CONFERENCE ABSTRACT BOOK

HEPA EUROPE 2015
7–9 October 2015
Acıbadem University Kerem Aydınlar Campus
HEPA Europe 2015 • 7–9 October 2015

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Welcome Message from HEPA Europe 2015 Conference

Dear Colleagues,

On behalf of the Scientific Committee and the Organizing Committee, it is a pleasure and honor for us to invite you to 11th Annual Meeting and 6th Conference of HEPA Europe which will be held on 7-9 October 2015 focusing on “Promoting Active Living: The Collaborative Perspective”. Aim of the conference is to bring together scientists, researchers, public institutions, NGO and private sector representatives and to exchange and share their knowledge, experience, and research and to provide a platform for comprehensive and multidisciplinary and multi-sectoral approaches for health-enhancing physical activity promotion.

The 11th annual meeting and 6th conference of HEPA will deliberate on wide ranging issues affecting the progress of physical activity and public health such with the main theme Promoting Active Living: The Collaborative Perspective. The sub-themes will be “Active ageing and injury prevention”, “Policies and interventions and promotion of physical activity”, “Physical activity in youth and children”, “Sedentary behavior,” “Environmental approaches to active living, active design, urban planning”, “Technological innovations, monitoring and surveillance of physical activity”, “Economic dimensions of physical activity”, “Psycho-social aspects of physical activity”, Exercise in health and chronic diseases”, “Physical activity epidemiology”, “Physiological mechanisms of health enhancing physical activity”.

Istanbul maintains a distinguished position among the world metropolises, with its unique location between two continents, together with its cultural heritage spanning thousands of years. As one of the most energetic cities in the world, Istanbul continually grows as a center of attraction, representing a contrast in harmony and presenting a breathtaking choice of sights, smells and tastes that everyone must experience at least once in a lifetime. Thus, we believe getting together in such a charming atmosphere with our colleagues is an opportunity nobody should miss. Hosting this congress in Istanbul -where Asia meets Europe- will not only help us enhance patient care but also build bridges between participants from various countries.

We are looking forward to welcoming you in Istanbul. We are certain that you will greatly enjoy this major scientific event as well as the Turkish culture, cuisine and hospitality.

Haydar A. Demirel MD, Ph.D
Chair of HEPA Europe 2015 Conference
Welcome Message from HEPA Europe

HEPA Europe is excited to hold its first annual meeting in the southeast part of the European Region! Just weeks after the launch of the new Physical Activity Strategy for the WHO European Region, it is particularly timely to come together and discuss the latest news on HEPA research and promotion around the conference theme “Promoting active living: the collaborative perspective”. With a many participants from over 25 countries of the region as well as from South Africa, Iran and the United States of America, we are looking forward to a fruitful exchange and new lessons for research, policy and practice. The events include exciting key note lectures, symposia, oral and poster sessions and workshops on topical areas, an early career workshop as well as the annual network meeting.

HEPA Europe extends its warmest thanks to the Active Living Association and the Association For Promotion of Healthy Life And Health Policies as well as Hacettepe University Faculty of Sport Sciences and Acıbadem University Health Policy Research and Implementation Center for their great hospitality and support.

We are looking forward to experiencing the Turkish culture and an exceptional event in Istanbul!

Sonja Kahlmeier

Sonja Kahlmeier, Phd.
Steering Committee HEPA Europe
Organizing Committee of HEPA Europe 2015
Conference Theme

MAIN THEME

Promoting Active Living: The Collaborative Perspective

SUB THEMES

- Active ageing and injury prevention
- Policies and interventions and promotion of physical activity
- Physical activity in youth and children
- Sedentary behaviour
- Environmental approaches to active living, active design, urban planning
- Technological Innovations, monitoring and surveillance of physical activity
- Economic dimensions of physical activity
- Psycho-social aspects of physical activity
- Exercise in health and chronic diseases
- Physical activity epidemiology
- Physiological mechanisms of health enhancing physical activity
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KEYNOTES
Exercise is Good Medicine

Scott K. Powers
University of Florida, College of Health and Human Performance

Abstract

Physical inactivity contributes to a variety of chronic diseases and health problems and inactivity has become a major public health problem globally. In contrast, it is established that regular exercise reduces the risk for many diseases such as cardiovascular disease, cancer, and type II diabetes. Further, regular physical activity is an effective therapy for several chronic diseases including type II diabetes and rehabilitation of patients following myocardial infarction. The fact that regular exercise can both prevent disease and improve disease outcomes has led to the coordinated initiative termed “Exercise is Medicine”. While the aforementioned benefits of exercise on health are well known, new research reveals that regular exercise also has many previously unknown health benefits such as reducing cardiac injury during a heart attack and protection against chemotherapy-induced cardiac and skeletal muscle damage. Further, emerging evidence indicates that endurance exercise training results in adaptations to subcutaneous adipocytes in a paracrine or endocrine manner to improve whole body glucose homeostasis. Collectively, these new findings illustrate that “exercise is good medicine” and suggest that research into the mechanism(s) responsible for exercise-induced health benefits are an important investigative tool leading to drug discovery and improved treatment for inactivity-related diseases.

Biography

Scott K. Powers is the UAA Endowed Professor and a distinguished professor within the Department of Applied Physiology and Kinesiology at the University of Florida. His research focuses upon the effects of exercise and inactivity on redox signaling and gene expression of both cardiac and skeletal muscles. During the past 25 years his investigative work has been funded by a variety of granting agencies including the National Institutes of Health, American Heart Association, and American Lung Association. Collectively, Dr. Powers’ research has resulted in more than 235 peer-reviewed publications that are widely cited in the literature.
Workplace Physical Activity Interventions in A Cost-Affectiveness Perspective

KEYNOTE Willem van Mechelen
ORGANIZATION Department of Public and Occupational Health and EMGO Institute for Health and Care Research, VU University Medical Center, Amsterdam, the Netherlands

ABSTRACT
From a number of perspectives, worksite health promotion programs seem to be relevant and might be even more effective than usual care regarding typical health risk factors, such as reductions in musculoskeletal disorders, body weight, cholesterol level, and cardiovascular disease risks. However, if the company should take a serious interest in such costly health enhancing initiatives, they should also be informed about side-effects on productivity, sick leave, and the overall economical aspect of a sustainable workforce. Hence, the financial benefits related to these issues should be included in scientific evaluations, and the costs of the program should be minimized. This presentation will not only cover the aspect of the general benefit of the society related to primary prevention, but will also take the perspective of specific interest of the companies for such work-related health enhancing programs. Starting from the systematic review of J.M. van Dongen et al. (Obes Rev 2011;12:1031-49), an overview will be given of the scientific evidence that has been published since then, about the financial return of worksite health promotion programs aimed at improving nutrition and/or increasing physical activity.

BIOGRAPHY
Willem van Mechelen is Head Department of Department of Public and Occupational Health of VU University Medical Centre and Co-Director EMGO+ Institute of VU University Medical Centre. He is the Chairman of the Research Centre Body@Work TNO VU University Medical Centre and Director of the VUmc spin-off company Evalua Nederland B.V. (‘Ltd’). He earned his PhD in Human Movement Sciences in 1992. He also is a board certified occupational physician and a registered epidemiologist. Currently, he is employed by the VU University Medical Centre in Amsterdam as a full professor of Occupational and Sports Medicine. He is chairman of the research centre Body@Work, which is focuses on the research topics “work and health” and “lifestyle, health and sports providing state of the art knowledge for fellow researchers and policymakers of governmental and commercial institutes.
Total Physical Activity is Associated with Positive Health Outcomes and Occupational Physical Activity is Not: How Come?

KEYNOTE

Allard van der Beek

ORGANIZATION

Free University Medical Center, Amsterdam

ABSTRACT

Physical activity seems a magic pill, and its health-enhancing effects are beyond any doubt. However, recent epidemiological evidence from large prospective cohort studies has shown that physical activity in the occupational domain might not result in the same positive health effects as physical activity in other domains. Holtermann and his colleagues called this phenomenon “the health paradox of occupational and leisure-time physical activity”.

If we take one step back, a systematic review and meta-analysis by Samitz et al. on domains of physical activity and all-cause mortality, published in 2011, found an inverse relation between increasing levels of occupational physical activity (OPA) and all-cause mortality. The combined risk ratio (RR) from maximally adjusted analyses in six cohort studies comparing highest with lowest levels of OPA was found to be 0.83 (95% CI: 0.71-0.97), indicating that OPA was associated with reduced all-cause mortality. The mortality reductions were more pronounced in women than in men. Since then, however, more than ten prospective epidemiological studies published in international, peer-reviewed scientific journals showed the opposite: OPA was consistently associated with an increased risk of cardiovascular disease (CVD) and all-cause mortality in men. Such increased risk was either not found, or found to a lesser extent in women. This turning point in the scientific evidence was also reflected in a meta-analysis by Li et al. on physical activity and CVD, since it included prospective epidemiological studies published between 2011 and March 2013 only. They found an increased overall CVD risk for the group with high levels of OPA (pooled RR: 1.24, 95% CI: 1.05-1.47) compared to the reference group with low OPA, which was not statistically significant for moderate levels of OPA (pooled RR: 1.10, 95% CI: 0.91-1.33). This keynote presentation will focus on the potential reasons for these results, consistently showing a marked contrast between studies before and after 2009.

BIOGRAPHY

Since 2007, Allard is holding a tenured position as Professor of Occupational Epidemiology. Presently, he is vice head of the Department of Public and Occupational Health and co-director of the EMGO+ Institute’s research programme ‘Musculoskeletal Health’. His main research topics have been exposure assessment, (cost-)effectiveness of interventions, worksite health promotion, etiology of work-related musculoskeletal disorders and work stress, and insurance medicine. Allard van der Beek is (co-)author of over 250 scientific papers published in peer-reviewed, international journals. He supervised 26 researchers who successfully defended their PhD thesis, and he is supervising another 10 PhD students now. As of 2002 he is coordinator of Body@Work, Research Center Physical Activity, Work & Health, TNO-VUmc. Furthermore, Allard van der Beek serves as vice-chair of the Program Board of the Research Center for Insurance Medicine AMC-UMCG-UWV-VUmc; he was chair of this board during the period Jan 2007 – Jul 2010.
Can Photos and Maps Help Us to Understand and Change Physical Activity?

**KEYNOTE**

Charlie Foster

**ORGANIZATION**

Oxford University, British Heart Foundation Centre on Population Approaches for Non-Communicable Disease Prevention

**ABSTRACT**

The rapid evolution and distribution of technology in the modern world has resulted in new and exciting developments for the assessment and promotion physical activity. In the last few years, the number of portable devices that are able to monitor and record physical activity behaviour within the context of the physical environment has increased considerably. It is critical that researchers and practitioners who are using novel assessment techniques evaluate their implementation and impact.

Photos and maps are not new ways of conveying information but may offer new approaches to the understanding and delivery of established way to change physical activity behaviours. This presentation will present (i) an overview of these approaches and the theories that underpin their use, (ii) their application to correlates and intervention development in research, (iii) their rapid adoption in the real world via new technologies, and (iv) offer suggestions for new research in this area.

**BIOGRAPHY**

Associate Professor Charlie Foster is Deputy Director of the Research Group and the new WHO Collaborating Centre on Population Approaches to Non-Communicable Disease Prevention. He leads two British Heart Foundation funded programmes of research on physical activity and obesity. The aim of both programmes is to improve the quality of the evidence base for basic epidemiology, measurement, correlates, interventions and policy. With over one hundred research publications including the Lancet, BMJ, and Cochrane Collaboration, he was asked to co-author the recent UK Chief Medical Officer physical activity guidelines, published in 2011. Dr Foster was appointed to the new NICE Public Health Advisory Committee, and as an academic consultant for the WHO, EC and CDC USA. His research has been recognised in awards from British Association of Sports and Exercise Sciences, International Society for Behavioural Nutrition and Physical Activity and UK Department of Health.
SYMPOSIA
Collaboration and Intersectoral Approaches to Promote Physical Activity and Active Living – Insights for Policy

NAME OF THE PRESENTERS

CHAIRS

DISCUSSANT

Lucy Saunders Transport for London & Greater London Authority, United Kingdom, Olov Belander The Norwegian Directorate of Health, Norway, Diana Rus Center for Health Policy and Public Health, Babeș-Bolyai University, Cluj-Napoca, Romania, Karen Milton, Nuffield Department of Population Health, University of Oxford, United Kingdom, Sonja Kahlmeier, Physical Activity and Health Unit, University of Zurich, Switzerland, Nanette Mutrie MBE, Physical Activity for Health, University of Edinburgh, United Kingdom (invited)

RATIONALE
Policies are a key element of a national strategy to promote physical activity and health. One element that is promoted as a standard approach in developing and implementing such policies is collaboration across sectors and stakeholders inside and outside of government. While most policies include elements of one or the other, the actual workings of such collaboration are not yet well understood. This symposium will present different examples and will derive conclusions and lessons learned for uptake by the present experts and policy makers in their own policies and settings.

PURPOSE
To provide examples of collaboration in different countries, to learn on challenges and different solutions and to identify key lessons for the future
Health By Stealth: Experiences of A Public Health Specialist Working in A Transport Authority

NAMEOFTHEPRESENTER .......... Lucy Saunders
TITLE ........................................ Public Health Specialist – Transport & Public Realm
ORGANIZATION ...................... Greater London Authority
PAPER THEME ......................... Policies and interventions and promotion of physical activity

INTRODUCTION
In London, like much of the UK, less than 6 in 10 adults achieve the minimum physical activity they need for health. The main way that people get their physical activity is through the walking they do in the transport system and active travel holds the biggest potential for shifting the population to higher activity levels.

METHODS
In 2012 a public health specialist started working with London’s strategic transport authority, Transport for London, to embed public health considerations into transport policy and practice. A transport-health action plan, the first of its kind for a Transport Authority, is being implemented. This includes monetising health impacts for business cases, new health evaluation frameworks, training on how to assess the quality of evidence, lobbying and advocacy. A ‘Healthy Streets’ approach is used to engage internal stakeholders and prioritise activity.

RESULTS
Over three years the public health specialist has experienced a range of challenges including different organizational cultures and languages, misconceptions and misunderstandings. What she has learnt from working through these will be of benefit to others embarking on partnership working across sectors. This action plan has won several awards and the public health specialist has been awarded Transport Planner of the Year 2015. The work programme develops as the relationship between the transport sector and health matures in London.

DISCUSSION AND CONCLUSION
To shift population physical activity levels the systems that underpin planning and decision making in the transport sector need to change significantly and swiftly. This can only be achieved through an effective public health advocate being embedded in the transport authority and positioned to influence at every level of the organisation as well as with the wider forum of stakeholders. References Improving the health of Londoners: transport action plan (2014) Transport for London.

REFERENCES

KEYWORDS
Transport policy, active travel, healthy streets, cross-sector working
Experiences with Intersectoral Collaboration for Hepa Promotion – A 10 Year Story From Norway

NAME OF THE PRESENTER .......... Olov Belander
TITLE ................................ Adviser
ORGANIZATION ...................... Norwegian Directorate of Health, Department of Environmental Health, Oslo, Norway
Greater London Authority
PAPER THEME ......................... Policies and interventions and promotion of physical activity

INTRODUCTION
The White Paper No.16 (2002-2003) Prescription for a healthier Norway brought physical activity onto the political agenda in Norway. (1) One result of the White Paper was The Action Plan on Physical Activity (2005–2009) - Working together for physical activity. The purpose with the Action Plan was to increase the level of physical activity. (2, 3) Public health work requires intersectorial effort as the necessary conditions for good health are to be found within multiple sectors of society. The Action Plan was a result of collaboration between eight Ministries.

METHODS
The Action Plan contained 108 measures in seven main groups of action; active leisure time, active everyday life, active local environment, active according to capacity, working together for physical activity, a better foundation of knowledge and communication. Each measure was connected to one responsible Ministry. The last years there is published a new public health act (4), national walking (5) and bicycling (6) strategies and two new White Papers on public health. (7,8)

RESULTS
The evaluation of the Action Plan showed some positive effects. In particular an increased intersectorial holistic approach and an increased public awareness of the relationship between good health and physical activity. The involved authorities seem to prioritize the promotion of physical activity during the Action Plan period. (9, 10)

Objective measures physical activity in the adult population shows that the total activity level is increased with 3 % in the period 2008/2009 to 2014/2015. The amount who achieves the minimum recommendations of at least 150 minutes of moderate-intensity physical activity throughout the week, or 75 minutes of vigorous-intensity physical activity throughout the week, or a combination of moderate- and vigorous-intensity activity has increased from 28 % in 2008/2009 to 32 % in 2014/2015. (11)

DISCUSSION AND CONCLUSION
Developing national strategies needs to be ongoing processes over time and the Action Plans and Strategies needs to be followed up. National guidance and intersectoral cooperation is crucial and important for development of the area.

There is a small but positive trend in the activity level in the Norwegian adult population. The potential to increase the overall activity level in the population is still large.

REFERENCES

KEYWORDS
Physical activity, national strategies, policy
**National Platforms for Evidence-Informed Physical Activity Policy Making**

**NAME OF THE PRESENTER**       Diana Rus  
**TITLE**       Researcher  
**ORGANIZATION**       Babes-Bolyai University, Center for Health Policy and Public Health, ClujNapoca, Romania  
**PAPER THEME**       Policies and interventions and promotion of physical activity

**INTRODUCTION**
Evidence-informed policy making in physical activity calls for inter-sectoral and interdisciplinary collaboration. To facilitate the exchange of knowledge, experiences and ideas across practice, policy and research, as part of the REPOPA Project and dissemination work, it was encouraged the development of different types of platforms.

**METHODS**
The platforms are part of the REPOPA project to encourage the use of research evidence in HEPA policy making and enhance communication between stakeholders. The types of platforms were chosen and implemented according country contexts and opportunities for exchange of research evidence, policy making and practice. Moreover, each country platform is supported online, as part of the REPOPA website and has multiple features that encourage communication on the topic of evidence into policy making.

