satisfaction with PE related to the school level, the student age, diagnoses, the content of the PE lesson, in the end of interpersonal relation among students in the class. So that we can assess interpersonal attitudes we need to know how many time (minutes) of PE lesson students spend the real time in inclusive, parallel or separated activities. The purpose of the study is to present instrument for assessment and scaling of didactic categories in PE lessons.

METHODS Didactic category of inclusive lesson can be formulated as inter-active relation among included student, class-students and PE teacher in PE process. Observation and chronometric recording of didactic categories was used. The source of definitions of didactic categories during PE lessons came from the principals of Critical Incident Techniques (CIT) (Flanagan 1954). A basic differentiating criterion is definition of bipolar areas of units regarding the aim of the process, e.g.: - positive – negative, promoting – interfering, verbal – non-verbal, existing - non-existing. The principles were used in pedagogy and sport pedagogy, in the sports process and in all areas where process must be evaluated. Basic categories: inclusive (Academic Learning Time - ALT, activity with or without adaptation), parallel, separated, were experimentally divided, formulated and validated in sub-categories. The process of standardization verification and training of observers is analyzed and described.

RESULTS The instrument adapted for special purpose of assessment inclusive PE lessons is called DIC-CIT (Didactic Inclusive Categories – Critical Incident Techniques). In situation of trained observers (knowledge of PE lesson principles, knowledge of DIC, skills in observation and recording of DIC, field training of minimal 4 lessons) the instrument is usable for expected purpose.

CONCLUSION Manual of DIC-CIT in Czech and English will be prepared. Other partners are invited to test the instrument in various PE lessons environment.

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TACTICAL PROFICIENCY OF ELITE TABLE TENNIS PLAYERS WITH AN INTELLECTUAL DISABILITY

Debbie Van Biesen[1], Jennifer Mactavisch[2], Peter Vandevliet[3], Yves Vanlandewijck[1].
1Department of Rehabilitation Sciences, Katholieke Universiteit Leuven, Belgium
2 Health, Leisure & Human Performance Research Institute, University of Manitoba, Canada
3International Paralympic Committee, Bonn, Germany. debbie.vanbiesen@faber.kuleuven.be

INTRODUCTION Elite sport performance requires the complex interaction between physical, technical, tactical and psychological skills. In this context, we have limited understanding as to how deficits in intellectual functioning influence performance in training and competition. Since development of tactical skills is highly dependent on cognitive processes (e.g. visualizing, memory capacity, decision speed) (Raab, 2005), intellectual disability (ID) is likely to affect the capacity to reach maximal levels of tactical skill proficiency.

PURPOSE The purpose of this study is to compare the tactical proficiency of elite table tennis players with ID with able-bodied (AB) elite players. It was hypothesized that table tennis proficiency of AB athletes is significantly superior to ID athletes for the dominant tactical components of the game.

METHODS The data for the study were derived from 41 male and 30 female elite table tennis players with ID who participated at the 2009 INAS-FID World Championships Table Tennis in Liberec, Czech Republic and an able bodied control group. An experimental set-up was installed at the training court. Each athlete was invited to the sport specific test setting to assess their tactical proficiency and decision making skills in a standardized setting out of competition (during training/warming up).

RESULTS Table tennis athletes with intellectual disabilities have major difficulties with execution of tactical skills (e.g. service return execution). They score lower than players without disabilities on the table tennis specific test for tactical proficiency.

CONCLUSION These results support the research hypothesis that AB players would outperform ID players on parameters of tactical skill proficiency. However, one should be cautious about the causal relationship between intelligence and sport performance.