**RESULTS**
So far we have encouraging results e.g. from Finland the national platform used the ‘window of opportunity’ in policy making integrating REPOPA platform into a working group on “Access to physical activity and sports information” at the Ministry of Education and Culture. In Denmark the platform was established as an interest group on research evidence into policy and practice under the National Public Health Association, whilst in the Netherlands, the interest was to strengthen already existing Dutch platforms on inter-sectoral policy making and evidence informed policy making by connecting them to the REPOPA platform to stimulate (inter)national information exchange. In Romania, REPOPA joined an existing working group at local level, “Cluj Management and Planning Group”, as part of their public health task force, which contributed to the development of the new ClujNapoca Development Strategy.

**DISCUSSION AND CONCLUSION**
Each of the participating countries had different needs and therefore, each of the platforms has its own country specific adaptation, both in the development and implementation phases. But, having the platform activated online will facilitate the exchange of knowledge, experiences and ideas for enhancing use of research evidence across practice, policy and research on international scale.

**KEYWORDS**
EIPM, platform, knowledge translation of research evidence into policy making, physical activity, HEPA
Promoting Physical Activity in Children and Young People: Assessment, Intervention Design and Evaluation

NAME OF THE PRESENTERS ...............................................................

CHAIRS .............................................................................................

DISCUSSANT .....................................................................................

RATIONALE
Members of the HEPA working group for children and young people will present their work which focuses on assessment, intervention design and evaluation. The first presentation will address the application of the socio-ecological model to health promotion in schools and the effectiveness of a whole school approach to physical activity. The subsequent presentations apply elements of the social ecological model and whole school approach and show how interpersonal, organisational, local community and policy approaches exist for the promotion of physical activity to children and young people. Each intervention shows a different approach to tackling the challenges of inactivity in primary and/or secondary school children. Finally, the discussant will provide a review of the presentations in light of current research and their application to practice and given an overview of future challenges in this area.

PURPOSE
To provide examples of current and new research in this area.
National Platforms for Evidence-Informed Physical Activity Policy Making

NAMEOFTHEPRESNETER............ Anna Chalkley
TITLE........................................ Project Manager
ORGANIZATION...................... British Heart Foundation National Centre for Physical Activity and Health, Loughborough University, England
PAPER THEME........................ Physical activity in youth and children

Schools play a central role in providing physical activity opportunities to children and young people. However over recent decades, worrying health trends have emerged and the school setting has received special attention in the field of health promotion. Multicomponent interventions in the school setting seem to be effective in increasing physical activity and whole of school approaches have been identified as one of the seven best investments for physical activity (Global Advocacy Council for Physical Activity, International Society for Physical Activity and Health 2011). This presentation will introduce the concept of a whole school approach, identifying key characteristics of an integrated and comprehensive approach to health promotion in schools, embedded within the socio-ecological framework. In doing so, it will also provide some examples of comprehensive school health programmes from across the UK and Europe.
The Wish Study: An Interpersonal Peer-Led Walking in Schools to Improve Physical Activity In Adolescent Females

NAME OF THE PRESENTER ............ Angela Carlin
TITLE ........................................ Project Manager
ORGANIZATION ........................ School of Biomedical Sciences
PAPER THEME ............................ Physical activity in youth and children

PURPOSE
To explore the effects of a 12 week peer-led brisk walking programme, delivered within the post-primary school setting, on physical activity levels in adolescent females.

METHODS
190 adolescent females aged 12.6 ± 0.5 years (mean BMI 19.8 ± 4.1, 26% overweight/obese) in 6 schools volunteered to participate in the study. Schools were randomly assigned to participate in a school-based peer-led brisk walking programme or to receive no additional physical activity (control). Intervention content was guided by Social Cognitive Theory and findings from qualitative focus group work conducted within this population. A number of opportunities to complete 15 minute walks were offered on a daily basis, around the school grounds, and facilitated by older students (aged 15-17), trained as walk leaders. The walk leader ensured walking was at a sufficient pace to elicit moderate intensity activity. Physical activity was measured at baseline and 12 weeks using an Actigraph GT3X accelerometer worn for 7 consecutive days.

School-time physical activity (weekday 08:30 - 16:00) was determined for all participants with ≥ 3 school days of valid wear. Results: 121 participants had valid accelerometer data for inclusion in subsequent analysis. Compared to the control group, the intervention group showed a significant increase in total daily physical activity from 124.7 minutes/day to 134.2 minutes/day (P=0.002). Sedentary behaviour decreased significantly (P=0.002) while light intensity physical activity increased significantly (p=0.005) at 12 weeks in the intervention group compared with controls. There were no significant differences for time spent in moderate or vigorous physical activity between groups at 12 weeks.

FINDINGS
The intervention increased total daily physical activity and decreased in sedentary behaviour in adolescent females but did not change moderate-to-vigorous physical activity (MVPA). These findings suggest that whilst a school-based peer-led walking intervention may be feasible and can elicit changes in physical activity and sedentary behaviour, the self-selected walking speeds determined by a peer-leader may not be sufficient to reach MVPA in this age group.
Automatically Detecting Physical Activity on Playgrounds by Intelligent Cameras.

This presentation will report the results of a pilot study to assess the utility of intelligent cameras in detecting and assessing playground physical activity. With this technology, video data do not have to be analysed manually by a person, but are automatically analysed by a computer program. So far, this type of video analytics technologies are mainly developed and applied for security and defence applications.

We recorded children playing in the schoolyard of one primary and one secondary school. The video data was automatically analysed by running existing algorithms used in security and defence applications. This resulted in histograms (Figure 1.) of the distribution of children’s speed and heat maps (Figure 2.) of where children play or move most during a day. Our next step is to validate the technique.

This technique can be valuable for researchers who are interested in changes in physical activity, e.g., after a playground has been redesigned. The benefit of this technique is that in the future, children are no longer required to wear actigraphs to measure physical activity objectively and non-invasively. A problem frequently encountered by researchers is non-compliance with the monitoring protocol to wear actigraphs for a number of consecutive days. Also, it is more objective than time-consuming observations. Although there are obvious discussion points relating to privacy, we believe this technique will improve the field of non-invasive monitoring of physical activity.
**Y-Path (Youth-Physical Activity Towards Health): An Organisational/Policy Approach to Promoting Physical Activity In Youth.**

**NAME OF THE PRESENTER** .......... Sarahjane Belton

**TITLE** ........................................ Faith Member

**ORGANIZATION** .......................... Childhood and Physical Activity Research Cluster, School of Health and Human Performance, Dublin City University, Ireland.

**PAPER THEME** ............................. Physical activity in youth and children

**BACKGROUND**
The Y-PATH (Youth-Physical Activity Towards Health) research programme commenced in 2010, to examine issues relating to physical activity (PA) engagement amongst Irish adolescent youth (12-14 years). Results showed a clear need for targeting low levels of PA in youth through addressing poor HRA knowledge, low self-efficacy and low FMS proficiency, and providing stronger support for PA in the wider school and home environment. The Y-PATH school based multi component intervention, targeting students, teachers and parents, was developed in accordance with these findings.

**METHODS**
The efficacy of the Y-PATH intervention was evaluated in 2013/14 in a cluster RCT (n = 534, 12 – 14 years) across 20 schools. Data on PA level (accelerometry) and fundamental movement skill (FMS) proficiency were collected pre intervention (September 2013) and 4 months post intervention (September 2014).

**RESULTS**
A series of mixed factorial ANOVAs were used to determine change over time. PA results showed a significant interaction between intervention and time (p = 0.025), with children in the intervention school remaining stable in minutes of accelerometer measured moderate-to-vigorous PA over the period of the intervention while children in the control schools recorded a decrease of 6 minutes over the same period. FMS results showed a significant interaction effect between intervention and time (p < 0.000), with a significantly greater increase in score occurring within the intervention condition. Teachers’ adherence to intervention conditions was good with compliance at 100% for delivery of the PE element of the intervention, down to 50% for the hosting of parent and teacher workshops.

**CONCLUSION**
Results support the efficacy of this PA intervention, and provide rationale for national dissemination. Through process evaluation much information has been gathered on strategies for effective intervention implementation. Future research should further evaluate the impact both longitudinally, and in single gender school settings.
Active Travel: The Challenges And How To Overcome Them

NAME OF THE AUTHOR ......................................................... Lucy Saunders
TITLE ................................................................. Consultant
ORGANIZATION ...................................................... Public Health Specialist – Transport & Public Realm, Transport for London / Greater London Authority

RATIONALE
For many years the health sector has been recommending that transport sector policies and investment should prioritise active travel. Yet progress has been slow, lagging behind the population’s need for more activity in their daily routine. The reasons for this are complex and it takes a good understanding of the motivations, practices and processes of the transport sector to make progress.

PURPOSE
This is an opportunity to work through real-world challenges of making the case for policies and investments that boost active travel. Participants will gain new ideas for the levers they can pull to ensure health is considered by transport planners and active travel gets prioritised.
Who Physical Activity Toolkit

Katja Siefken
Senior Researcher
Prevention and Sport MSH, Medical School Hamburg University of Applied Sciences and Medical University

RATIONALE
Physical activity has been highlighted as a feasible and cost effective intervention to reduce the burden of noncommunicable diseases (NCDs) and a global target for countries to reduce insufficient physical activity by a relative 10% by 2025 was agreed at the World Health Assembly in May 2013.
In response, a Global NCD Action Plan 2013-2020 has been developed that outline feasible options for countries to do to promote physical activity. As part of its secretariat role WHO has prepared a Physical Activity Toolkit to support countries to develop, implement and monitor physical activity programs across different sectors. The toolkit serves as a practical tool to promote and facilitate PA action through different sectors of society. It provides guidance on why, what and in particular HOW to implement PA programs and interventions with tools to assist implementers.
The toolkit has the following components:
•Introductory section
•Section 1: Sports and Physical Activity
•Section 2: Primary Health Care and Physical Activity
•Section 3: Workplaces and Physical Activity

PURPOSE
At HEPA 2015, the WHO PA Toolkit will be presented. A workshop will be held, inviting experts of their relevant field to review and provide feedback to the WHO Global PA toolkit. To embrace maximum professional input in the WHO Global PA toolkit, an expert panel will be run post the workshop.
ORAL PRESENTATIONS
Content Comparison of Sedentary Behaviour Questionnaires: A Systematic Review

INTRODUCTION
Health effects of sedentary behaviour (SB) have been increasingly studied over the past decade, along with the development of a large number of self-report measures assessing SB. The aim of this systematic review was to examine and compare the content of self-report SB questionnaires.

METHODS
Four databases were searched for studies reporting the development and/or the psychometric properties of self-reported questionnaires assessing SB. Based on the inclusion criteria, 79 studies (out of 1205) were retrieved for a total of 55 different questionnaires. The content analysis of these questionnaires aimed to identify the SB characteristics measured in each questionnaire, on item level. To allow the comparison and analysis of questionnaires these characteristics were linked to the short-hand form of the taxonomy of SB (Chastin, Schwarz, & Skelton, 2013). Two independent researchers performed the linking process. For each questionnaire the following information were reported and analyzed: (i) number of items and SB characteristics identified; (ii) mean number of SB characteristics per item; (iii) the percentage of taxonomy categories covered by the content of each questionnaire.

RESULTS
Of the 55 questionnaires, 21 were specifically developed to measure SB only while 34 measure both SB and physical activity. All of the questionnaires (except two) assess time spent in SB. In addition, 14 ask for the frequency of some SB and only 4 inquire about breaks in sedentary time. Overall, 514 SB characteristics were identified of which 457 were linked to 53 facets, domains, or categories of the SB taxonomy. The most occurring characteristics were posture (“sitting”), time (“of day”), type of SB (“TV” and “computer”) identified in 89, 82, 62 and 53% of the questionnaires, respectively.

DISCUSSION AND CONCLUSION
The taxonomy-based content analysis highlight important discrepancies between the content of questionnaires. It provides a useful tool to identify and compare the content of each questionnaire and may help researchers to select the most appropriate questionnaire items depending of the information they need to collect. It also reveals that many categories of the taxonomy are never covered, therefore they are never measured through questionnaires. In the opposite some characteristics of SB are measured in many questionnaires but do not appear in the taxonomy. These results could be used to enrich the existing taxonomy.

REFERENCES

KEYWORDS
Sedentary behaviour, questionnaires, content
Multilevel Moving to Business (Mtb) – Intervention in Small and Midsize Workplaces: Implementation Assessment

INTRODUCTION
The results of the 1-year MTB indicate that workplaces can achieve changes in physical activity (PA) and sedentary behavior (SB) if development processes are carried out systematically with external assistance. The implementation of MTB in 12 workplaces is presented here.

METHODS
The intervention consisted of three phases: 1) kick-off seminar and baseline assessment 2) planning and implementation of actions at organizational, work community and individual level, and regional meetings with other organizations for training and sharing experiences 3) follow-up assessment and close-up seminar. In the first phase, the employees completed a questionnaire about their PA and SB and the employers about their PA promotion practices. Each workplace nominated a team to plan and implement actions. In the second phase, the assessment results were summarized at regional meetings. A mentor from the regional sports federation assisted the teams with a planning document for general goalsetting and policies and a multilevel planning sheet for concrete actions, and supported the implementation with visits, an active lifestyle workshop and an internet-based PA campaign. In the third phase, a follow-up assessment similar to baseline was conducted and the results were summarized at a close-up seminar. The implementation was assessed with mentors’ reports and team leaders’ monthly interviews.

RESULTS
All 12 workplaces carried out the intervention. The number and combination of members in the teams varied in the workplaces, as did also the intensity of work and the knowledge of how to run a development project. During the year, the workplaces implemented 2 to 11 actions most targeting at reducing sitting. The most common actions implemented at organizational level were sit-stand workstations (7 workplaces) and exercise equipment (6); at work community level stand-up or walk meetings (8) and instructed activity breaks (3); and at individual level prompts at workstations (3). Some internal problems such as employee cooperation negotiations and lack of development resources hindered the implementation in some workplaces.

DISCUSSION AND CONCLUSION
The assessment shows that the workplaces have different ability to promote PA and reduce SB even when systematic external assistance and development tools are provided for implementation. Thus, even if a common framework is applied by all participating organizations, workplace specific needs should be taken into account when conducting interventions in practical worksite settings.

KEYWORDS
workplace, intervention, sedentary behavior, physical activity
Does A Decrease in Sedentary Behavior Result in Improved Work-Related Outcome Measures?

INTRODUCTION
Systematic reviews have shown that more time spent in sedentary behaviors is adversely associated with risk of chronic diseases and mortality. Literature on the association between time spent sitting and work-related outcome measures is scarce. The aim of this study was to explore the relationship between (changes in) sedentary behavior and work-related outcome measures.

METHODS
A total of 433 employees of a division of a Dutch insurance company (mainly white collar workers) participated in a workplace health promotion program. The 5-month intervention included activities at management, team and individual level targeting self-management to perform healthy behaviors: a kick-off session, vitality training sessions, workshops, individual coaching and intervision. Sedentary behavior was measured with one question asking for the time spend sitting on a regular working day during work, work breaks, travelling to and from work and leisure time. The four primary outcome measures were employees’ vitality, work performance, presenteeism and sickness absence. Outcome measures were collected using questionnaires, health checks and sickness absence data (company records) at baseline, after the intervention and at ten months follow-up.

RESULTS
Results showed that sedentary behavior reduced significantly both at the short-term as well as on the long-term (-32.8 and -34.5 min/working day, respectively). Significant positive outcomes were also observed for vitality, work performance and sickness absence on the long-term, of which the positive effect on work performance was already seen on the short-term, directly after the intervention. No significant changes were observed for presenteeism. The associations between (changes in) sedentary behavior and the work-related outcome measures are now being examined and the results will be presented during the conference.

DISCUSSION AND CONCLUSION
A multilevel workplace health promotion program targeting self-management to perform healthy behaviors seems able to reduce sedentary behavior and sickness absence, and improve vitality and work performance. The lack of effect on presenteeism may partly be explained by the fact that no reliable and valid questionnaire for healthy employees was available at the start of this study. Due to the lack of a control group, results should be interpreted with caution. Possible significant associations between sedentary behavior and work-related outcomes are now being studied.

KEYWORDS
Sedentary behavior, workplace intervention, vitality, work performance, presenteeism, sickness absence
Qualitative Exploration of Patient Barriers and Motivators in Engaging with A Technology-Enabled Behaviour Change Intervention in Long-Term Cardiac Rehabilitation

**INTRODUCTION**
Cardiovascular disease (CVD) is the leading cause of premature death and disability in Europe. While effective cardiac rehabilitation (CR) improves mortality and morbidity rates, uptake of community-based CR is very low. PATHway will provide a technology enabled behaviour change intervention to enable patients to both better understand and deal with their own condition and to lead a healthier lifestyle. The aim of the current study was to determine a) key personal, social and physical factors that inhibit or promote their capacity to self-regulate their exercise, physical activity (PA) and sedentary behaviour (SB), and b) their technology competencies, needs and wants.

**METHODS**
40 individual patient interviews were conducted across two sites (Dublin, Ireland and Leuven, Belgium). The COM-B model of behaviour change (Michie et al. 2011) was used to develop interview scripts and provided a framework to analyse all interviews assessing 1) capability, 2) opportunity and 3) motivation to engage with PATHway. Thematic analysis was also used.

**RESULTS**
In terms of capability, some patients felt unsure of physically capability to engage with PATHway, while psychological capability could be summarized in terms of patients’ psychological readiness but also technological readiness to engage with the intervention. With regards to opportunity, participants felt the main obstacles were around time, space and equipment. Patients suggested a family-wide intervention may facilitate greater opportunity for engagement. Patients identified several factors that influenced motivation including: goal setting, social interaction, perceptions, monitoring, personalization and present/future health and well-being.

**DISCUSSION AND CONCLUSION**
This qualitative development work has outlined key patient concerns regarding engagement with a technology enabled behavior change intervention in CR. Factors which inhibit and promote engagement have been explored using the COM-B framework in order to understand the target behaviours in context and further develop a technology enabled behavior change intervention appropriate for the engagement with long-term CR.