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THENAPA II DISSEMINATION RESULTS GIVE A BOOST IN EUROPE FOR MORE PHYSICAL ACTIVITY FOR ELDERLY PERSONS WITH AND WITHOUT DISABILITIES

Herman Van Coppenolle, Stefka Djobova, Aldona Niemiro, Iana Dobreva Katholieke
Universiteit Leuven, Faculty of Kinesiology and Rehabilitation Sciences
herman.vancoppenolle@faber.kuleuven.be

INTRODUCTION During 3 years (2004-2007) specialists in APA for elderly persons of 66 higher education institutions from 27 European countries produced educational materials to promote an active lifestyle for elderly persons: the content of a programme in APA for the elderly at master and bachelor level, a motivational DVD "Never too old to be active: The joy of movement", practical active ageing activity cards and a brochure with a European survey and recommendations.

METHODS During the dissemination year (2008-2009) these materials were translated in 15 European languages and disseminated in all countries in institutes for higher education (physical education, physiotherapy, sports science), nursing homes for elderly persons and caregivers. In every country as many as possible elderly persons were approached, as well as the concerned ministries, sports organisations and the press.

RESULTS A consortium was created between the universities of Amiens (France), Groningen (The Netherlands) and Verona (Italy) to start up the European Master Programme in APA for the Elderly and the motivating products disseminated the urgent message of the Thematic Network for all elderly persons with and without disabilities in Europe: "Save yourself by more physical activity".

CONCLUSION This same approach applied in all European countries at the same time during these 4 years gave a boost to the better education of students in this matter: stimulating the responsibility and motivation of elderly persons for bringing more moderate physical activity in their daily schedule, at least 30 minutes each day. The established cooperation between the actors of the network should however be continued through the European Master in APA for the Elderly and further dissemination of the products through the website www.thenapa2.org

A SYSTEMATIC REVIEW OF PEER TUTORING IN INCLUSIVE PHYSICAL EDUCATION CLASSES

Van de Putte, A., Behets, D., Van Keer, H., & Van Hove, G.

INTRODUCTION The purpose of this systematic review is to synthesize and to discuss the current findings. Ward and Ward (2005) reviewed the literature regarding Peer–Assisted Learning in regular and inclusive physical education (PE) lessons. Although Ward's review was extremely well done, the last few years, several new studies on peer tutoring have been published. These studies can add to our understanding of peer tutoring of students with disabilities.

This review focuses on peer tutoring in inclusive physical education classes.

METHOD Peer tutoring studies were identified from 1987-2009 through the ERIC, ProQuest Dissertations, and electronic databases using the descriptors peer teaching, peer tutoring, peer tutor, disabilities, special education, middle school, high school, primary school and physical education. 11 studies were identified.

RESULT Seven studies in inclusive PE classes show the positive effect on individual peer tutoring, where a peer tutor is assigned to a student with a disability. For individual peer tutoring, the other peers aren't involved in the peer tutoring intervention.
The positive effect of class-wide peer tutoring in inclusive PE lessons was demonstrated in one study. Furthermore, one study shows a positive effect of cross-age peer tutoring .One study investigates the progress of the inclusion process in physical education classes with a focus on the role of the physical educator and on the application of the peer tutor strategy.
In most studies, the student with a disability doesn't take the role of peer tutor (unidirectional peer tutoring). Only in one study, the students with a disability take the role of peer tutor (bidirectional peer tutoring).

DISCUSSION Although limited research exists in which the effect of peer tutoring in inclusive physical education classes was studied, various studies show that peer tutoring in inclusive education classes can be effective. The following recommendations are made : 1) how peer tutoring can be implemented optimally in inclusive PE lessons, 2) what future studies about peer tutoring in inclusive PE lessons should examine.

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Because the list of references is too long to be included in this abstract, the complete bibliography can be obtained from the investigators.

HEALTH GAIN IN OVERWEIGHT PEOPLE WITH INTELLECTUAL DISABILITIES AFTER A 12-WEEK LIFESTYLE INTERVENTION

Ruud van Wijck[1], Marieke Wouters[2]
1 Center for Human Movement Sciences, University Medical Centre Groningen, University of Groningen -, 2 Reinaerde, Woudenberg

INTRODUCTION Overweight and obesity are enormous health problems in people with intellectual disability (ID) leading to low physical fitness, high morbidity and high mortality. The co-morbidities accompanied with overweight and obesity, like type 2 diabetes mellitus, cardiovascular (CV) diseases and certain forms of cancer, are associated with a reduced life expectancy. However, a rather small decrease in body weight can lead to both important health gains and increase of quality of life. Research on interventions to improve health in overweight people with ID is scarce. Plus, existing research unfortunately shows methodological weaknesses and a lack of controlled studies. Successful multi-component interventions, showing a reduction in BMI or fat percentage, include nutrition, physical activity (PA), education and social support. These ingredients are considered to be necessary for an effective intervention that facilitates behavioural changes towards a healthier lifestyle and improved physical fitness. In this study the effectiveness of a 12-week lifestyle intervention for overweight people with ID is assessed

METHODS A controlled before-after-study was conducted in 26 adults (mean age 40.1 years, range 19-65) with mild to moderate ID (average developmental age 6 years and 4 months; range 3.1 to 12.9 years) and overweight (body mass index, BMI>25 kg/m2 (mean BMI 31.0 kg/m2; range 25.7 to 44.3 kg/m2). Of this pool 46% was male gender and 23% had Down syndrome. The assignment to the control (n=19) or intervention group (n=10) depended on work and place of residence, and the possibility to participate during working hours. The control group received care as usual. The intervention was made up of four components: physical activity (PA), nutrition, education and social support. The intervention group received PA three times a week for 60 minutes, and education in healthy living once a week (90 minutes). PA was intended to stimulate fat oxidation and increase physical fitness; therefore exercises were mainly of aerobic nature. The intensity was increased over time in order to reach the aspired intensity (50% of HRR) in the 5th week. The weekly lessons concerning healthy living were taught by an educational counsellor and focused mostly on nutrition, based on a well-known Dutch nutritional campaign called 'the slice of five'. No diet restrictions were imposed. To involve the social network in the intervention a manual about how to support the subject during the intervention was handed out, and both weekly newsletters and home assignments were distributed. Health related physical fitness parameters were assessed. A chi-square test was used to assess group differences at baseline; Mann-Whitney U tests were used for age, developmental age and all outcome measures. Effect sizes (ES) were calculated using the formula $r = Z / \sqrt{n}$. An alpha of .05 was used in all analysis.
RESULTS The intervention group showed more improvement over time compared to the control group on weight (p=.03), BMI (p=.02), fat percentage (p=.02), cardiovascular endurance (p=.02) and muscular endurance (p=.02). The effect sizes were medium to good for weight (r=.42), BMI (r=.45), and fat percentage (r=.47).

CONCLUSION This lifestyle intervention has shown to be effective in realizing health gain in overweight people with mild to moderate intellectual disabilities.

AN EASY WAY TO CONVERT A BICYCLE TO A HAND-CYCLE FOR PEOPLE WITH OR WITHOUT PARAPLEGIA

Angelo Vasiliadis[1], Agapi Doulkeridou[1], Kostas Katakalos[2] & Christina Evaggelinou[1]
1 Aristotle University of Thessaloniki, Department of Physical Education and Sport Science, Serres, Adapted Physical Activity Laboratory 2 Aristotle University of Thessaloniki, Department of Civil Engineering

INTRODUCTION Over the last two decades, handcycling has become more and more popular for rehabilitation use, sports and recreation programs. This study describes an easy way in order to convert a bicycle to a custom hand-cycle with a delta-style frame and fork steering and also a recumbent body position.

METHODS For this reason, a 10-years-old bicycle was cut into several pieces in order to remake a new design for hand-cycle. We design and built a custom hand-cycle for an able-bodied person, therefore, the user's personal needs were key design drivers (198cm and 94kg).

RESULTS Many hours of searching the right designs and many hours of making, assembling the parts of bicycle and during five months of evaluation and over 500km of use there were not observed failures from the design. The only things that we have to design, in order to complete the design of hand-cycle, were the rear axle with two wheels, the seat and the backrest of hand-cycle. The evaluation of this design was not a professional work, but it was a fast and serious solution in order to convert an old bicycle to a hand-cycle.