**REFERENCES**

**KEYWORDS**
qualitative, health behavior change, technology use, cardiac rehabilitation
**Trends in Prolonged Sitting Among European Adults: 27 Country Analysis**

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**PAPER THEME**
Sedentary behavior

**INTRODUCTION**
Although it is recognised that adults in Western countries spend large amounts of time engaged in sedentary behaviours (Matthews et al., 2008; The Information Centre for Health and Social Care, 2009), to date there has been limited population surveillance data to determine whether time spent in sedentary behaviours is actually increasing. The aim of this study was to examine trends in sitting time across 27 European countries.

**METHODS**
Data were from the Eurobarometer surveys collected in 2002, 2005, and 2013 (European Commission, 2014). Sitting time data were used to categorise respondents into ‘low’ (0 to 4h30mins), ‘middle’ (4h31 to 7h30mins), and ‘high’ levels of sitting (>7h30mins). We modelled the likelihood of being in the high sitting group within a given country and overall across the three time points, controlling for age, gender, education, employment status, and physical activity.

**RESULTS**
In total 17 countries had sitting data at all three time points; among these countries the prevalence of ‘high sitting’ decreased steadily from 23.1% (95% CI = 22.2 - 24.1) in 2002 to 21.8% (95% CI = 20.8 - 22.8) in 2005, and 17.8% (95% CI = 16.9 - 18.7) in 2013. A further 10 countries had data only over the latter two time points; among these countries the prevalence of high sitting decreased from 27.7% (95% CI = 26.0 - 29.4) in 2005 to 19.0% (95% CI = 17.6 - 20.5) in 2013.

**DISCUSSION AND CONCLUSION**
Time spent in sedentary behaviour may not be increasing in the European region, and prolonged sitting may, in fact, be decreasing. This finding has important implications for the sedentary behaviour debate and the policy response.

**REFERENCES**

**KEYWORDS**
Sedentary behavior, Trends, Europe
Physical Activity for Secondary Prevention in The Grand-Duchy of Luxembourg: The Sport-Santé Project

INTRODUCTION
The regular practice of physical activities (PA) has many health benefits in healthy individuals and in patients with non-communicable diseases (NCD). The Sport-Santé Project aims to perform a stocktaking of PA programs for patients or individuals at risk in Luxembourg and to find solutions to promote PA participation in these groups.

METHODS
The organizations offering therapeutic PA for NCD patients in Luxembourg have been investigated during the period September 2013 to April 2014. Interviews were realized with instructors, participants and potential participants to characterize the groups.

RESULTS
The interviews were realized with 41 professionals (medical doctors, physical therapists, etc.), 192 participants and 34 potential participants. Eleven PA groups were identified and divided into five main categories: cardiology, neurology, obesity, oncology, and orthopedics. More than 40 hours of therapeutic PA are proposed every week in Luxembourg. Between 200 and 400 individuals participate currently in the sessions of therapeutic PA. The average number of participants/hour is 8.9 (± 5.1), which represents only 50 % of the maximal capacity estimated by the instructors (18.0 ± 8.2 participants/hour). The national coverage is poor, with the southern regions of the country being more privileged. The potential participants were mainly not aware of the existence of the groups.

DISCUSSION AND CONCLUSION
The current initiatives of therapeutic PA are in need of active promotion. The current PA groups are frail, because the participation rate is low, due to a lack of information and to organizational constraints. To counteract these limitations, different strategies are implemented. A promotion campaign for therapeutic PA interventions is organized via a website (www.sport-sante.lu) and the advertisement of existing initiatives to different stakeholders in Luxembourg via posters and flyers. Information events and dedicated trainings regarding therapeutic PA will be offered to patients and animators. The impact of these strategies will be monitored throughout the project using several indicators. Huge efforts are still needed to increase the systematic participation in the groups of therapeutic PA.

REFERENCES

KEYWORDS
Secondary prevention, non-communicable diseases, fitness, health.
Implementing of The Efsma Exercise Prescription for Health

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**PAPER THEME**  
Exercise in health and chronic diseases

**INTRODUCTION**

There is a two prong attack that needs to be made in the implementation of an exercise prescription for health (EPH). The first is the established government or top down approach. The role of governments, from WHO to regional authorities is well established through the WHO and HEPA. They have realised that the cost of care of non-communicable diseases in the community is non sustainable at present. The health care dollars must be redirected if lifestyle and health care is sustainable. The second approach is a bottom up patient/doctor approach. This approach needs to ask “what is the rank order of what needs to be done”? There is a very strong argument that says the doctors need to be better educated first, then all the other players in the equation, patients, paramedics, 3rd party payers, medical administrators, general public which includes healthy youth, middle age and elderly must be better informed. The priority group of patients must be the greater than 50% of adults with one or more non-communicable disease. There is a persuasive argument for the prevention of NCD in healthy youth especially, but also in middle and older age groups.

**METHODS**

The concept of EFSMA EPH is presented in detail with lifestyle adherence and training recommendations according to the “FITT” rule (frequency, intensity, time and type of sports). Detailed tables are presented for individual training recommendations for primary and secondary prevention in a new tabular form for physician’s desk.

**DISCUSSION AND CONCLUSION**

Essentials of the EFSMA exercise prescription for health include

- A 5th vital symptom and signs must be a history of exercise in the past week
- A standardized pre-participation examination with an ECG is suggested
- Education of the physicians in counselling the patient with healthy lifestyle and training recommendations.
- Nutrition and Psychological aspects of exercise must be taught
- An end point for 6 weeks of exercise should be designed for each patient
- An enticement system for doctors, administrators and patients is necessary
- Education of doctors, trainers, patients and administrators

**REFERENCES**


**KEYWORDS**

Sedentary lifestyle, exercise deficiency syndrom, motivation for physical activity, exercise prescription for health, training recommendations
Inverse Relationship Between Walking Speed and Its Improvement and Hospitalization: A Prospective Study in 1791 Cardiac Outpatients in The Emilia-Romagna Region of Italy

INTRODUCTION
Emilia-Romagna Region plans to provide public exercise programs for people with chronic diseases, including cardiac outpatients. Universal coverage demands inexpensive tools to assess the efficacy of the interventions. Walking is the most common form of moderate-physical activity among adults, and is widely accessible and appealing to less fit subjects. Walking Speed (WS) has been considered a vital sign, but its prognostic value is largely based on single measures at baseline. Since physical activity habits can change during follow-up, inferences based on a single measure at baseline, could lead to erroneous conclusions. This study aims to examine the impact of WS and its improvement on 6-year all-cause hospitalization in cardiac outpatients.

METHODS
Hospitalization was assessed in 1791 cardiac outpatients 3 years after enrollment, and related to baseline WS during the moderate 1-km treadmill-walking test. Hospitalization was also assessed during the fourth-to-sixth years as function of improvement in WS in 1111 participants re-evaluated 3 years after baseline.

RESULTS
Three-year hospitalization decreased across tertiles of baseline WS, and resulted 50% for the slow walkers (2.7±0.6 km/h), 41% for the intermediate (4.1±0.3 km/h), and 25% for the fast walkers (5.2±0.5 km/h) (P for trend< 0.0001). Adjusted hazard ratios (HR) were 0.97 (P=0.80), and 0.61 (P=0.001) for the intermediate and fast tertiles. Every 1 km/h increase in baseline WS resulted in a 20% reduction in hospitalization (P=0.0002). Hospitalization from the 4th-to-6th years decreased across tertiles of improved WS. Adjusted HR were 0.68 (P=0.002), and 0.58 (P< 0.0001) for the moderate (0.8 km/h) and high (1.6 km/h) improvement tertiles. Every 1 km/h improvement in WS resulted in a 35% reduction in hospitalization (P< 0.0001).

DISCUSSION AND CONCLUSION
WS and its improvement predict a significant dose-dependent reduction in all-cause hospitalization in cardiac outpatients. WS appears to be a simple, trainable, and clinically useful tool for assessing efficacy of interventions in cardiac patients undergoing secondary prevention programs.

REFERENCES
1. Regione Emilia-Romagna, Piano della Prevenzione 2015-2018

KEYWORDS
Walking speed, Improvement, Hospitalization
Effectiveness Evaluation of Hepa Referral System

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PAPER THEME Exercise in health and chronic diseases

INTRODUCTION
Referral system from primary health care (PHC) settings to HEPA programs is a relatively new and for health leaders and administration a bit strange approach. It is the truth that the most of physicians and even the general population are today aware on health benefits of physical activity, but it is not or just superficially imbedded in the health system. The introduction of HEPA referral system in the PHC is certainly a developmental process, which should be carefully prepared, developed and monitored.

Problem There are many public health interventions related to CND prevention that have an element of physical activity. If it is required to monitor the course and efficiency of the intervention to ensure a successful managing, there is a need for appropriate course and outcome indicators that will be used for evaluation.

Rationale It is to be accepted that the health care system varies greatly in different countries, and the HEPA referral system has to be implemented according to the system and resources. The Croatian health care system justifies assessment that the best appropriate institution for planning, leading and implementing the HEPA referral project should be the Institutes for public health, Division for health promotion. These institutions, i.e. their multi profession leading board, coordinate the activities of all included administrative, professional and civil stakeholders.

We are convinced that this is a win-win approach for all institutions involved, especially for citizens and patients to whom the prescribed physical activity is a “medicine”.

METHODS
In evaluation of HEPA referral system intervention, it is from the practical interest to differentiate two target levels, i.e. the basic level indicators and the higher, epidemiological level. The data from the PHC settings, HEPA centres and referred persons serve for an insight into the implementation status and successfulness in the basic operative level giving the information to the local health, sport for all and fitness leaderships. Data obtained from appropriate questionnaires should help them to upgrade their approach and cooperation with local PHC and HEPA settings. The second group collected and derived from basic data, should give the information on the course and successfulness of the strategic approach among the primary health care settings and HEPA centres, enable a comprehensive analysis and continue managing of the project from the higher level coordination boards.

In this sense several questionnaires are proposed, separately for the basic and separately for the epidemiologic levels.

REFERENCES

KEYWORDS
Primary health care system, HEPA programs, referral, effectiveness evaluation
Switch Shows You How to Encourage People to Switch to Walking and Cycling for Short Urban Trips in Europe

INTRODUCTION
SWITCH is a European-funded project involving five cities supported by health and transport experts to develop and implement targeted campaigns promoting travel behaviour change. It encourages healthier travel habits by conveying a positive message at critical life points: changing school/job; moving home; retiring or receiving medical advice. It is intended for a variety of experts to use, including health practitioners who can play a key role encouraging people to switch to walking or cycling for transport.

METHODS
Switch combines practical expertise; a clear and transferable methodology; and tried and tested examples of locally effective campaigns. By embracing active travel Switch demonstrates it is possible to encourage people to Switch from cars to walking and cycling for short urban trips. Switch campaigns target willing people and provide personalised travel plans to support an interest in walking and cycling more.

SWITCH uses information and communication technologies (ICT), and personalised travel planning advice supported by strong health arguments to encourage people in a period of life change to switch from short car journeys to more walking and cycling. Cities are supported by SWITCH in developing and implementing local campaigns to reduce motorised traffic and CO2 levels.

RESULTS
Five cities, Antwerp, Gdansk, Vienna, Donostia/San Sebastián, & London/Hounslow, have recruited 2000 individuals who have committed to making the switch. These 5 cities are serving as models for 26 follower cities. All five have invested in both active travel infrastructure and the promotion of walking and cycling. The project has produced a large amount of materials to support a wide range of target groups, including Five local Campaigns using the different Switch elements (process, PTP, Health, ICT). Many different materials are provided under each of the following: Personalised Travel Planning Resources, Evaluation Resources, Health Resources, Walking and Cycling Resources, Campaign Resources Lessons Learnt include:
- Co-operation with strategic partners from public health and transport
- Availability of a sufficient number and quality of incentives,
- Arguments that prove the individual benefit
- Motivating Elements to test new behaviour
- Participants want to receive & not to ask
- Well trained staff for PTP talks and interviews & personal contact.

DISCUSSION AND CONCLUSION
SWITCH can improve the air quality, health, economic vitality and quality of life in urban areas by reducing greenhouse gas emissions. Switch can also help transport policies across Europe to deliver an increase in walking and cycling for short journeys in urban areas.

KEYWORDS
Active Travel, walking & cycling, behavior change

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PAPER THEME ............... Policies and interventions and promotion of physical activity
Preferences for Financial Incentives in A Lifestyle Intervention: Results of A Discrete Choice Experiment Among Chronically Ill Patients

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PAPER THEME ............... Policies and interventions and promotion of physical activity

INTRODUCTION
This project evaluates the effectiveness and feasibility of implementing a financial incentive as addition to a combined lifestyle intervention. In the intervention, the incentive will be used to motivate participants to adhere to group visits with physiotherapists and dieticians. To define a financial incentive that corresponds to preferences of the target population (patients with diabetes type 2 and/or cardiovascular disease) a discrete choice experiment (DCE) was performed.

METHODS
The DCE questionnaire was pilot tested and consisted first of two versions with both seven choice tasks and was send to 100 patients with diabetes type 2 or cardiovascular disease. Finally, two versions of a DCE questionnaire with each nine choice tasks was send to 871 patients with diabetes type 2 or cardiovascular disease. Every choice task consisted of two financial incentives, which differed in characteristics (attributes). The incentives varied in the attributes value, form of the incentive, moment the incentive is handed out, and requirements to receive the incentive. The patient had to choose in every choice task the financial incentive that he/she preferred the most.

RESULTS
The most important attribute was the requirements for receiving the incentive. The value was half as important compared to the requirements and the form of the incentive and moment of receiving the incentive were even less important (relative importance scores of 0.38 and 0.09) The expected uptake is the highest if the financial incentive is a diner voucher of €100 that is handed out afterwards if the patient has attended at least 75% of the consults of the combined lifestyle intervention.

DISCUSSION AND CONCLUSION
When deciding about adding a financial incentive to a combined lifestyle intervention, the requirements that patients have to meet to receive the incentive, is the most important attribute for the preference of the patient. The highest uptake of the incentive for our study population is expected if the incentive is a diner voucher of €100 that is handed out afterwards if the patient has attended at least 75% of the consults of the combined lifestyle intervention.

KEYWORDS
Discrete choice experiment, financial incentive, chronic disease, lifestyle intervention
**Participants’ Views And Experiences on Facilitators in Programs to Enhance and Maintain Physical Activity.**

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**PAPER THEME**  
Policies and interventions and promotion of physical activity

**INTRODUCTION**
The benefits of regular physical activity (PA) among individuals with or at risk for chronic disease are well established. Little qualitative research has been conducted to understand factors that facilitate or hinder participants to adhere and maintain PA. Therefore the aim of this study was to explore participants' views and experiences on facilitators and barriers used to enhance PA adherence during a program and to maintain PA participation after a program.

**METHODS**
Web of Science, PubMed, SPORTDiscus, PsychINFO and Science Direct were systematically searched for publications published between 2000 and November 2014. Publications with qualitative data about participants’ views on PA adherence and maintenance were included. Studies on trained athletes, rehabilitation patients and interventions in clinical or hospital settings were excluded. The behaviour change taxonomy(1) was used as the initial coding framework to identify and extract program components. Emergent themes were added and themes were mapped into the five levels (intrapersonal, interpersonal, institutional, community and public policy) of the social ecological model(2).

**RESULTS**
The search resulted in 40 articles that met the inclusion criteria. Social support (interpersonal level) was the most salient finding for both adherence to a program and PA maintenance and connected to enjoyment. Other program components identified included: general enjoyment, the central role of the instructor as both a credible source and a source of support, the use of monitoring, self-monitoring, goal setting, prompts, action planning, self-talk and social comparison. For maintenance of PA, participants struggle to continue PA due to the sudden loss of support (from the program ending).

**DISCUSSION AND CONCLUSION**
This review identified program components that facilitated or hindered participants’ adherence and maintenance of PA. Social support is a crucial component as it has a role in both PA adherence and maintenance and was strongly connected to another significant finding being the general overall experience of the program enjoyment. Experiences during the program provide skills and tools for the participant to use. Future programs should aim to foster social connections between program participants. These social connections might also be a method to decrease dependency on the program/instructor.

**REFERENCES**

**KEYWORDS**
PA enhancement, PA maintenance, facilitators
Adherence to Increased Walking for Transportation in Postmenopausal Women

INTRODUCTION
Regular moderate intensity walking has favorable effect on body composition characteristics, postural stability and knee joint extensor strength (Cuberek et al, 2014), and seems to be the first step to decrease the risk of falls and loss of independence in elderly. Identifying effective intervention that would help to adopt and maintain long-term walking should be the public health priority. The main objective of the study was to examine adherence to increased walking for transportation to/from work at 12 month follow-up after randomized control trial (RCT; German Clinical Trials Register: DRKS00007638) in postmenopausal women with sedentary occupation.

METHODS
Weekly pedometer-determined (Yamax Digi-Walker SW700 (YAMA MASA TOKEI KEIKI CO.) physical activity (PA) was used to estimate PA one week prior RCT and 12 month after RCT in control (N=50) and intervention (N=69) group of women. During RCT women in intervention group were asked to increase their habitual PA by brisk walking to or from work of 30 to 35 minutes during 12 weeks. After RCT, the women from control group were offered to complete walking intervention as well. Twelve months after RCT all participants also provided information regarding current active transportation to/from work. Pair t-test was used to examine the differences between pre-intervention and 12 month follow-up PA.

RESULTS
Out of 140 participants involving in RCT, 85% were willing to provide 12 month follow-up data. At the 12 month follow-up, proportion of women walking to/from work was 59.4% (out of which 36.2% walk regularly) and 46% (out of which 22% walk regularly) in intervention and control group, respectively. Significant increase (p<0.004) in steps/day between pre-intervention PA and 12 month after-intervention PA was found in intervention (2 719 steps/day) and control group (1 999 steps/day).

Discussion and Conclusion
Using Tudor-Locke and Basset (2004) classification, participating women moved from somewhat active category prior intervention to active category 12 months post intervention. Interventions that employ walking for transportation to/from work have potential to have long-term impact on PA behavior, although further research is needed to examine possible environmental and psychosocial predictors in postmenopausal women with sedentary occupation.