CONCLUSIONS There are many manufacturers if someone wants to buy a new and in his needs hand-cycle. These solutions are suitable for each person, although these are very expensive if someone wants to buy. At about twenty hours of good and hard work is the key in order to have a hand-cycle in our needs and in very low cost.

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TRAINING METHODS IN COMPETITIVE WHEELCHAIR TENNIS

Venturi A.[1], Martinelli M.[1,2], Preatoni E.[1]
1: Motor Science, Catholic University, Milan, Italy 2: Study and research Centre of CIP Lombardy, Milan, Italy

INTRODUCTION The purpose of this study is threefold.
First of all we examine the training methods of some of the best athletes in the world in terms of:

- Tennis preparation
- Auxiliary training
- Organisation of training

Then we examine the injuries of this sport in their aspects of frequency, typology and recovery.
Finally we try to determine if there is a relationship between training methodologies, injuries and results in terms of international ranking. Specifically, we want to understand which are the best training methods to improve the performance of the wheelchair tennis players and consequently determine possible improvements in managing their competitive activity.

METHODS A questionnaire, specific for competitive wheelchair tennis players, was used as an instrument to collect the data. This questionnaire was anonymous and it contained 186 questions. The analysed sample comprised 58 wheelchair tennis players who participated at the World Team Cup 2008 in Cremona, Italy.
The data collected with the questionnaires have been analysed by means of standard statistical functions resident in the "excel" software. The analysis is divided into three parts: general statistical analysis, correlation analysis, analysis of "best practices".

RESULTS Statistically we found that:
84% of the athletes warm-up before and 60% cool down after the tennis training, which takes, on average, 8 hours a week

- 76% of the athletes change the training exercises between the periods close or far from competition
- Three quarters of the athletes practice physical preparation and two thirds don't do mental training
- 88% of the athletes do a planning of their activities and 85% fix the targets they want to reach
- 86% of the athletes train with a tennis teacher and two thirds with tennis players
- 59% of the athletes suffered an injury of the shoulder, the wrist and the elbow and in 50% of the cases athletes recovered under medical supervision
- 58% of the athletes do not make regular use of massage-therapy

The correlation analysis shows that:

- injuries decrease by 26% when physical preparation is done under the supervision of an expert, even though the workload is doubled
- the systematic use of massage-therapy decreases by 10% the number of injured athletes and by 20% the number of injuries
- injuries are the cause of loss of ranking in more than 50% of the cases

The "best practice" analysis shows that the "top ten" athletes on average:

- have an experience of 12 years of competition

- participate to at least 17 international tournaments per year
- train 10 hours a week

The combination of hours of weekly training times weeks of training per year times number of years of practice is the best possible way to reach top raking results (Pearson's index of -1).

CONCLUSION The study has documented in a systematic manner the training methods of competitive wheelchair tennis players. Considering that the data were provided by a significant sample of the best players worldwide, its results can be considered relevant. They illustrate not only "what" leads to success, but also "how" to reach it, at least in terms of statistical averages. These findings help in the design of training programs aimed at achieving specific results on the basis of a deterministic model. The cause-and-effect relationships that were identified, in a quantitative and qualitative manner, allow for a factual analysis of the eventual differences between objectives set and actual results. The investigation of the role of injuries highlights how penalising they are in terms of ranking results and therefore how important it is to prevent them with specific programs of physical preparation and massage-therapy designed and supervised by an expert. It is clear however that average values do not render justice to each single case. Therefore, in designing a training program for a given player, the average values found must be duly customised, on a case-by-case basis, in order to best suit the specific peculiarities of each individual player.

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PEAK CARDIORESPIRATORY RESPONSES AND MECHANICAL EFFICIENCY DURING ARM POWERED AND ARM TRUNK POWERED HAND BIKING

Joeri Verellen[1]; Christophe Meyer[1]; Luc Janssens[2]; Yves Vanlandewijck[1,]
[1]Department of Rehabilitation Sciences, Faculty of Kinesiology and Rehabilitation Sciences, Katholieke Universiteit Leuven, Leuven, Belgium. [2]International University College, Groep T, Leuven, Belgium

INTRODUCTION The classification system in hand cycling was recently revised, taking into consideration the physical potential of the athlete, but also the type of handbike. The purpose of this study was to compare the performance potential of the 2 currently available solid frame handbike types: the arm powered (AP) and the arm trunk powered (ATP) handbike.

METHODS A maximal progressive incremental test (50 Watts plus 10 Watts per minute) and a series of 6 minute submaximal tests at 130 Watts with various cadences (50, 65, 80, 95, 110 revolutions per minute and a freely chosen cadence) were performed in a randomized order in both handbike settings by 12 moderately active male able-bodied participants with no prior experience in hand cycling. All tests were executed in a custom designed frame that allowed a simulation of hand cycling in realistic mechanical and ergonomic conditions. Metabolic and cardiorespiratory parameters were continuously recorded breath-by-breath using the K4b2 portable system (Cosmed, Rome, Italy). Heart rate was measured using a cardio frequency meter (Polar Accurex Plus, Polar, Finland), and monitored by means of the K4b2 system. Lactate concentration was measured at the end of each test stage via blood samples taken from an ear lobe using a blood lactate test meter (Lactate Pro, Arkray, Japan).

RESULTS Peak metabolic and cardiorespiratory responses A paired t-test revealed significantly lower values during AP compared to ATP hand cycling for peak power output, peak absolute and relative oxygen uptake, and ventilation. As well, lactate concentration was significantly higher during AP compared to ATP hand cycling. There were no significant differences however for peak heart rate between AP and ATP hand cycling. ($p < 0,05$) Mechanical efficiency: Mechanical efficiency values ranged between 21,78 % and 27,70 % for AP; and between 21,25 % and 24,70 % for ATP hand cycling. Comparing both hand cycling strategies using a paired t-test, AP hand cycling resulted in a significantly higher mechanical efficiency versus ATP hand cycling across all imposed cadences. Moreover, mechanical efficiency at optimal as well as freely chosen cadence was significantly higher during AP compared to ATP hand cycling. ($p < 0,05$)

CONCLUSION The data from this study indicate major differences between both hand cycling strategies, both in terms of steady state hand cycling and hand cycling sprinting. The results suggest that AP hand cycling is more advantageous during long bouts of submaximal hand cycling; whereas ATP hand cycling appears to be beneficial in a sprint. Consequently it remains unclear which handbike unit would be favourable during competition. Moreover, it can be assumed that other variables such as track and weather conditions, team strategies, etc… play an important role in choosing the optimal handbike unit. Future studies are therefore necessary to investigate the implications of the presented differences between both hand cycling strategies on performance potential during competition hand cycling, and its consequences on the revised classification system.

EUDAPA EUROPEAN UNIVERSITY DIPLOMA OF ADAPTED PHYSICAL ACTIVITY

Jyrki Vilhu
Haaga-Helia University of Applied Sciences, Finland. jyrki.vilhu@haaga-helia.fi

INTRODUCTION In this diploma-program students of European universities have a possibility to learn adapted physical activity (apa) with the leadership of experienced and distinguished European teachers.

The extent of the whole diploma is 60 ECTS. It consists 10 ects (minimum) studies of apa at home university before joining the 30 ects the intensive 3 months at Haaga-Helia University of Applied Sciences. After intensive program follows 20 ects apa-related work practice in a foreign country with a report of this. A student can also participate just the intensive program. These studies are supposed to be approved by the home university as a part of students degree program.
The intensive 3 months (February - April 2011) will take place mostly at Lahti area in Finland. Language is English. The theoretical weeks will be organized at Sport Institute of Finland at Vierumäki (30 km from Lahti) www.vierumaki.fi , where the Faculty of Physical Activity of Haaga-Helia University of Applied Sciences is located. The practical projects will be organized at Pajulahti Sports Center (20 km from Lahti) www.pajulahti.com, and the inclusive winter-sports week somewhere in the northern part of Finland.