REFERENCES

KEYWORDS
Randomized control trial, walking to/from work, sedentary occupation, pedometer, injury prevention.
Mainstreaming Physical Activity Through Health and Social Care in Scotland

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PAPER THEME.......................... Policies and interventions and promotion of physical activity

INTRODUCTION
Mainstreaming physical activity (PA) through Health and Social Care systems is internationally and nationally recognised by the World Health Organisation1 and Scottish Government respectively, as a fundamental means of addressing physical inactivity and in turn, improving the health of the nation, reducing all-cause mortality, improving life expectancy and significantly easing the burden of non-communicable disease on Health and Social Care services.

The National Physical Activity Implementation Plan for Scotland (PAIP)2 identifies Health and Social Care as one of five key delivery themes. Building on the Toronto Charter4, PAIP seeks to enhance the co-ordinated delivery of multiple co-dependent actions across a number of policy areas. The Health and Social Care section of the PAIP builds on NICE Guidance5 and Chief Executive Letter6 instructing NHS Chief Executives, Directors of Public Health and Medical Directors to increase opportunities for staff, visitors, patients and the wider community to be physically active.

METHODS
In order to ensure effective leadership, coordination and delivery of PA within Health and Social Care in Scotland, the national Health and Social Care Physical Activity Delivery Group has been established to oversee the development and delivery of a 3 year action plan, devised to enable people in contact with Health and Social Care services in Scotland to experience the benefits of a more active life.

RESULTS
This is achieved through the co-ordinated delivery of five work streams identified to mainstream the national Physical Activity Pathway2 within Health and Social Care services:
1. Physical Activity Pathway & Evidence Based Interventions
2. Leadership
3. Education & Workforce Development
4. Activating the Outdoor Estate
5. Creating an Active Workplace.

DISCUSSION AND CONCLUSION
While this approach will enhance the prevalence of PA within Health and Social Care, the extent at which change is achieved will be dependent on the scale resources available.

REFERENCES

KEYWORDS
Health Social Care
INTRODUCTION
Self-determination theory states that satisfaction of the needs for autonomy, competence, relatedness and self-determined motivation promotes psychological well-being and exercise persistence. The purpose of this study was to examine motivational orientation, basic needs satisfaction and psychological well-being of young exercisers in terms of gender and stage of change.

METHOds
387 participants who exercise regularly (n_male=206; mean_age=25.01±5.82 and n_female=181; mean_age=28.38±7.48) voluntarily participated to this study. Behavioral Regulations in Exercise Questionnaire-2 (BREQ-2), Psychological Need Satisfaction in Exercise Questionnaire (PNSE), Psychological Well-Being Scale (PWBS) and Physical Activity Stages of Change Questionnaire (PASCQ) were administered to participants. To be eligible for the study, respondents had to be categorized in the preparation, action or maintenance stages of exercise involvement.

RESULTS
The independent samples t-test showed significant difference in motivational orientations and basic needs satisfaction for gender. MANOVA results indicated significant differences in the motivational orientation and basic needs satisfaction in exercise and ANOVA results indicated significant differences in psychological well-being with regard to stage of change in exercise. Pearson correlations were computed between each of the BREQ-2 and PNSE subscales and psychological well-being. The significant positive correlations were observed between all subscales of BREQ-2 and PNSE and psychological well-being, while negative correlations have observed between amotivation and psychological well-being.

DISCUSSION AND CONCLUSION
In a summary the findings demonstrated that males were motivated to exercise with introjected and extrinsic reasons and they report higher competence compared with females. In addition exercise participants in the latter stage reported higher intrinsic and introjected regulation and lower external regulation scores than participants in the early stage. And participants in the maintenance stage reported higher competence, autonomy, relatedness and psychological well-being scores than those in the early stages of change. The results illustrate the importance of promoting self-determined motivation and basic needs satisfaction in exercisers to foster their exercise behavior. Satisfaction of all three needs and motivational orientations is positive associated with psychological well-being.

REFERENCES

KEYWORDS
Exercise motivation, psychological well-being, basic need satisfactions
Does Referring to Age Norms Affect Older Adults’ Motivation to Exercise? An Experimental Study on “Pattern Stepping”

**INTRODUCTION**

When older adults become aware of their age, their perception of the age norms associated with a specific type of physical exercise can affect their motivation to perform this exercise. Based on an integration of the Social Identity Approach and Self-Determination Theory, the aim of the present study was to investigate the effects of the salience of their older age and of age norms on their (autonomous) motivation to exercise.

**METHODS**

One hundred and twenty older adults between 65-70 years were invited to evaluate a (fictitious) new exercise activity, labeled ‘Pattern Stepping’. They were randomly assigned to one of four experimental conditions in which the salience of their age was manipulated (salient versus non-salient) together with the age norms for pattern stepping (matching versus not matching older age). Participants completed measures of different forms of motivation before and after performing pattern stepping.

**RESULTS**

Repeated Measures ANOVAs revealed that, contrary to the expectations, autonomous motivation decreased when older age was salient and pattern stepping was presented to be age normative for older adults (i.e., matching). Moreover, autonomous motivation increased when pattern stepping was presented as age normative for younger adults (i.e., non-matching).

**DISCUSSION AND CONCLUSION**

Considering that most participants did not identify themselves as an older adult (72.5%), the findings suggest that age norms for exercise should match the subjective (and not the objective) age of an older adult to enhance autonomous motivation. Identification potentially determines whether norms elicit autonomous or controlled motivation.

**KEYWORDS**

Older adults; social norms; autonomous motivation
Preconditions for Implementing Inclusive Physical Activity Programs for People With Psychiatric Disorders in Austria

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PAPER THEME ..................... Psycho-social aspects of physical activity

INTRODUCTION
Although people with psychiatric disorders are at high risk for sedentary behaviour (e.g. Brown, Wang, & Safran, 2005), in Austria no appropriate measures for this vulnerable group are available. An Austrian pilot study indicated that 84% of 149 people with psychiatric disorders are less physically active than they would like to be. One assumption is that individuals with psychiatric disorders would change their physical activity behaviour if sport clubs were to offer participative and inclusive physical activity programmes. The aim of this study is to describe what preconditions the individuals would need in order to participate in a regular sport club and to analyze the knowledge and believes of responsible authorities of Austrian sport clubs and health and social care workers.

METHODS
For this study, individuals were only eligible if they suffer from psychiatric disorders and have attended the “Pro Move” physical activity programme run by a mental health NGO at least once since 2013. Interviews were undertaken with 15 people (13% women) with a mean age of 36.7 (SD=11.8) and a mean body mass index of 27.6 (SD=5.6). In addition, two health and social care workers and two responsible authorities of Austrian sport clubs were interviewed. The data from the semi-structured interviews were recorded and transcribed. Relevant paragraphs were coded and assigned to categories with the “MAXQDA” text analysis software.

RESULTS
All the interviewed persons described the participation in the “Pro Move” programme as crucial for their mental health and social identity. However, apart from this setting, most of the participants had never been active in a regular sport club. Reasons given for this included the fear of stigma, as well as entry barriers such as high costs. It seems that factors like sense of belonging, a mastery orientated climate and the level of mental health literacy among coaches play an important role to enhance the physical activity behaviour among people with psychiatric disorders.

DISCUSSION AND CONCLUSION
In order to make sport clubs activities attractive for this particular target group, mental health NGOs, sport clubs and the concerned individuals will have to work together to develop inclusive physical activity programmes within sport clubs. Measures such as specially qualified coaches might help to decrease the fear of stigma and to increase self-esteem among people with psychiatric disorders.

REFERENCES

KEYWORDS
Psychiatric disorders, inclusion, physical activity behaviour
Health-Related Quality of Life, Self-Efficacy and Enjoyment Keep the Socially Vulnerable Physically Active

INTRODUCTION
Physical inactivity is in the Netherlands most common in socially vulnerable groups. Dutch policy targets these high risk groups through community-based health enhancing physical activity (CB-HEPA) programs. In an evaluation study we addressed the question: does participation in CBHEPA programs result in increased physical activity levels of its participants over time?

METHODS
A longitudinal cohort design was used. In four successive cohorts, starting at a six month interval, 268 participants from 19 groups of CBHEPA programs in seven Dutch municipalities were monitored for twelve months. Socioeconomic indicators, program participation and sense of coherence to assess coping ability were measured at baseline. Physical activity levels, healthrelated quality of life and on-going program participation were measured three times. Self-efficacy and enjoyment were measured at baseline and at the last measurement. Statistical analyses were based on a quasi RCT design using group means t-tests, and multilevel modelling to assess change in physical activity, taking into account intra-, interpersonal and group-related characteristics.

RESULTS
Baseline data showed that participants in CBHEPA programs were relatively socially vulnerable in terms of low education (48.6%), low income (52.4%), non-Dutch origin (64.6%), and health-related quality of life outcomes. The growth models showed no increase in physical activity at individual level over time. However, higher education, being female, higher scores on healthrelated quality of life, self-efficacy, and enjoyment, were intra- and interpersonal characteristics significantly associated with physical activity maintenance. Physical activity levels of dropouts were significantly lower (45-50 minutes/week) than those of continuing participants after one year. Short CBHEPA programs (10-13 weeks) with multiple trainers and gender homogeneous groups were also associated with lower physical activity levels.

DISCUSSION AND CONCLUSION
Dutch CBHEPA programs reach relatively socially vulnerable, but not necessarily inactive groups. Although no increase in leisure time physical activity behaviour was found in participants after one year, a decrease became manifest among dropouts. Our findings suggest that CBHEPA programs which succeed in reaching out to people to prevent dropout, contribute to physical activity maintenance rather than to an increase of physical activity levels.

KEYWORDS
Socially vulnerable groups; physical activity; health-related quality of life; multilevel analysis; growth model; drop outs
Physical Activity, Sports, Sensation Seeking And Injuries In Male Emerging Adults In Switzerland

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INTRODUCTION
Physical activity is important for population health. However, injuries are a concern, particularly in males and young adults. It is estimated that up to 50% of all injuries in this age group are sports-related. It is not clear how levels of physical activity or sports affect total injury risk, it has been suggested that physical activity and sports could protect from injuries in other contexts. Sensation seeking has been shown to be associated with traffic-related injuries. Little is known about associations between sensation seeking and injuries in other contexts. We hypothesised that higher numbers of sports episodes and higher levels of sensation seeking are both prospectively associated with increased total injury risk and that sensation seeking modifies the association between sports behaviour and injury risk.

METHODS
Baseline and 15-month follow-up data was used from the Cohort Study on Substance Use Risk Factors (C-SURF), a large cohort study surveying young Swiss men. Risk factors assessed at baseline were level of physical activity (low, moderate, high) using the International Physical Activity Questionnaire (IPAQ short), frequency of sport activity (rare/never, occasional, weekly), and level of sensation seeking using the Brief Sensation Seeking Scale (low, middle, high). The outcome of interest was having had any accident or injury during the past 12 months at follow-up (yes/no). Data was available for 4695 men with a mean age of 21.3 years (SD: 1.23) at follow-up. Logistic regression was used to assess prospective associations between sensation seeking, level of physical activity, frequency of sport activity, and injuries and accidents.

RESULTS
48.6% of the participants reported at least one accident or injury for the previous 12 months. In the logistic regression model controlling for sociodemographic factors, previous injuries, alcohol consumption and BMI, injury risk was associated with high levels of sensation seeking (OR=1.24 [95% CI: 1.06-1.45]), high levels of physical activity (OR=1.29 [1.04-1.60]), occasional episodes of sports or exercise (OR=1.27 [1.01-1.60]) but not with regular episodes of sports or exercise. There was no interaction between sensation seeking and the frequency of sports with respect to injury risk.

DISCUSSION AND CONCLUSION
In emerging male adults injury risk was high. Individuals that are only occasionally active in sports should get specific attention in injury prevention.

KEYWORDS
exercise, behavioural symptoms, wounds and injuries, epidemiology
INTRODUCTION
The White Paper on Sport (2007) pointed out to move towards evidence-based sport policies and to put public support on a more secure footing in the EU. The German Sport Satellite Account (SSA) can provide comparable data of economic inputs and outputs of sport.

METHODS
To measure the economic impact of sport for the SSA research projects were conducted on the behalf of the BMWi and BISp between 2009 and 2013. Primary Research on consumption (private households CATI n=7,031, CAWI n=10,424, Preuss et al. 2012) and on facilities (local sports administrations CATI n=520; sport facility experts IDI n=160, an der Heiden et al. 2012) were conducted on the same definition by 71 sport disciplines and designed in regard to national accounts corresponding Input-Output-Tables. The comparative analysis observes the relationship of sport related consumption and costs of sport facilities for all kinds of sport including grass-roots level. Combining these data with the public statistics of demographic development, requirements up to 2030 are projected.

RESULTS
93.3 bill. € of sport related consumption of private households p.a. compares with 22.6 bill. € of annual costs for sport facilities. This leads to the results that facilities are economically cost-effective, and facilities are the precondition of a major economic factor of sport related consumption.

On the level of sport disciplines the comparison shows popular individual sport types and non-organized mass sport using mainly public places for sport activities. These kinds of sport are characterized by their very low facility costs and high sport-related consumption. Facilities for swimming are cost-intense sport facilities in Germany (4.4 bill. €) but at the same time appear relatively stable in demographic change and with high economic impact on water sports in general.

DISCUSSION AND CONCLUSION
Sport cannot be valued solely by economic criteria. However, the results indicate that public sport-related structures may, despite and because of financial bottlenecks, increase to support economically highly important “Sport for All” disciplines and include the profiteers of sports consumption in corresponding sustainable financing models for sport-related facilities.

REFERENCES

KEYWORDS
Sport Satellite Account, Sport facilities, Sport related consumption
**Valuing Cycling: Save €100 Billion & Create 100,000 Jobs With the Cycling Economy**

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**PAPER THEME**
Economic dimensions of physical activity

**INTRODUCTION**
The economic costs of physical inactivity are staggering, to health systems, to societies and to private individuals. Evaluations of pedestrian and cycling infrastructure have quantified the benefits as far outweighing the costs, showing them to be excellent value for personal and public health, as well as the transport sector.

A series of studies have been conducted by the European Cyclists’ Federation (ECF) to clarify and quantify the degree which cycling for transport and leisure plays in providing solutions.

**METHODS**
Using the Health Economic Assessment Tool (HEAT) for Cycling, developed by the World Health Organisation (WHO), ECF calculated the health benefits based on reduced mortality. ECF then added all the internal and external benefits of cycling together, including benefits of reduced morbidity due to air & noise pollution, reductions in congestion, and add the turnover of related industries.

**RESULTS**
ECF produced a figure we call the “Cycling Economy”, estimating the number to be well above €200 billion annually, or more than €400 for every person that lives in the EU. Increasing cycle mode share to the EU target of 15% would double those benefits. The health benefits based on reduced mortality were €114 – 121 billion. The benefits of reduced morbidity are not included.

**DISCUSSION AND CONCLUSION**
The EU needs to invest in cycling, which will create jobs. ECF’s analysis (2014) of the potential for cycling to contribute to rebuilding the European economy shows cycling can create 100,000 new jobs. These would result from investing €6 billion in 4 work packages including completion of the EuroVelo network, investment in the manufacturing sector, cycling technologies such as e-bike sharing and a roll out of cycling highway networks across Europe.

All of this will help the EU achieve its plans on reducing its greenhouse gas emissions (GHGs) by 80 to 95% by 2050, compared to 1990 levels. Consequently, the transport sector will have to reduce its emissions by an estimated 60%. ECF’s CO2 study (2011) shows that if levels of cycling in the EU-27 were equivalent to those found in Denmark, bicycle use would help achieve 12 to 26% of the 2050 target reduction set for the transport sector, depending on which transport mode the bicycle replaces.

**REFERENCES**


**KEYWORDS**
Active Transport / Active travel, cycling, health, reduced health costs, more jobs, less congestion, less CO2, air and noise pollution, higher quality of life in urban areas
C=Em2: Yes, Physical Activity Promotion Really Is Rocket Science

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INTRODUCTION
On the face of it there are a plethora of examples of interventions that are effective in increasing physical activity amongst a range of different populations in a variety of settings. And yet despite this there is little or no evidence of meaningful increases in physical activity prevalence at a population level with most countries remaining either static or continuing to see declining levels of activity. The author argues that this is the result of a continuing disconnection across settings and sectors with resultant impacts limited by silo mentalities and limited collaboration. By using (and manipulating) the analogy of Einstein’s Theory of Relativity he describes the problem and offers a potential solution.

METHODS
Descriptive analysis.

RESULTS
Evidence of increasing physical activity within particular settings is rarely translated into meaningful increases in physical activity prevalence at a population level. There is little evidence of cohesive collaboration across sectors and disciplines despite the recognition of the multi-factorial influences on physical activity behavior.

DISCUSSION AND CONCLUSION
Adapting ‘Einstein’s theory of relativity’ to C=EM2 where E is Energy, M is Mass and C is Collaboration the author proposes that ‘Synergy’ is the missing component in most national approaches to physical activity promotion. Whilst there is often evidence of a lot of energy (E) being expended by and with many people (M), there is a lack of synergy from Squaring the circle (2) that would enhance effectiveness and result in meaningful Collaboration (C). The problem lies in translating what we know into cohesive action. There are good examples of national policies that acknowledge the cross-cutting nature of physical activity promotion often identifying roles for transport, sport, green environment, health, recreation, urban planning, education and community development; there is little evidence of all these sectors working collaboratively across all disciplines. The problem is magnified when the respective sectors also demonstrate poor collaboration and sharing across policy, research and practice.

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**Beat the Street in Reading: A City-Wide Physical Activity Intervention to Get A Whole Population Active**

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**PAPER THEME**.......................... Technological innovations, monitoring and surveillance of physical activity

**INTRODUCTION**
In Summer 2014 Intelligent Health delivered ‘Beat the Street’ in Reading with the aim to get a whole community more physically active. Beat the Street turns the town into a real life game where players register their walking and cycling journeys by tapping a smartcard on 220 RFID units called ‘Beat Boxes’ placed on lampposts around the town. Players monitor their progress via a website where they can see their own and their team’s progress, and the overall target. The project was re-commissioned in June 2015.