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Contents
a) theoretical and practical lectures from the leading apa-experts in Europe and in Finland
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c) 4-5 practical projects, in which students will try the theoretical things they have learned in practice (John Dewey: Learning by Doing).

Eligibility for a student:
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MENTAL PREPARATION OF ATHLETES WITH PHYSICAL DISABILITIES: THE CONTRIBUTION OF PSYCHOLOGICAL SKILLS TRAINING (PST)

Vitali, Francesca
University of Genoa Faculty of Medicine Course of Bachelor in Sport Sciences and Physical Activity

INTRODUCTION Athletes with disabilities, like all athletes, can benefit from working with sport psychology professionals. It was in the early 1990s sport psychologists began to note the importance of psychological skills training (PST) for athletes with disabilities (Asken, 1991; Clark and Sachs, 1991). Researchers have suggested that athletes with disabilities use psychological skills (Martin and Mushett, 1997), would like to learn about psychological skills (Kirkby, 1995), mentally prepare for competition (Watanabe et al., 1992) and have favourable attitudes towards sport psychologists (Page et al., 2001). As Hanrahan (2005) urges, sport psychologists should help athletes learn to 'be in control of their own mental preparation'. As Martin (2005) underlines, several publications, however, emphasised the use of mental skills for performance enhancement purposes (e.g Clark and Sachs, 1991; Hanrahan, 1998) or very broadly defined psychological skills and inferred mental skill development from mood state scores (e.g Henschen et al., 1992). Few sport psychologists, however, have explicitly emphasised personal development in combination with optimizing athletic success (Martin, 1999; 2005). This study is part of the perspective that Jeffrey Martin has outlined (1999; 2005), which is based on the theoretical framework of Vealey's (1988) human development model of PST, which revolves around foundation skills, psychological skills and methods, and facilitative factors.

METHODS The presented, descriptive and exploratory research is part of a wider intervention, based on Vealey's (1988) human development model of PST, and conducted with a group of 45 athletes with physical disabilities (F= 23; M= 22), whose age varies from 18 to 35 years (medium age: 26,1 years; S.D. 4,8). The study investigates the dimensions that Vealey's (1988) model emphasizes: Self-esteem (Rosenberg, 1965), Self-efficacy (Sibilia et al., 1995). Additionally, we measure Preparation to competition, Self-talk, Cognitive anxiety, Self-confidence, Goal-setting, Control emotional arousal, Mental practice, Concentration disorders administering IPPS-48 (Robazza et al., 2009).

RESULTS Quantitative analysis were conducted to describe the considered group and to support individualized intervention promoting psychological skills training (PST) for athletes with physical disabilities.

CONCLUSION According to Martin (2005) athletes with disabilities have typically been underserved by professionals in sport psychology. Sport psychologists can play an important role in helping athletes with disabilities achieve personal excellence in life and sport. Similar to the challenge of being familiar with both psychological principles of athletic behaviour and the sport sciences, sport psychologists desiring to work with athletes with disabilities have the additional challenge of understanding the world of disability and disability sport in order to be effective (Sachs, 1993). We hope that this study could can go in this direction, contributing to the debate and to the development of PST for athletes with physical disabilities.

VALUE ORIENTATION OF CHILDREN WITH ONCOLOGICAL DISEASES IN RELATION TO QUALITY OF LIFE AND PHYSICAL ACTIVITIES

Tomáš Vyhlídal, Ondřej Ješina Palacky
University in Olomouc, Faculty of Physical Culture

INTRODUCTION This presentation focuses on the meaning of physical activities (PA) as means of inclusion of children with oncological diseases to mainstream society and common life. We study If PA help to stabilize social relationships of children and their families after termination of treatment. The purpose of the study was to find how physical activities can be used during and after treatment of children with oncological diseases. Secondary this study focuses on perception of children with oncological diseases in relation to quality of life.

METHODS The projective technique of "open sentences" was used in order to study and evaluate self perception of these children. We have used this technique among 28 children with oncological diseases (age 6-15 yrs). For evaluation of meaning of physical activities we used self constructed survey with 12 participants – adults working with children with oncological diseases (physicians, parents, adapted physical activity instructors).

RESULTS Most children emphasize the value of health and impact of disease on quality of their lives – 21,4%. 14,8% perceive the need to engage in common daily activities and 11,6% realize the importance of family life. Only 4,76% of children realize the need of sport activities. 91,6% of adults involved in treatment of these children believe that mild level physical activities (walks, breathing activities or yoga) can be part of treatment. They also believe that after the completion of treatment children can take part even in moderate physical activities including ball games.

CONCLUSION We found that PA have important role in treatment of children with oncological diseases. PA realized in an appropriate way are during and after treatment beneficent and effective. Appropriate physical activities can influence physical and psychological state of children and facilitate social contacts among family members, peers and other children with the same disease.

CENTRES FOR INTEGRATION SUPPORT

Alena Vyskocilova, Ondrej
Jesina Palacky University Faculty of Physical Culture

INTRODUCTION In the Czech Republic exist the network of counselling centres for students with special educational needs as enters for early intervention or Special education centres, there is an absence of centers for support in the area of sport; physical education and movement activities. Our task is to build the network of Centres of Adapted Physical Activities in each of the regions in the Czech Republic. We base our effort on the Law about the support of sport, which requires from each regional government agencies responsible for schools to create conditions for sport participation for all citizens, including those with disabilities (Kudláček, Ješina, 2008). The type of support we provide is in agreement with regulation 72/2005 Sb., which covers counselling services in schools and regulation 73/2005 Sb. About an education of students with Special Educational Needs and focuses on the area of physical education. We also try to meet international and national regulations and legislation emphasizing needs for quality of preparation of personnel in the area of education, sport and recreation, including in-service training and development of individual education plans. The title is supported by ESF and the budget of the Czech republic government.

NEEDS OF PHYSICAL ACTIVITY FOR ADULT WITH INTELLECTUAL DISABILITY LIVING IN THE COMMUNITY

Tomoyasu YASUI
Hokkaido University of Education, Department of Special Needs Education,
yasui@sap.hokkyodai.ac.jp

INTRODUCTION In Japan's social welfare system a law to support the independence of people with disabilities went into effect in 2006. With the introduction of this law thinking changed from past emphasis on people with disabilities living in welfare facilities to emphasis on support for living in the community. This system aims for people who are not severely disabled to live in the community while using group homes or home health services, rather than live in facilities. The purpose of this study was to clarify the needs of physical activity, sport, and leisure for adults with intellectual disabilities who live in the residential area.

METHOD The subjects were 282 people with intellectual disabilities who live in about 80 group homes in residential areas at three cities in Japan. They were asked to fill out a questionnaire about their daily physical exercise and health. If the subjects could not read the questionnaire, they were supported to read them by their own assistant parsons.

RESULT As a result of the questionnaire, it was found that 74% subjects were not participating in a daily sports activity. Many subjects who were continuing some sports experienced the sports when they were in a special school or social welfare institution (60%). In addition, they needed sports facilities for physical exercise (58%) with the person who supported the physical exercise program (63%).

CONCLUSION To maintain their health, they needed the place and support to engage in sports. It was suggested that giving the opportunity to engage in daily sports is necessary for people with intellectual disabilities to maintain a healthy life. However, there are few sport facilities in the community for leisure activities or sports the disabled, and unless this is changed there are predicted to be few opportunities for them to participate in sports. Therefore, rapid progress needs to be made in developing places in the community that can provide support for the participation of people with disabilities in leisure activities or sports.