**METHODS**
Participants were recruited through and via schools, receiving a smartcard for themselves and family members from their teacher and a map of Beat Box locations. Recruitment also took place from community groups, workplaces and GP surgeries. Participants who were not pre-registered through their school registered online. During the registration process they were able to pick a team for their points to be awarded to. 10 points were awarded for every valid journey between two Beat Boxes which were placed at key destinations across the town, approximately 0.5 miles apart. Points contributed to individual and team scores. During registration, participants completed a questionnaire which included a single item physical activity question. (i) Follow up surveys took place at the end of the game and 3 months later. Registration from the 2015 game were used to compare results between participants who took part in both years. The results were analysed by an independent team at The Evidence Centre.

**RESULTS**
In 2014, 15,000 people in 50 teams walked and cycled 244,537 miles in 8 weeks. There were 8000 children and 7000 adults. 12% of adults had a long-term condition such as COPD, arthritis or diabetes. In 2015, the number of participants increased by 63% to 24,074. In 2015 they walked 303,000 miles. In 2014, 1051 participants completed the single item p.a. question both before and after the competition. There was a 10% increase (<0.05) in the number of people who reached the Government target of 150 mins/week and 14% reduction in those who did zero minutes of activity/week. 35% of people reported meeting the guidelines for levels of activity at the beginning compared with 45% at the end. 3 months later this was maintained at 53%. (<0.05). The changes remained when data from individuals was matched. 78% of people said Beat the Street helped them to walk more than usual and 70% said they continued to walk more after Beat the Street ended. 76% of people said they would try to continue the changes after the competition ended and 3 months later 75% said they continued to be more active. The main reason given for taking part was ‘having fun’ or ‘keeping fit’. At the beginning of the game in 2015, 46% of those who had taken part before reported meeting 150 mins/week compared to 40% of people who had not taken part before. (>0.05) At the end of Beat the Street in 2015, the trends were even more positive. Both people participating for the first-time and those who had taken part before were more likely to be meeting the p.a. target at the end – but past participants had even greater gains than first-timers.

**DISCUSSION AND CONCLUSION**
Beat the Street may help people make some immediate changes to their p.a. levels. These changes may be sustained one year later. With repeated participation in Beat the Street, activity levels may increase even further. Further analysis is currently underway to explore walking speed, as an objective measure of fitness, in the 2015 cohort and sub-groups thereof, in particular the least active and those with a long term condition or in the older age categories.

Since 2014, 107,000 people have played Beat the Street across 11 projects. It is one of the initiatives being tested as part of the EU-funded SWTICH campaign to enhance active travel through technology and health messages.

The cost per participant of Beat the Street in Reading was €8 and this means that for every €1 spent over two years there was a return of €21.48 for health, €5.21 for transport and €24.15 for economic productivity. This gives a total of €48 return for every €1 spent. (ii)

**REFERENCES**

**KEYWORDS**
Physical Activity, Walking, Technology
INTRODUCTION
Ecological models of health behavior have potential as theoretical framework to comprehend the multiple levels of factors influencing physical activity (PA). The potential is shown by the fact that there has been a dramatic increase in application of ecological models in research and practice. One proposed core principle is that an ecological model is most powerful if the model is behaviorspecific. However, based on multi-level interventions in a Danish context, it must be considered that ecological models also should be site-specific to capture local and cultural aspects related to PA.

METHODS
Three major multi-level intervention studies are carried out in Denmark with the objective to promote PA in 17 local communities. 1) The SPACE-study is a comprehensive intervention in 7 local school districts (N=1,348). 2) The When Cities Move Children-study is investigating the effects of urban refurbishment on adolescents’ movement patterns (N=653) and 3) The Valuable Detours for PA-project is an intervention study in 9 municipalities measuring the effect of new established outdoor facilities for PA among 12 – 85 years old citizens (N=10,434). The SPACE and the WCMC study used objective measurements of PA combined with e-surveys, the VDPA study is based on self-reported e-survey data.

RESULTS
Merging the data from the three intervention studies clarifies different local and cultural aspects with specific effect on PA behavior. This finding is closely related to the fact that the new outdoor PA facilities in the 17 local communities have different size, composition and are targeted to different subgroups with different organizational setup to support the use of the facilities. Despite the conceptual and contextual differences PA behavior is also affected by cultural and social values related to the specific site which not alone can be explained by intrapersonal, interpersonal or organizational factors.

DISCUSSION AND CONCLUSION
The Ecological Model of Four Domains of Active Living specifies that factors at multiple levels can influence PA behavior, and emphasizes the importance of behavior-specific models. On this theoretical basis the three mentioned multi-level interventions were planned and implemented. Based on the empirical studies we argue that site-specific factors have to be taken into consid-
Physical Activity of Czech Adults in Various Perceived Neighborhood Environments

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PAPER THEME ..................... Environmental approaches to active living, active design, urban planning

INTRODUCTION
Subjective measures of built environment and physical activity have been recognized as relevant approach in assessing lifestyle in various neighborhoods. The national representative studies using common methods are needed to get evidence in lifestyle behavior. This study help to recognize whether perceived neighborhood walkability influence objectively measured physical activity in Czech adult population. Furthermore we wanted to find out associations of selected socio-demographic characteristics and meeting the recommended level of physical activity.

METHODS
The Czech versions of standardized questionnaire NEWS-A (Neighborhood Environment Walkability Scale – abbreviated) was used to collect selfreported data on neighborhood walkability; and pedometers YAMAX SW700 were used to collect objective data on physical activity. The total of 1231 records (700 females and 531 males) was included into analysis. Comparisons between level of walkability derived from NEWS and physical activity level observed from pedometer were calculated using descriptive statistics and Kruskal-Wallis ANOVA test.

RESULTS
Females living in high walkable areas were significantly more likely to meet the recommended level of 10,000 steps/day [O2 =13.60; p< .004; w=.105], no difference was found in males. However both males and females living in more walkable environments indicated significantly more steps than those living in less walkable neighborhoods [H(3, 1231)=21.42; p< .001; O2 =.017]. Participants living in walkable areas were meeting the recommended level of 10,000 steps/day in all age groups (53 % of adults aged 25-35, 38 % of adults aged 36-45 and 42 % of those aged 46-57) more often than those living in less walkable locations [O2 =21.92; p< .001; w=.132]. The partial walkability scores indicated that the least important factor influencing the level of PA in Czech adults was the type of residences within the neighborhood and the most important factor was the attractiveness of the neighborhood.

DISCUSSION AND CONCLUSION
Higher walkability in Czech Republic seems to indicate similar results to other developed countries. However increasing prevalence of overweight and obesity within the population (more than 50% of adults) and no clear national strategy in planning healthy neighborhoods are the key challenges for future policy development in the Czech Republic.

KEYWORDS
NEWS-A, lifestyle, pedometer, environment walkability, 10,000 steps
Supported by the research project “Physical Activity and Inactivity of the Inhabitants of the Czech Republic in the context of behavioral changes” (No. MSM 6198959221)
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INTRODUCTION
Inactivity is a growing problem all over Europe and even in a very active country, Denmark, there is a need for unusual approach to create awareness of more physical activity for the population. After years of more traditional implementation programs in the Danish cities the Gerlev P.E & Sports Academy and Lauritzen Foundation launched in May 2015 the Gerlev Playship, which will be sailing for the next four years visiting 20-25 harbors every year introducing physical activities and games in the harbor environment. This project is the first of its kind.

METHODS
The Gerlev Playship implementation project is based on a special 2 masted schooner which in the 1950es and 1960es was used as Schoolship. The Gerlev Playship is the “Messenger for enjoyable Physical Activity” which create high awareness when the sailship arrive the harbors in Denmark. The crew is educated instructors in PA and after arriving the harbor the crew will organize a play area surrounding two big ship containers, which have been transported by land to the harbor. The ship containers are furnished with different activity possibilities.

During the 6-10 days stay in the harbor the project will be focusing on:
1. Activity programs for invited kindergartens, school classes and local residents
2. Policy discussions with local politicians and key-persons related to development of the harbor area during Team-building sailing trips

The summer program will be followed up by 1 or 2 visits in the wintertime with workshops about harbor development including activity spots.

RESULTS
The Gerlev Playship has been sailing more than 4 month. The promotion and awareness about PA has been tremendous. The schools and kindergartens have been booking all the lessons during the stay in the harbors. The local residents have been interested but more wait and see attitude. All local governments/poleiticians in the different harbors have taken this possibility to create a new approach to discuss harbor and activity development however the next level will be depending on our winter workshops.

DISCUSSION AND CONCLUSION
The different ways of collecting documentation will be discussed as well as the cooperation between the Gerlev P.E & Sports Academy and the Lauritzen Foundation. Further more will the project progression be discussed

REFERENCES
Project Gerlev Playship website: www.legeskibet.dk

KEYWORDS
Physical activity implementation, Harbor activities, Ship containers and games.
Physical Activity Levels, BMI and Healthy Life Style Behaviours In Adolescents

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PAPER THEME .............................................................. Physical activity in youth and children

INTRODUCTION
Physical activity (PA) is related to numerous health benefits, reduces the risk of chronic disease, contributes to obesity prevention and is an important component of healthy lifestyle (Biddle, Gorely & Stensel, 2004). Good lifestyle habits at younger ages are important both for current health and from a preventive perspective. Thus, the aim of this study was to explore the relationship among physical activity levels, BMI and healthy life style behaviours in adolescents.

METHODS
Data were collected from high school students in one of the rural districts of Yozgat city of Turkey. A total of 749 high school students (age 14-18 years; Mage=16.26±1.06 years; Mheight=165.34±7.96 cm; Mweight=60.47±10.23 kg) participated in this study. Participants were weighed with body composition analyzer (Tanita, TBF300 Germany) and heighted with stadiometer (Seca 770, Germany). Participants also completed the Physical Activity Assessment Questionnaire (PAAQ) (Karaca, Ergen & Koruış, 2000) and the Adolescent Lifestyle Profile Scale (ALPS) (Ardić & Esin, 2015).

RESULTS
Results revealed that there was no significant correlation among BMI, physical activity level and healthy life style subscales and total profiles (p> 0.05). In contrast, examination of the results showed weak correlation between physical activity level and healthy life style subscales and profile. For instance, physical activity level was inversely associated with nutrition (r=-0.082, p< 0.05), positive life perspective (r=-0.167, p< 0.05) and profile (r=-0.162, p< 0.05). Furthermore, positive but weak relationship was found between physical activity level and physical activity subscale (r=0.118, p< 0.05). A similar pattern of relationship is evident among physical activity level and physical activity subscales and profile when gender differences were taken into consideration. In details, physical activity level was negatively correlated with positive life perspective (r=-0.161, p< 0.05), stress management (r=-0.149, p< 0.05,) and physical activity profile (r=-0.165, p< 0.05,) in boys. In girls, there was a negative and weak association among physical activity level and positive life perspective (r=-0.172, p< 0.05), stress management (r=-0.161, p< 0.05), spiritual health (r=-0.491, p< 0.05), adolescent lifestyle profile (r=-0.158, p< 0.05) and positive and weak correlation was noted between physical activity level and physical activity subscale (r=0.126, p< 0.05).

DISCUSSION AND CONCLUSION
It was concluded that associations among BMI, PA level & healthy life style behaviors were not evident among the study sample.

REFERENCES

KEYWORDS
Physical activity level, BMI, healthy lifestyle behaviors, adolescents
How to Increase Participation in Sport and Physical Activity

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PAPER THEME ............................ Physical activity in youth and children

INTRODUCTION
The Sport and Leisure Strategy supports our Joint Health and Wellbeing Strategy. The Joint Health and Wellbeing Strategy priorities that will be supported include:
- Reduce Childhood Obesity, Increase Physical Activity, Reduce the occurrence of common mental health problems amongst Adults

METHODS
Descriptive method used by the researcher

RESULTS
Increasing participation in sport: Sport as social services-Providing a range of social benefits such as ethic values and social well fair-Providing a range of psychological and spiritual benefits including enjoyment and development of characteristics in leisure-Providing of physiological such as health promotion and quality of life.

DISCUSSION AND CONCLUSION
Participation in sport and physical activity is influenced by a variety of factors. The increase in sedentary lifestyles, the decrease in work-related physical activity, and reduced leisure-time activity identifies a trend towards physical activity Focusing on fun, skill development, individual needs and maximum participation will encourage people to stay involved and achieve success at all levels in line with their choices and potential in order to involvement across the lifespan.

REFERENCES

KEYWORDS
involvement, sport, physical activity
How is The Delphi Method Used in Evidence Informed (Public) Health Policy Development? Results of A Literature Review

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PAPER THEME ................ Policies and interventions and promotion of physical activity

INTRODUCTION
Evidence informed policy making is widely promoted to be used by policymakers in order to increase the effectiveness of policies. A method recommended in the development of health informed policies is the Delphi method. This is a qualitative research method, which aims to collect knowledge of a group of experts in a particular field, to create foundations for the development of evidence-informed health policies. The aim of the review was to investigate the use of the Delphi method as a tool for evidence informed public health policy making, between the years 1995-2015.

METHODS
The search was performed within five databases (PubMed, Cochrane Library, Google Scholar, ScienceDirect and Scopus) using the following keywords in different combinations: evidence based, evidence informed, policy making, policy development, Delphi, health and public health. Relevance was tested by scanning titles and abstracts. In the final step all the articles containing the above mentioned references were analyzed using Prisma methodology in order to establish their relevance.

RESULTS
Between the years 1980-2015, the Delphi method was used in the policy making in the public health field. At an initial search, we found the following numbers of articles: PubMed: 462, Cochrane Library: 9, Google Scholar 37400, ScienceDirect: 73 and Scopus: 542. The range of studies found in the review are reported from several regions, but most of them are from Europe and Canada. The studies found in the public health field show that the use of the Delphi method explores a wide range of subjects, such as: health care services, mental health, injury in children and youth, urban health policies, and that they involve a wide range of stakeholders in order to reach consensus, such as health professionals, policy makers, researchers, other experts in the (public) health field. Also, the populations targeted by the policies developed following a Delphi consultation process vary from cancer survivors and rural populations to health care professionals and decision makers in the health care field.

DISCUSSION AND CONCLUSION
The Delphi process is a consensus method widely used in the decision making process in the public health field, with successful research results; it can be recommended to inform the policy makers, with good impact in the development of evidence informed policies. Further discussions can be focused on making the Delphi process more frequently used in the developing countries, where the process of evidence informed policy development is in its incipient stages.

REFERENCES

KEYWORDS
Evidence informed policy making, health, public health, Delphi method/process
Effectiveness and Feasibility of A Financial Incentive in A Combined Lifestyle Intervention Patients with Diabetes Or Cardiovascular Disease: Study Design

**INTRODUCTION**

This project evaluates the effectiveness and feasibility of implementing a financial incentive as addition to a combined lifestyle intervention for patients with chronic diseases.

**METHODS**

The combined lifestyle intervention contains group sessions with a physiotherapist for exercise and both individual and group sessions with a dietician to learn about healthy diet. The financial incentive is added to increase the external motivation to complete the lifestyle intervention and to improve the internal motivation of the participants. Inclusion criteria for participants are that the person receives integrated care for diabetes type 2 and/or cardiovascular disease, experiences barriers to be physical active and is motivated to improve their physical activity level. To evaluate the financial incentive, participants are divided in two groups. The control group will receive the combined lifestyle intervention and the intervention group will receive a financial incentive in addition to the combined lifestyle intervention. The financial incentive handed out is based on the results of a discrete choice experiment (DCE) (a specific method which measures preferences of people) in combination with the preferences of the health care insurer. To evaluate the effectiveness of the financial incentive, several measurements, such as about motivation to be physical active and eating healthy, quality of life as well as fitness tests, will be done at the start of the intervention, after completion of the combined lifestyle intervention, at 26 weeks, and at 52 weeks.

**RESULTS**

Two parts of the study are already completed, a review of the literature and the DCE and. The literature review shows that there is a limited number of studies that evaluates the single effect of a financial incentive that improves physical activity in the health care setting. Based on the results of a DCE and the preferences of the health care insurer, the financial incentive is a gift voucher with a value of €65 that is handed out if the participant is present at a minimum of 75% of the consults.

**DISCUSSION AND CONCLUSION**

Quite a number of studies intend to evaluate the effectiveness of a financial incentive. However, only in some of these studies the financial incentive is the only difference between an intervention and a control situation. This is true in general and also particularly for studies carried out in a health care setting. Results from these studies are inconclusive. This study contributes to the knowledge on the single effects of adding financial incentives in a preventive intervention.

**KEYWORDS**

Financial incentive, exercise, chronic disease, lifestyle intervention
Chrodis – Joint Action on Chronic Diseases and Promoting Healthy Ageing Across the Life Cycle

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Policies and interventions and promotion of physical activity

INTRODUCTION
Chronic diseases affects 8 out of 10 people aged over 65 in Europe. Approximately 70% to 80% of health care budgets across the EU are spent on the treatment of chronic diseases. JA-CHRODIS is a European project, cofunded by the EU. The main objective is to promote and facilitate an exchange and transfer of good practices between European countries and regions with a specific focus on health promotion and prevention of chronic conditions, multimorbidity and diabetes.

METHODS
JA-CHRODIS brings together over 60 partners from 26 member states. They work together to identify, validate, exchange and disseminate good practice on chronic diseases across EU Member States and to facilitate its uptake across local, regional and national borders. The work packages (WPs) are in total seven, thereof four thematic: WP 4 – Platform for Knowledge Exchange – enables decision-makers, caregivers, patients, and researchers, to identify and exchange the best knowledge on healthy ageing and chronic care. WP 5 – Health Promotion – identifies highly promising, cost-effective and innovative policies as well as health promotion interventions to prevent the onset of cardiovascular diseases and type 2 diabetes. The work takes into account lifestyle, including physical activity, and health-related behaviours as well as the socioeconomic determinants of health. WP 6 – Multimorbidity - reviews existing patient-centered comprehensive care programs in order to identify the needs of the participating countries’ healthcare systems. The aim is also to advise on the best possible care models for multimorbid patients, taking into account outcomes, costeffectiveness, applicability and replicability. WP 7 – Diabetes – with the main objective to improve coordination and cooperation among Member States to act on diabetes. The focus is on identification of people at high risk, early diagnosis, secondary prevention, and comprehensive multifactorial care.

RESULTS
One of the key outcomes of JA-CHRODIS will be a ‘Platform for Knowledge Exchange’ (PKE) that will include an up-to-date repository of the good practices identified on the prevention and care of chronic disease. The PKE will also include an on-line help-desk for users and a digital library containing contents of interest for stakeholders. The PKE is currently under development and will be available in late 2016.

REFERENCES
www.chrodis.eu

KEYWORDS
Health Promotion, Prevention, Healthy ageing, NCDs, Chronic diseases.
Sports Club for Health (Scforh) II Project – Promoting National Implementation of Scforh Programs In Eu Member States

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PAPER THEME Policies and interventions and promotion of physical activity

INTRODUCTION
During the SCforH I project (2009-2011) guidelines for sports clubs to promote health-enhancing sporting activities were published¹. Recently, the implementation of the SCforH programs was introduced as one of 23 indicators to assess HEPA levels and policies in the EU member countries². So far, the extent to which the SCforH programs have been implemented across the EU member states is unclear. The SCforH II project received funding from the EU (Erasmus +) and will be executed during 2015-2017.

METHODS
The SCforH II project will be realized through 6 work-packages (WP):
WP 1 Management, administration and dissemination;
WP 2 Current status of the SCforH implementation in EU countries;
WP 3 Organizational support by sport associations for SCforH;
WP 4 Scientific evidence base for the SCforH;
WP 5 New version of the SCforH guidelines; and
WP 6 Evaluation.

RESULTS
The expected outcomes are:
1) Report of current status of the SCforH programs in EU countries;
2) Recommendations for sport associations on SCforH promotion;
3) Scientific review of the evidence base for SCforH;
4) Updated SCforH guidelines; and
5) An evaluation report.

DISCUSSION AND CONCLUSION
The SCforH II project started in spring 2015, thus the results are yet to be obtained. There are two major expansions. Firstly, it will search new ways for sport clubs to implement HEPA through their sport, and for the national level sport associations to support local level clubs. Secondly, a life course approach will be applied meaning e.g. expanded reach to children and youth.

REFERENCES

KEYWORDS
Sport, Sports club, Health-enhancing physical activity, Life course
Investigation of the Distribution of Scientific Publications About Physical Activity in Turkish Journal of Physiotherapy and Rehabilitation

INTRODUCTION
One of the most important public health problems today is physical inactivity (Pratt M et al., 2014). The contribution of physical inactivity is an indisputable fact on the occurrence of many diseases and in increasing the severity of existing disease (Lee I-M et al., 2012). Therefore, our aim is to analyse the distribution of scientific publications about physical activity in Turkish Journal of Physiotherapy and Rehabilitation (TJPR) which published in January 2010-July 2015.

METHODS
In the study, all issues of the TJPR that published in January 2010-July 2015 were examined on their official website. In those issues, all the studies were selected which is regarding about physical activity. Congress oral presentations and poster abstracts that were published in journal were excluded.

RESULTS
In January 2010-July 2015, TJPR was seen to have published seventeen issues. One hundred report published in those seventeen issues. It was found that, there were five report (5%) related about physical activity in those one hundred report. One of those five report related about link obesity and physical activity level in chronic obstructive pulmonary disease. The subject of the second report was relationship between physical activity, quality of life and psychosocial functions in patients with acute coronary syndrome. The other one was discussed relationship between physical activity and sleep quality in elderly. Determine the perceived benefits and barriers to exercise in Turkish women was purposed one article. The last report was related about disabled athlete.

DISCUSSION AND CONCLUSION
It is clear that more needed national publications about items such as positive and negative effects of physical activity, physical activity level of various patient and healthy populations, causes physical inactivity.

REFERENCES

KEYWORDS
Physical therapists, physical activity, public health
Subject Distribution of Studies That Related Physical Activity Which Published in Journal of American Physical Therapy Association

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PAPER THEME
Other

INTRODUCTION
Physical therapists are primary care practitioners who are taught to have great potential for physical activity promotion (Huijg JM et al., 2015). The aim of this study was to analyse in point of theme the reports that related physical activity in Journal of American Physical Therapy Association (JAPTA) which published between January 2010-July 2015.

METHODS
In the study, all issues of JAPTA that published in January 2010-July 2015 were examined on their official website. In those issues, all the studies were selected which have term of ‘physical activity’ in their abstract, key words and/or title.

RESULTS
Between January 2010 and July 2015, JAPTA was seen to have published sixty seven issues. Nine hundred ninety seven report published in those sixty seven issues. It was found that there were fifty nine report (5.9%) related about physical activity in those nine hundred ninety seven report. While 37.3% (22) of those fifty nine report was investigate the level of physical activity in a variety of diseases, 23.7% (14) of those report discussed impact of physical activity. 10.1% (6) of those report associated with only physical activity barrier. The effect of physical activity, the strategies implemented to increase the physical activity level and physical activity barriers in various patient group were discussed together in 11.9% (7) of article. The percentage was 11.9% (7) article on new measuring methods or the effectiveness of existing methods. While the percentage of article related with level of physical activity knowledge of physiotherapists was 1.7% (1) (Shirley D et al., 2010), the percentage of article which provided experiences of physical activity practice of physical therapists was 3.4% (2) (Chevan J & Haskvitz EM 2010).

DISCUSSION AND CONCLUSION
The results of this study revealed that, the effect of technological development on physical activity habits and the use of advanced technology in the measurement of physical activity or practice in patient and healthy populations were not examined enough by physical therapists. Also physical activity habits, beliefs and knowledge of the physical therapists seems to need to be further investigated.

REFERENCES

KEYWORDS
Physical therapists, physical activity, distribution
Street-Workout Parcours – An Urban Strength Training Design. What is The User Profile?

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PAPER THEME ...................... Environmental approaches to active living, active design, urban planning

INTRODUCTION
Recent studies have shown that in adults the aerobic physical activity guidelines are more likely to be met than the strength training recommendations (on 2 or more days a week that work all major muscle groups) (e.g. CDC, 2013). Environmental infrastructures such as street workout parcours (SWOP) (outdoor equipment with multiple bars) might have the potential to attract people to regularly participate in strength training. The purpose of this study was to investigate the user profile of the first street workout parcours established in December 2014 in Graz, a mid-sized Austrian city.

METHODS
Data of this cross-sectional study were collected from May - June 2015. We observed the SWOP in order to count the users. We also handed over questionnaires and 126 out of 133 people (response rate 95%) agreed to fill in the questionnaire.

RESULTS
Based on the observation as well as on the questionnaire more men (80%) than women used the SWOP. The majority (63%) of the users were between 21 and 30 years and had at least a high school degree (78%). On average the users visited the SWOP 2.6 (SD±1.2) times a week for around 50 min (SD±30min), and 90% met the strength training guidelines. However, of those only two thirds were in the maintenance stage based on the Transtheoretical Model (having done it for longer than six months). Half of the SWOP users combined the strength training with aerobic training. More women (82%) than men (52%) preferred the training with friends. For the SWOP users the average distance to the parcours was 3km (SD±1.6km). On a scale between 0 and 10 (=very satisfied) almost 70% of the SWOP users assessed their satisfaction with life with 8 or higher.

DISCUSSION AND CONCLUSION
During the first season of the SWOP the user profile is dominated by young well educated men with good life satisfaction. About one third of the users have not done strength training regularly (at least on two days of the week) during the past 6 months. Thus, the SWOP might be a facilitator for them to meet the strength training recommendations. As there are no parking facilities around the SWOP it takes on average a 30 min walk or 9 min bike ride or a 12 min run to get to the SWOP, which provides an opportunity towards meeting 3 the aerobic physical activity guidelines. We intend to repeat the survey to see whether the user profile changes over time.

REFERENCES

KEYWORDS
Strength training, Street workout, strength training guidelines
Aktiivix- A Targeted, Multi Departmental Service Chain Model for Exercise Counseling

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PAPER THEME ....................... Sedentary behavior

INTRODUCTION
The majority of Helsinki’s adult population consider themselves to be in good health even though their average lifetime expectancy is shorter than of the average Finn. Excess bodyweight is increasing health risk. Some 38% of 25-74 year old residents are overweight and 19% are obese. The model has been implemented together with Sports department, social and health care department and city executive office with separate funding.

METHODS
A total of 150 working age citizens of Helsinki who suffering from type 2 diabetes or persons with BMI ≥ 30 has gone through a year-long exercise counseling service chain model. They have been selected by the nurses and doctors from the health centers of Helsinki municipality. Height, weight, body mass index (BMI), waist circumference and lifestyle survey were measured three times during process; 1st visit – after 6 months – after 12 months by exercise counselor.

RESULTS
At the beginning of the intervention had 43% of participants BMI between 30-35, 46 % had BMI 36 and over. The majority were females (76%) and the average age was 56 years (± 10.40). The average BMI decreased in females from 37.47 (± 12.55) to 33.59 (± 4.7) and in males from 33.84 (± 5.06) to 32.71 (± 4.20). There was positive improvements in the waist circumference also. Females decline was average 10 cm (±10,48) from the baseline (112,27 cm ±10,87) and males average 5 cm from the baseline (117,67cm ±10,73). Participants rated their subjective satisfaction with exercise, sleep, nutrition and body image with a 10 cm long Visual Analogic Scale (VAS). Positive improvement occurred in every sector, especially in satisfaction for exercise (from 3.96 ±2.49 to 6.32± 2.04) as well as body image (from 3.84 ± 2.38 to 5.96 ± 1.98). Positive improvements was also in perceived physical condition and state of health, stress, alertness and vitality sensations. Similarly customers experienced fewer challenges in coping with daily tasks. The amount and effectiveness of physical activity increased.

DISCUSSION AND CONCLUSION
The results show that the service chain helps provide a positive boost to the physical capabilities of an inactive client and it’s a path towards more active and healthier lifestyle. Aktiivix-model is part of the health care chain at municipality of Helsinki.

REFERENCES
Fogerholm (2007)
Alahuhta (2010)
Pietilä (2002)

KEYWORDS
Service chain, lifestyle guidance, overweight and obese
Investigation of Physical Activity Levels in Female University Workers (Pilot Study)

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PAPER THEME ................................. Sedentary behavior

INTRODUCTION
The development of technology (computer and audiovisual technologies, various technical devices) may result in workers gaining body weight or living a sedentary life (Biernat, 2010). Regular physical activity is highlighted in preventing overweight, obesity and some chronic diseases. Nevertheless many adults do not meet the physical activity guidelines (Heath et al. 2012; Bauman et al. 2012). According to data of WHO (2010), about forty percent of Turkish females do not meet the physical activity recommendations. The worksite is considered as an important setting to carry out strategies and actions both to promote physical activity and to prevent obesity. Therefore, the aim of this study was to investigate the levels of physical activity in female university workers and to determine the relationship between physical activity and body composition.

METHODS
A total of 24 female university workers (academician) (age: 31.7 ± \textcircled{4.9} years; height: 160 ± 5.9 cm; body weight: 60.6 ± 8.0 kg; body mass index (BMI): 23.7 ± 2.9 kg/m\textsuperscript{2} ) participated in this study voluntarily. The participants' body composition (waist circumference, hip circumference, waist/hip ratio) was measured with anthropometric tape and also body fat percentage (Fp), fat mass (Fm) and lean body mass were estimated by BC-418 8-contact electrode BIA system (Tanita Corp., Tokyo, Japan). Body mass index (BMI) was calculated as the ratio of weight in kilograms to the square of height in meters (kg/m\textsuperscript{2} ). Daily physical activity levels were measured with multisensor arm band (Sense Wear Armband) on the dominant arm triceps muscle, which were worn at least 23:20 min a day-long wearing-time 95% in free-living individuals for consecutive 5 days (weekdays).

RESULTS
The results demonstrated that participants' average number of steps were found 9685 ± 3037 step/day-1 ; total physical activity duration 129 ± 49 min/day-1 ; total energy expenditure 2223 ± 231 kcal/day-1 ; active energy expenditure 488 ± 163 kcal/day; sedentary duration 1276 ± 57 min/day-1 and physical activity levels 1.60 ± .20 kcal/kg·hr-1 in this study. Furthermore, variety level significant correlations were found between physical activity characteristics and body composition in female university workers (p

DISCUSSION AND CONCLUSION
The results of this study showed that participants classified light active according to physical activity levels and numbers of steps during the weekdays. Female university workers should workout especially moderate, vigorous and very vigorous exercise intensity in order to increase their active and total energy expenditure in daily life.

REFERENCES
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KEYWORDS
Physical Activity Level, Female, University Workers
Urban-Rural Differences in Physical Activity Level Among Older Population in Turkey

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INTRODUCTION

Physical activity which decreases with ageing is associated with many factors that physical, psychological and environmental. This study was designed to evaluate physical activity of healthy elderly living in different residential areas.

METHODS

In this study, 88 people living in cities and 86 people living in the village totally 174 elder people were evaluated. Socio-demographic characteristics were recorded for the elder people. To assess physical activity of elders ‘Compendium’ of physical activity survey and 1 day MET value was calculated (Aadahl, 2007). To evaluate quality of life the ‘Nottingham’ health profile was used (Kücükdeveci, 2000). Physical performance tests were used to evaluate the physical functions of the elderly (Lee, 2000). The data of the elderly living in rural and urban residential area were compared.

RESULTS

Physical activity level who lives in villages were higher than in cities (p<0.05). Total ‘Nottingham’ health profile scores difference was not statistically significant (p>0.05). Elder living in villages was completed in climb stairs performance in long term than those of urban residents (p<0.05). Elder living in villages was completed lie/sit test in short term than those of urban residents (p<0.05).

DISCUSSION AND CONCLUSION

The results of this study revealed that, although all the elderly in general it was found that low MET scores, elder who living in rural area had higher physical activity level. We thought that this difference stems from differences in working terms and conditions. Also difference in their daily living needs, and the variability of the method of providing these needs were another reason for this result.

REFERENCES


KEYWORDS

Ageing, residential area, physical activity
Sit-To-Stand-To-Sit Performance in Women With Fibromyalgia Compared With Healthy Controls

INTRODUCTION
Sitting on chair is a major activity in daily living and health-related test. Pain is usually present in chronic diseases such as Fibromyalgia (FM) affecting the quality of life. The aim of the current presentation is to evaluate the FM-impact on the performance of the 30s chair-stand test beyond simple final test score, and to analyze different phases of the repetitions, the evolution over the 30s, and the relation with impact of FM and pain.

METHODS
Fifteen women with fibromyalgia and 9 healthy controls performed the 30s chair-stand test with a motion capture device. Duration of the sit-to-stand-to-sit phases and the results of the revised version of the fibromyalgia impact questionnaire (FIQ-R) were analyzed using ANOVA of repeated measures, Student’s t test, and the Receiver Operating Characteristic (ROC) analyses.

RESULTS
The performance of the initial repetition of the tests was similar for both fibromyalgia and healthy women. However, fibromyalgia women experienced a large slowdown from the initial to the intermediate repetition. This slowdown was strongly related to pain level and the Area Under the Curve (AUC) indicated that this slowdown may be a good predictor of the presence/absence of fibromyalgia.

DISCUSSION AND CONCLUSION
There are relevant differences in the performance of the 30s chair-stand test between FM women and healthy controls that should be considered in testing, monitoring and exercise programs to prevent frailty, pain and falls in specific disease and public health programs.

KEYWORDS
Pain, test, health, chronic disease, fibromyalgia, motor control, balance
Static and Dynamic Proprioception Tests in Evaluation of Balance Abilities

INTRODUCTION
Proprioceptive information are important in both static and dynamic balance ability and a practice or a training could improve proprioception. There is a huge impact of learning on balance test results in first few trials but currently we are unaware of the effects of motor learning on two leg stability test (static) after the initial few trials. It would be of importance to establish the relationship between the number of repeated test (after initial trials) and achieved results for balance testing platforms available on the market in order to provide the surgeons and physiotherapist the information about the testing methods properties. Following that, the main goal of this study was getting an insight into pattern of changes in posture maintenance results during repeated balance tests.

METHODS
The sample comprised of 15 healthy recreational male athletes aged 24-30. The balance measuring method used was a stabilometry platform KAT 2000. All subjects performed 3 initial trials, then 7 sets of static test followed by dynamic tests and the break between each test set lasted for 3 minutes. During the static test balance a task is to superimpose the cross on computer screen onto static cursor. In dynamic test the subjects had task to superimpose cross on the moving cursor. The distance from the center of the platform was used to calculate a score called Balance Index (BI). BI is quantification of ones ability to keep the balance; lower BI means a good ability to perform balance task.

RESULTS
The mean Balance Index values for static and dynamic index of 15 subjects were calculated and we analysed the changes in BI between measurements meaning within subjects differences. In that way we obtained six delta variables out of seven tests. The Friedman ANOVA was used as an alternative to one-way repeated measures ANOVA, as it did not require the dependent variable to follow a normal distribution. The model proved to be non-significant (Friedman ANOVA Chi SQ =4,367; Coef. Of Concord.=0.062; p=0.497) and we could not determine any significant improvements of static balance test results resulting from test repetitions. It seemed that measurements of Balance Index after the three initial trials stabilized, and did not undergo further improvements. The same data analysis procedure was performed once more for dynamic balance test results. That model was also not significant (Friedman ANOVA Chi SQ =5,183; Coef. of Concord.=0.0740; p=0.393), even though slight improvements were observed, but we could not attribute the improvements as to the learning process as the ANOVA was not significant.