SECONDARY SCHOOL PHYSICAL EDUCATION TEACHERS' ATTITUDES TOWARD CHILDREN WITH INTELLECTUAL DISABILITY

Dilara ÖZER[1], Sibel NALBANT[2], Funda BARAN[2], Ceylan Ece TOP[2], Pınar Kaya[2]
1 School of Physical Education and Sport, Çanakkale Onsekiz Mart University
2 School of Physical Education and Sport, Akdeniz University

INTRODUCTION In many countries, the trend toward increased integration of children with and without disabilities can be observed (DePauw & Doll-Tepper, 2000; Ellger-Ruttgardt, 1995; Murray-Seegert, 1992; Akt; Lienert , Sherrill, & Myers, 2001). Although inclusion practices in Turkey started in the early 1980s, they have had legal ground since 1997 with Act Number 573. (Küçüker, Acarlar, & Kapci, 2006). There are some researches on preschool, elementary and secondary school teachers' attitude toward children with intellectual disabilities (ID) in service and pre-service but no studies on physical educators in Turkey. However, attitudes constitute an important determinant of behaviour in educational setting. With this in mind, a sound theoretical foundation of attitude research is important so that educational practice such as inclusive physical education can be explained and controlled (Tripp& Sherrill, 1991). So, the aim of this study was to investigate physical educators' attitudes toward children with ID in the secondary school.

METHODS Data were gathered by a survey method. A 39-item 'Teachers Attitudes Toward Children with Intellectual Disabilities Scale ' (TACIDS) with a 5 point Likert was applied to 746 (530 men, 216 women) secondary school physical educators who determined by random in seven different geographical areas in Turkey. Principal component factor analysis with oblique VARIMAX rotations was used to analyse the scale structure following by a reliability analysis. The impact of the demographic attributes on seven factors of the scale was measured by means of independent sample test and one-way ANOVA with *post hoc* test.

RESULTS Factor analysis found seven factors accounting for % 58,3 of variance. Reliability analysis (Cronbach's α) followed each factor. Factor 1 was labelled ' social effects" including 8 items (Cronbach's α=87). Factor 2 was labelled "feelings" including 3 items (Cronbach's α=82), Factor 3 was labelled "educational rights" including 4 items, (Cronbach's α=62). Factor 4 was labelled "interaction between children" including 4 items (Cronbach's α=65). Factor 5 was labelled " supporting services" including 4 items , (Cronbach's α=59). Factor 6 was labelled "difficulties" including 2 items (Cronbach's α=62). Factor 7 was labelled ' barriers" including 2 items (Cronbach's α=47). Total internal consistency was found (Cronbach's α= .84). The statistical analysis revealed significant effects on attitudes to age ($F_{(7,737)}$=2,244, p=.029) and employment period($F_{(6,738)}$=4,630, p=.000) in Factor 2 , maritial status in Factor 2 (t=3.065, p=.002), Factor 3 (t=2.195, p=.029), Factor 4 (t=1.991, p=.047), Factor 5(t=3.572, p=.000), Factor 7 (t=1.988, p=.047) , having acquaintance with ID in Factor 1 ( ) and in Factor 2 ( )(p<.05). Married teacher have higher attitude score than bachelor teacher. It was determined that teachers in 26-30 years age group have lower score than teachers in 46-50 years age group in Factor 2 (p=.049). Teachers having less years in teaching (31-35 years) have negative attitudes than toward There was no significant difference in terms of sex and previous experience in the seven factors of scale. According to results, increase in employment period result in decrease of scores. Significant age differences, inservice duration were found in Factor 2 ( ) . Significant maritial status was found in Factor 3-4-5 and 7 (p<0,05). It was not found any significant differences

between other factors (sex, education on children with ID/ education time). It was found a significant differences teachers having familiar children with ID (4, 12±0,75) have more positive attitudes toward integration rather than teachers not having familiar children with ID (3,99±0,65). Children with ID than teachers having more years in teaching ($p<0,05$), Whole research's reliability was high (r=.84) due to low of seventh factor's cronbach alpha reliability (r=.46) , it was determined that it should be supported with different substance. It is advised that the scale should be restudy to measure physical education teachers' attitudes toward children with ID.

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