DISCUSSION AND CONCLUSION
Our study demonstrated that after the initial training period of three repetitions, the learning effect of the repeated balance motor tests is not significant, at least not within the seven repetitions which is usually enough to evaluate rehabilitation process of the patient. For that reason our recommendation is to use other balance training hardware (like boards, ropes, polygons and similar) for training and rehabilitation and to preserve KAT 2000 for evaluation purposes meaning at the beginning and at the end of rehabilitation process.

REFERENCES

KEYWORDS
balance, balance platform, posture
**Dose-Response Between Exercise and Aerobic Capacity: Meta-Analysis of Randomized Control Trials**

**INTRODUCTION**
Current physical activity recommendations call for 150 minutes of moderate-intensity or 75 minutes of vigorous-intensity aerobic physical activity per week (WHO 2010). While these guidelines are valuable from the public health perspective, it is of practical interest how the total weekly activity might be best practiced in terms of the intensity, frequency and bout duration. We explored the dose-response between the specific exercise characteristics and aerobic capacity through a meta-analysis of published randomized control trials (RCT).

**METHODS**
Data from six published RCT’s with sedentary healthy adults were subjected to secondary analysis. The interventions included walking, cycling, running or skiing as the exercise form. They lasted 10 to 72 weeks, were performed with 45 to 80 % VO2max or 3.2 to 8.2 MET intensity, 2.6 to 9.5 sessions per week frequency and 25 to 50 minute bout duration for a total of 400 to 1400 METhours per week. The outcome variable was directly measured VO2max. Pooled results from random effects meta-analysis were derived as weighted mean treatment effects with 95% confidence intervals (CI). Meta-regression analyses and sub-group analyses were conducted to assess whether the effect size varies by intensity, frequency or bout duration of the exercise.

**RESULTS**
Thirteen comparisons between the intervention and control group showed consistent improvement in VO2max with the over-all increase of 0.46 ml/kg/min (CI 0.29, 0.63, p=0.000). Neither meta-regression nor sub-group analyses showed differences in the mean treatment effect due to intensity, frequency or bout duration of the interventions.

**DISCUSSION AND CONCLUSION**
Aerobic capacity is an independent risk factor for cardiovascular disease. The found 15 % increase in VO2max is conducive to marked reduction in mortality. As all included interventions were feasible and safe among sedentary middle-aged men and women, the promotion of such exercises has substantial public health potential. The current analysis showed that the increase in aerobic capacity is independent of the specific dose characteristic of the exercise interventions. As this explorative study was based on selected RCT’s, the data source may have been too small for the detection of possible explanatory effects of the specific dose elements. Recently Murtagh et al. (2015) identified 32 published RCT’s on walking and cardiovascular risk factors, including aerobic fitness, as the outcome. With such rich data base further analysis of the dose-responses of exercise characteristics and health outcomes is warranted.

**REFERENCES**

**KEYWORDS**
Exercise, health, dose-response
Effect of Water Polo Sport on Body Mass Index in Highly Trained Junior Players.

INTRODUCTION
From all athletes involved in high professional competitive sports is required the body to perform at optimum capacity in terms of biomechanics and physiology (Zaccagni, 2011). Contemporary sport science is designed to improve the performance of elite players and to discover talents as precisely as possible (Popovic et al., 2013). Although many studies has shown that specific anthropometric characteristics are significantly associated with success in sports (Popovic et al., 2004), this process is very demanding, as various athletic events require differing body types to achieve maximum performance. Hence, the purpose of this study was to describe body mass index of junior water polo players and to detect possible differences in relation to sedentary subjects.

METHODS
Thirty-six males were enrolled in the study. They were divided into two groups: fifteen water polo players (20.23±3.35 yrs) from the Montenegrin national water polo team U-21 and twenty-one healthy sedentary subjects from the same country (20.94±3.10 yrs). All subjects were assessed for the anthropometric measures, using the standardized procedure recommended by the International Biological Program (IBP) standards. Height and weight was measured to the nearest 0.1 cm. Body mass index (BMI) was calculated as body mass in kilograms divided by height in meters squared (kg/m2). The descriptive statistics were expressed as a mean (SD) for each variable. Independent-samples T test was carried out to detect the effects for water polo sport on each variable: body height, body weight, body mass index (BMI).

RESULTS
The mean of the body height was 178.78±7.71 centimeters for water polo players and 178.78±7.71 for non-athletes, body weight was 178.78±7.71 (players) and 178.78±7.71 (non-athletes) and BMI was 178.78±7.71 (players) and 178.78±7.71 (non-athletes). A significant difference was not found for body height (p=0.91), body weight (p=0.58), while it was found for body mass index (p=0.47).

DISCUSSION AND CONCLUSION
The results of this study revealed that although most of the water polo players are highly trained, they didn’t show significant differences in body height and weight, comparing to sedentary subjects. On the other hand, the difference in body mass index was almost on the border ((p=0.47). From the reason the water polo players were the members of the nation team that was highly ranked; the conclusion has been based on the fact that sedentary boys in Montenegro have great body composition assessment.

REFERENCES

KEYWORDS
Water polo, Montenegro, BMI
**Tackle and Contact-Related Performance and Injury Epidemiology in Rugby Union and Rugby League: A Systematic Review**

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**PAPER THEME**
Active ageing and injury prevention, Physical activity in youth and children, Physical activity epidemiology

**INTRODUCTION**
Rugby union and rugby league are characterised by frequent collisions between players. The ability to tolerate and contest these situations is prerequisite for participation and success [1]. The high frequency of contact situations places rugby players at higher risk of injury when compared to other team sports [2]. The aim of this review was to establish the current level of knowledge regarding this key area of rugby, and to identify gaps in the literature.

**METHODS**
A systematic literature search was conducted by two independent reviewers on PubMed, Scopus, and Web of Science using medical subject headings (MeSH). Literature was sourced from 1st January 2005-1st July 2015. Titles and abstracts were screened. Only English-language studies were included, comprising of quantitative and qualitative studies, case and cohort studies, and prospective and retrospective studies. Full text versions were assessed and key studies identified (reference lists reviewed for missing literature). The final data set was analysed descriptively.

**RESULTS**
The contact nature of rugby requires participants to endure a high physiological load. Tackle-related injury epidemiology research in senior cohorts is well documented, however, less is known about youth rugby. Tackle technique has been identified as a potential injury risk factor [3]. Experienced athletes exhibit superior technique and perform better in comparison to younger. Injury surveillance and video analyses have been effective in identifying factors contributing to injury and/or poor performance.

**DISCUSSION AND CONCLUSION**
Rugby training regimes should aim to mimic real-match contact loads to ensure players adapt to the physical demands of the sport. Future tackle- and contact-related performance research and injury epidemiology should consider analysing youth cohorts. Tackle technique may be improved/modified, using video analysis, to reduce injury incidence and severity, and improve performance. Coaches need to teach correct contact technique from an early age.

**REFERENCES**

**KEYWORDS**
Rugby, performance, epidemiology, tackle
Screening System for Functional Disability and Physical Activity Workshops for Elderly in Slovenia

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PAPER THEME
Active ageing and injury prevention

INTRODUCTION
If the demographic trend in the coming years will continue to rise, there will be already 30% of the Slovenian population aged over 65 years in the 2050 (Voljč B, 2015). Functional ability is defined as a dynamic process, which should be more frequently and comprehensively evaluated. Assessment should include mobility, walking, balance, agility and environmental risk factors. It should be carried out in the public health network (Moravec Berger D, ur, 2006).

METHODS
Within the Slovenian national project Towards Better Health, a few physiotherapists proposed a screening system for functional disability (FD) among elderly. Screening system has been implemented using two stages: screening interview (WHO DAS 2.0 questionnaire) and two additional tests for assessment of muscular strength. In case of FD detection this individual is further invited to a profound functional testing for FD, with the Senior Fitness Test (SFT) battery. After the screening, all FD individuals are invited to a workshop, called »I am moving«, with an aim of improving the participants’ physical activity habits.

RESULTS
From March to July 2015, 43 screenings for FD have been performed. Average age of screened participants was 76.5 years, where FD was presented in 82.6 %. 46 participants have been referred to functional testing with SFT battery, including those who came to the battery without beforehand FD screening. Average age of tested participants was 68.7 years. Above average results among men have been observed in the Arm curl test, while in other tests they achieved average results. Women have conducted all tests (with exception of 8 foot up and go test, where the results were below average) with average results. 91.3 % of FD participants were referred to a profound workshop.

DISCUSSION AND CONCLUSION
Only consistent preventive treatment of elderly population would allow early detection of the risk for FD. In order to effectively combat an aging population trend in Slovenia, a National screening program for FD needs to be established in correlation to effective physical activity approaches. This could allow as to reduce the pre-existing fragility syndrome and presence of FD among elderly, to achieve active aging process.

REFERENCES

KEYWORDS
Functional disability, screening system, Senior Fitness Test, physical activity
About Fitness Centers (Fc) and Their Offer – Fitness Index™ Project

INTRODUCTION
According to definition of World Health Organization (WHO) health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity. Physical health is just one of many defining components of human health. A healthy body (physical health) is one that is not under the influence of pathological effects or diseases. For timely detection, and treatment of detected diseases, it is necessary to perform periodic annual systematic medical examinations. Systematic medical examinations should detect any potential disease and its stage, that shows us if you are physically healthy or not. If a disease or indication of future problematic condition is detected during systematic examination, additional specialist examinations should be included. However, if systematic examination shows that you are healthy, the question remains: how healthy are you? On what level is my physical health? Physical health level depends on physical readiness to oppose physical load, and can be directed to health fitness or to sport performance.

METHODS
FitnessIndex™ is a standardized testing protocol, developed by team of experts from Fitness Academy and Faculty of Kinesiology from Zagreb, and is assessing the true level of health fitness based on scientific proof. Using FitnessIndex™ protocol we get the results through which is possible to express the real health fitness level and determine exercise priorities. Standardized testing protocol is based on assessment of basic fitness components which have direct effect on health and the quality of life. Those components are: body composition, locomotors system functionality, muscular and cardio fitness. After standardized testing protocol is conducted, results for every component are attained which are then compared with normative data and are evaluated with ratings from 1 to 5. Arithmetic mean of results of all components represents the real health fitness level – FitnessIndex™.

RESULTS
After standardized testing protocol is conducted, results for every component are attained which are then compared with normative data and are evaluated with ratings from 1 to 5. Arithmetic mean of results of all components represents the real health fitness level – FitnessIndex™.

DISCUSSION AND CONCLUSION
If fitness centers want to offer fitness programs, which are reliable and safe they should be aware of the quality standards. These standards help to raise the trust in the service, from clients and professions including general. In order to get the mark for quality standards, fitness centers should meet this criteria: offer programs that are health related, give information’s about health effects of these programs to there, the space conditions for exercise must be adequate, they must demand physical exam from people with high risks before including them in to their programs, they must recommend programs based on the clients initial state and perform questionnaires about the satisfaction of their clients. Also, the programs that are offered should be health-related, they must have a defined clear goal, programs should have health risk assessment and they need to periodically assess the health related fitness components. The instructor of these programs should be: formally educated with additional education in assessing health related fitness, has a written plan and program for exercise and written instructions for executing the program, also is in a contact with general practitioners. Standards are comprised of: standards for fitness centers, standards for their programs and for their instructors.

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KEYWORDS
Physical fitness, assessment, quality management

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PAPER THEME .......... Policies and interventions and promotion of physical activity

INTRODUCTION
Physical therapy practitioners are among the many health care professionals who can counsel their patients to address the public health care concern of physical inactivity. The aim of this study was to analyse the distribution of scientific publications about physical activity in Journal of American Physical Therapy Association (JAPTA) which published January 2010-July 2015.

METHODS
In the study, all issues of the JAPTA that published in January 2010-July 2015 were examined on their official website. In those issues, all the studies were selected which have term of ‘physical activity’ in their abstract, key words and/or title.

RESULTS
Between the dates specified, JAPTA was seen to have published sixty seven issues. Nine hundred ninety seven report published in those sixty seven issues. It was found that there were fifty nine report (5.9%) related about physical activity in those nine hundred ninety seven report. This fifty nine study which related physical activity were covers disorders which linked neurology (Phillips C et al., 2015), pediatric neurology (Mitchell LE et al., 2015), geriatric, musculoskeletal, orthopedics, oncology, women’s health, cardiology, intensive care, rheumatology, obesity, psychiatry, thoracic surgery (Wickerson L, 2015) and general surgery. Their frequency were 16.9% (10), 13.5%(8), 13.5%(8), 13.5%(8), 10.3%(6), 3.4%(2), 3.4%(2), 3.4%(2), 3.4%(2), 1.7%(1), 1.7%(1), 1.7%(1), 1.7%(1) was respectively. Only % 5.1(3) of those fifty-nine study associated with healthy subject. % 5.1(3) of those fifty-nine study were choosen physical therapists as cases.

DISCUSSION AND CONCLUSION
According to our results studies related on healthy people and physical activity are limited. We believe that physical therapists should work more actively to measure physical activity levels, development of strategies about increasing physical activity level and eliminate to limiting factor for healthy population.

REFERENCES

KEYWORDS
Public health, distribution, physical activity
Association Between Sedentary Time and Waist-To-Height Ratio in Preschool Children

INTRODUCTION
This study aimed to analyze the association between Sedentary Behavior Time (SB), and WHtR in preschool children.

METHODS
This study comprised 709 preschool children (4-6 years-old). WHtR was calculated as the ratio of waist/height and cutoff of 0.5 was used to define risk of abdominal obesity. SB was measured during 7 consecutive days by accelerometer. Logistic Regression was used to determine the association between SB and WHtR.

RESULTS
The prevalence abdominal obesity (WHtR) was 56.7% and 40.7% for girls and boys, respectively. Boys classified as having risk of abdominal obesity spent likely more time in SB (OR: 1.6; CI: 1.1-2.5; p ≤ 0.05), adjusted by age ((p ≤0.001))

DISCUSSION AND CONCLUSION
SB is higher among preschool boys classified as having abdominal obesity. No associations were found out in girls.

KEYWORDS
Sedentary Behaviour; Abdominal Obesity Status; Preschool
**Overweight and Obesity in German “Kids-Club-Children” – Recommendations for Health-Oriented Kids-Clubs**

INTRODUCTION
In Germany, 30 Clubs of the German Soccer League are running active Kids-Clubs (KC). In 2015, the number of boys and girls who have joined a KC exceeded 120,000 Kids. The aim of these KCs propagated by the Clubs and the German Soccer League is not to detect and foster new soccer-talents, but to have a social-educational focus, such as fair-play, tolerance, cohesion and inclusion. From April 2013 until April 2015 the KCs have been evaluated using quantitative and qualitative methods. Within the project, the prevalence of overweight and obesity (OaO) in KC-Kids has been assessed which is associated with several comorbidities such as cardiovascular diseases, diabetes or metabolic syndrome.

METHODS
In total, height, weight and waist-circumference (WC) of 486 boys (88.5%) and girls (11.5%) aged between 6-14 years (mean 10.2 ± 1.2 years) were measured using SECA-instruments and a standardized protocol. For all children, age and gender specific Body-Mass-Index (BMI) (Kromeyer-Hauschild et al., 2001) and WC percentiles (P) (Schwandt et al., 2008) were calculated.

RESULTS
Results indicate that most of the participants have normal weight (75.5%). The prevalence of the overweight (>P90) was 17.7%. Of these children, 6.6% are obese (>P97). 16.9 children have a WC above 90th percentile. Chi-Square test have revealed that the children with a BMI above 90th percentile have significantly more often a WC above 90th percentile (\[\chi^2 = 223.1; df=1; p<0.001\]) what strengthens the quality of the results.

DISCUSSION AND CONCLUSION
Although the KCs belong to Soccer-(Sport)-Clubs, the prevalence of OaO of its members is higher than the German average in children and adolescents, which is around 15%. Our recommendation is that the high availability of resources in the KCs such as good funding, well-educated and highly motivated employees, as well as the large network to other health-care organizations needs to be used to include higher proportion of physical activity and nutritional education projects into the varied portfolio of projects carried out in the KCs.

REFERENCES

KEYWORDS
Body composition, adolescent, overweight and obesity
Associations Among Physical Characteristics, Body Composition and Physical Activity Among Adolescents According to Age And Gender

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PAPER THEME .......................... Physical activity in youth and children

INTRODUCTION
It is well documented that inactivity is associated with increased risk of a wide variety of diseases such as coronary heart disease and obesity. Epidemiological studies indicated that physical activity shows a decline with increasing age particularly during adolescence and boys have higher physical activity level compared with girls. In addition physical and body composition characteristics of adolescents changes with increasing age. Therefore the purpose of this study was to evaluate the physical characteristics, body composition and physical activity level of adolescents according to age and gender.

METHODS
A total of 749 high school students (n girls: 359, n boys: 390) from the city of Yozgat, between the ages of 14-18 participated in this study voluntarily. As physical characteristics height and body weight measurements were performed with standardised methods and body mass index was calculated as the ratio of weight in kilograms and height in meters squared (kg/m²). Body composition characteristics of participants was determined by using Bioelectrical Impedance Analyser (TBF300, Tanita, Japan) and body fat percentage (fat%), fat mass (FM) and fat free mass (FFM) was calculated automatically. Physical activity level of participants was determined by “Physical Activity Assessment Questionnaire” which was developed by Karaca et. al (2000).

RESULTS
According to the results of independent samples t-test, in age 14 there was a significant difference in height (t=4.431; p=.007), fat % (t=2.546; p=.015), FM (-2.447; p=.019) and FFM (t=2.445; p=.019) between girls and boys while no significant differences was observed in body weight, BMI and physical activity levels (p>.05). In age 15 on the other hand significant differences was observed in height (t=9.199; p=.000), BMI (t=-4.319; p=.000), fat% (t=-7.345; p=.000), FM (t=-6.630; p=.000) and FFM (t=5.521; p=.000) between girls and boys while no significant differences were observed in body weight and physical activity levels (p>.05). In age 17 on the other hand there were significant differences in all physical and body composition characteristics (p>.05). Finally in age 18, significant differences were observed in height (t=5.114; p=.000), body weight (t=2.912; p=.005), fat% (t=2.232; p=.030) and FFM (t=3.844; p=.000) between girls and boys with no significant differences in BMI, FM and physical activity level (p>.05).

DISCUSSION AND CONCLUSION
Results indicated that physical characteristics and body composition of girls and boys showed age related changes and differences as expected. However physical activity level did not show any age or gender related change indicating a stable physical activity level among age and gender. Since adolescents of this study are from one of the rural parts of Turkey, these findings could be interpreted according to social and environmental settings.

REFERENCES

KEYWORDS
Physical characteristics, body composition, physical activity, adolescents
Body Composition and Physical Activity in Turkish Adolescents

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PAPER THEME

Physical activity in youth and children

INTRODUCTION

The increasing prevalence of obesity and overweight in the children and adolescents has become a concern worldwide (4), so as in Turkey. Physical activity is one of the major preventive measures of overweight and obesity (1). Therefore, the aim of this study was to determine body composition and physical activity of Turkish adolescents.

METHODS

A total of 491 adolescent girls (n=237) and boys (n=254) between the ages of 12-14 participated in this study on a voluntary basis. Height, weight and body fat percentage were measured and body mass index (BMI) was calculated as the ratio of weight in kilograms and height meters squared (kg/m²). Based on the Centers for Disease Control and Prevention (CDC) 2000 BMI charts, obesity-overweight-normal weight and underweight are defined as BMI≥95th percentile, 95th>BMI≥85th percentile, BMI < 85th percentile and BMI <5th percentile, respectively (3). “Kowalski Physical Activity Questionnaire for Adolescents” (2) was used in the study for determining the level of participants’ physical activity. Total physical activity score (PAS) was calculated from the questionnaire. The lowest and the highest score ranged from 9 to 45.

RESULTS

The results of the study indicated that 0.8% of girls and 3.1% of boys were underweight. Most of the participants were normal weight (64.2%). The prevalence of the overweight and obesity in the sample were 19.8%, 13.1% for girls and 16.5%, 18.1% for boys, respectively. Body fat percentages for the corresponding BMI percentile categories (underweight, normal, overweight and obese) in girls and boys were 7.7±3.25; 7.96±2.07, 22.40±4.70; 12.42±3.98, 30.44±3.06; 18.34±4.97 and 38.30±3.14; 27.70±6.38, respectively. According to the physical activity score, the percentage of the participant being active, moderate active and insufficiently active was 8.8%, 76.4%, 14.8%, respectively. The boys were significantly more active than the girls (PASs 25.03±5.64 vs 21.82±5.38, respectively) (p<0.05). In addition, a negative correlation was found between PAS and body fat percentage (r: -0.215, p<0.05). Highest PAS was at age 12, it significantly decreased by age afterwards.

DISCUSSION AND CONCLUSION

The data obtained in this study shows that despite most of the participants were with normal weight, there was a high prevalence of overweight and obesity among Turkish adolescents. In addition, the prevalence of physical inactivity in adolescent girls was higher than boys and physical activity level decreased with age. Therefore, physical activity needs to be promoted among Turkish adolescents.

REFERENCES

INTRODUCTION
Worldwide, obesity has more than doubled since 1980. The body mass index (BMI) is a simple index that represents the ratio of the body mass and body height, and it is normally used for classifying excessive body mass and obesity. The aim of this research is to analyse the state of nutrition of adolescents from Niksic-Montenegro.

METHODS
The research involved 188 adolescents from Niksic-Montenegro. Of the total number of children, boys were 95 (50.53%) and 93 girls (49.47%). The state of nutrition of the subjects was analysed by calculating the body mass index. The subjects whose BMI was above the 95th percentile for the appropriate age and gender, were marked as obese, and the excessive body mass was designated as the BMI between the 85th and the 95th percentile.

RESULTS
On the basis of these BMI percentile values, the boys aged 16 and 18 fall into the category of normal body weight, while the boys aged 17 were at the limit of the category of excessive body weight, and all the girls aged 16, 17 and 18 years fall into the category of normal body weight.

DISCUSSION AND CONCLUSION
Discussion and Conclusion The prevention of obesity occurs more frequently in western countries, where the figures indicate that in the last twenty years the number of those who suffer from excessive body weight has increased three times. If no preventive measures are taken, as far as the modern lifestyle with all the characteristics of hypokinesia are concerned, the numbers will continually rise, so it is believed that this number will be larger for about 1.3 million children every year (Kosti, & Panagiotakos, 2006). By analysing the results of our research, encouraging is the fact that the subject population of adolescents in Niksic is within the limits of normal body weight, except for boys aged 17 years who are approaching the excessive weight. Results obtained by the authors of work can be explained by the fact that the total population in Montenegro is among the highest in Europe, and by Bjelica et al. (2012) in their sample of 285 subjects (178 men, aged 20.97 ± 2.44 and 107 women, aged 20.86 ± 2.63, the average height was 183.2cm for men and for women 168.3cm.

REFERENCES

KEYWORDS
Body composition, adolescent, nutrition
Relationship Between Physical Activity Level and 6 Minute Walk Testing in Pre-Pubertal Boys

INTRODUCTION
The purpose of this study is to investigate the relationship between physical activity levels and 6 Minute Walk Test (6MWT) in pre-puberty boys.

METHODS
Forty healthy boys, (8.38±0.67 year; BMI 17.4±2.70 kg/m²) were involved in this study. Study was designed in two phases. At the first phase, physical activity parameters were measured by using wGT3X-BT accelerometer in school hours for five days. At the second phase, physical parameters such as height (cm), sitting height (cm), leg length (cm) (leg length was calculated from height – sitting height difference in cm) and weight were measured. 6MW distance (m) and walking speed (m/min) were measured by using 6MWT. Heart rates which reached at the end of 6MWT were measured by using Polar S810 heart rate monitor. Socioeconomic status, children’s outdoor playing habits and regular sport participation were questioned to parents by using a questionnaire.

RESULTS
At the end of the first phase of measurements, 101.20±17.82 min/school day was determined as Moderate to Vigorous Physical Activity (MVPA). Mean step counts during school hours were identified as 6862.87±1583.68 steps/day. 546.67±34.59 m was measured as 6MW distance with 91.11± 5.76 m/min walk speed. Data were analysed by using Pearson Correlation Analysis (r) to determine the relationship among data.

Statistical analysis indicated that only few significantly correlations were identified within this study. The relationship between BMI and vigorous and very vigorous physical activity percentages were significantly moderate and low, respectively (r = -0.531; -0.424, p< 0.05). The correlation between 6MWT and height was also determined significantly low (r=0.337, p< 0.05).

DISCUSSION AND CONCLUSION
As conclusion, no significant correlation was identified among physical activity parameters and 6MWT parameters within this study.

KEYWORDS
Physical Activity, Children, 6MWT
Physical Activity and Sedentary Time Changes After Pedometer Based Intervention in Children: Play+Health

INTRODUCTION
Childhood physical activity (PA) habits are declining parallel to sedentary time rise in Spain (CSD, 2010). In response, the aim of the study was to design and implement an 8-week lifestyle PA intervention and report the outcomes of the evaluation.

METHODS
A total of 140 children from two different schools in Boadilla del Monte (Madrid), who were in their second grade of primary education (7-8 year-old), participated in the intervention although only a total of 48 children, divided into experimental (n=27) and control (n=21), finished the intervention and completed pre- and post-assessment. PA habits were measured during 6 consecutive days using the GT1M accelerometer (Actigraph LLC, Pensacola, FL, USA). In order to consider data valid, it was necessary to establish a minimum of 2 week and 1 weekend day and a minimum of 10-registered hour of data per day (Ekelund et al., 2004). Data were analyzed separately according to week and weekend days.

Play+Health is a facilitated behavior modification program built primarily on the framework of the Social Cognitive Theory. The 8-week intervention was developed in line with Physical Education national curriculum and organized in two phases: cognitive phase and adoption phase. Cognitive phase consists of 8 different activities developed in both class and physical education classes, to reinforce PA benefits, sedentary limits, PA guidelines and encouraging family PA practice. Adoption phase was a 4 consecutive weekend pedometer-based intervention, during the last 4 week intervention. All intervention children wore 1 Yamax SW-200 DIGIWALKER pedometer (Yamax Corp., Tokyo, Japan) and completed a passport to a virtual journey in order to try to reach their personal weekly targets.

RESULTS
The ANOVA revealed a significant main effect for treatment group in moderate weekdays PA (p=0.006), weekdays steps (p=0.004) and moderate to vigorous weekdays PA (p=0.039). Experimental group showed a significant change in steps (p=0.010) during the four weekend pedometer intervention, especially during weekend 2 vs weekend 1 (p=0.008) and weekend 3 vs weekend 1 (0.003).

DISCUSSION AND CONCLUSION
Play+Health intervention produced a significant increase in children PA levels, mainly in weekdays PA. Pedometers can provide feedback to facilitate shortterm increases in children steps but it was not sufficient to elicit an increase in weekend PA levels. The long-term maintenance of such strategy is unknown but important, future studies should analyze the effect of the different PA promotion interventions developed in primary education.

REFERENCES


KEYWORDS
Children, intervention, physical activity, pedometer
Change4life 10 Minute Shakeup: An Evidence-Based Communication Campaign in England

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Physical activity in youth and children

INTRODUCTION
Large scale, evidence-based communication campaigns, have been identified by the World Health Organization as a cornerstone of physical activity promotion. In England, the Change 4Life social media campaign predominantly focuses on the promotion of physical activity to children. In order to determine the evidence base and inform the key communication messages to be used in the new ‘10 minute Shake Up’ element of the campaign, a rapid evidence review was conducted.

METHODS
A purposive review was conducted in order to identify relevant literature on selected physiological, psychological, social and behavioural outcomes of physical activity for 5-11 year olds. The search primarily focused on review level evidence, using a set of broad MeSH terms (Medical Subject Headings) conducted in PubMed. Data on each outcome of interest were extracted by a member of the research team and verified by a second member. Criteria were developed and applied to rate the current state of the evidence for each outcome, based on the number of studies, the types of study design adopted, and the direction and strength of the reported associations.

RESULTS
The physiological outcomes with the strongest evidence for a positive association with physical activity among 5 –11 years olds are cardio-metabolic health; muscular strength; bone health; and cardiorespiratory fitness. The psychological outcomes with the strongest evidence are: self-esteem; anxiety/stress; academic achievement; cognitive functioning; and attention/concentration. The social outcomes with positive associations with physical activity are confidence and peer acceptance. However, there was insufficient evidence on any of the behavioural outcomes included in the review.

DISCUSSION AND CONCLUSION
Whilst the physiological benefits of physical activity to children’s health are widely recognised, the impact on children’s social and emotional development is lesser-known. This review points to a growing body of evidence which demonstrates positive outcomes beyond just physical health. Public health communication plans may be strengthened by the inclusion of these broader psychological and social outcomes when promoting physical activity to children and their parents.

REFERENCES

KEYWORDS
Physical activity promotion, health outcomes, children
Jump in- Exercise Counseling for Youth

INTRODUCTION
Young people at risk of exclusion is alienated from exercise. Inactive lifestyle and immobility is easily transferred from generation to generation. Physical activity counseling can be a helpful tool for prevention of social exclusion. Target group is young people who do not study or work, or boys who do not fulfill the criteria of access the Armed Forces. The model has been implemented together with Sports department and social and health care department.

METHODS
Youth (n=120) with BMI ≥ 30 have selected by health services or career advisors. They all have gone through three months-long exercise counseling service chain model. Height, weight, body mass index (BMI), waist circumference, grip strength and lifestyle survey were measured two times during process; 1st visit and during 2nd visit in 3 months by exercise counselor

RESULTS
At the beginning of the intervention had 20% of participants BMI between 25-30, and 19 % BMI 30 and over. Females were (52%) and males (48%). The average age was 21 years (±3,76). The average BMI was at the beginning of the intervention in males only 24 (±5,20), although it was significantly higher for women BMI 31 (±8, 35) The average BMI did not turn out in this 3-month intervention. Instead, there was positive improvements in the waist circumference of the females, decline was average 10 cm (±12,96) from the baseline (93,06 ± 13,19). Grip strength improved both in females (from 29,78 kg ± 6,03 to 35,33 kg ±4,04) and males (from 41,73kg ±8,66 to 47,60kg ±8,19). Participants rated their subjective satisfaction with exercise, sleep, nutrition and body image with a 10 cm long Visual Analogic Scale (VAS). Positive improvement occurred in every sector, especially in satisfaction for exercise (from 3,92 ±2,72 to 6,63 ± 2,38) as well as body image (from 4,46 ± 2,78 to 6,07 ± 2,07). Positive improvements was also in perceived physical condition and state of health, stress, alertness and vitality sensations. Similarly customers experienced fewer challenges in coping with daily tasks. The amount and effectiveness of physical activity increased.

DISCUSSION AND CONCLUSION
The results show that the service chain helps provide a positive boost to the physical capabilities of an inactive client and it’s a path towards more active and healthier lifestyle. JUMP IN-model can also be an activator to obtain a job or a place to study.

REFERENCES
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KEYWORDS
Service chain, lifestyle guidance, social exclusion
The Correlation Between Physical Education and Students’ Current and Future Attitudes Towards Health Awareness

INTRODUCTION
The role of schools in forming the youth’s attitude towards HEPA is crucial, in which Physical Education (PE) should take the main part. Therefore it became inevitable to define and specify the concrete impact of PE on students. Our research was dedicated to explore how the impact of PE (within that the activity and attitudes of the PE teacher) effects the students’ behavior and attitude related to healthy life style in the present and in the future. We attempted to answer the following questions:
1. Is PE able to evolve the positive attitude among students towards the subject’s health-related contents?
2. What are the elements of that PE which directly has positive effect on developing positive attitudes towards health awareness?
3. Does PE have effect on the students’ thinking about their future physical activity behavior?
4. What is the correlation between PE and the students’ current and future attitudes towards health awareness?

METHODS
A total of 961 secondary school students participated in the study. 61.7% of them was boys, 38.3% girls. The sample was random stratified by age, gender and region. The questionnaire was self-reporting, anonyym and voluntary. The questionnaire contained 48 questions about the students’ experiences of P.E. and 18 questions about the students’ attitudes towards regular physical activity and health-awareness. The data was analyzed by SPSS-AMOS using Exploratory Factor Analysis.

RESULTS
We found that PE has direct positive effect on students’ attitudes towards health awareness in the present (r=0.52), but it doesn’t have direct effect on the future thinking.(r=-0.09). We were able to isolate 5 independent factors, which directly has positive effect on developing positive attitudes toward subject’s health-related contents. That attitude has significant effect on the students’ thinking about their future physical activity behavior. (r=0.66)

DISCUSSION AND CONCLUSION
We concluded that PE does not have a direct effect on the future attitudes of students towards health-conscious life management, but indirectly PE plays a major role in that task. The results showed that if the PE is implemented with certain principles it has direct effect on the current competence elements and behavior (attitudes) of the students, which has an indirect effect on the future attitude.

KEYWORDS
Physical Education, health-awareness, attitude toward physical activity
Weekends Compensation of School Mental Load Through Physical Activity in Adolescents

INTRODUCTION
The mental load associated with sedentary behavior is one of the most serious problems in promoting health of the young people. We do not know what the weekends’ PA of individuals with different mental load during school days is (innovative feature). The aim of the study is to examine how young people compensate the school mental load through physical activity on weekends.

METHODS
The research was conducted at 16 secondary schools and included 149 girls (age 16.50 ± 1.10; weight 59.10 ± 9.94; height 166.82 ± 5.81; BMI 21.23 ± 3.32; HRrest 64.87 ± 6.66) and 78 boys (age 16.71 ± 1.18; weight 71.54 ± 11.84; height 179.06 ± 7.63, 22.33 ± 3.56 BMI; HRrest 60.44 ± 6.56). Participants completed IPAQ-long questionnaire before the PA monitoring. The PA monitoring consisted of: a) three day monitoring of PA using the ActiTrainer accelerometers - monitoring of the heart rate (HR), and b) monitoring of weekly PA using pedometers. The participants were divided into two groups with lower and higher mental loads in lessons. The group with higher mental load was consisted of participants who did not achieve the physical load < 3METs, but they achieved ≥ 60% HRmax according to the HR monitoring.

RESULTS
Boys and girls with higher mental load in lessons do not compensate this load through the volume of PA on weekends. The boys, who had smaller mental load at school, took on average 8989 steps/day (more mental load 8189 steps/day) on weekend. The girls, who had smaller mental load took even significantly more steps (10,877 steps/day) than girls with more mental load (8938 steps/day). We found no significant difference in the intensity of moderate to vigorous PA (expressed in < 3METs load and ≥60% HRmax).

DISCUSSION AND CONCLUSION
It was confirmed that weekends’ physical activity does not adequately compensate the mental load of adolescents on school days, neither the volume nor the intensity indicators of PA. The knowledge about the compensation of the mental load carrying out PA should be also an essential part of physical literacy of students and teachers.

KEYWORDS
School’s physical activity, physical education, load, health education, physical literacy
Cardiorespiratory Fitness, Not Physical Activity, is Associated with Academic Performance in Children and Adolescents

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INTRODUCTION
The benefits of physical activity (PA) and increased cardiorespiratory fitness (CRF) in the reduction of cardiovascular diseases is well known, but those benefits are not restricted to health improvements, it is believed that it is related to mental health and the improvement of academic performance (AP). Therefore the aim of this study is to examine the association of CRF and moderate to vigorous physical activity (MVPA) with AP, considering relevant confounder factors, such as age, sex, study cycle, body mass index (BMI) and socio-economic status.

METHODS
The sample comprised 730 young volunteers aged between 10 and 18 years (13.31 ± 2.58), 326 boys and 404 girls. PA was assessed using Actigraph's GT3Xs accelerometer and analyzed with specific software according to Evenson et al. (2008), and CRF was evaluated using 20 meters shuttle run test. PA and CRF were ranked into quartiles adjusted to age and gender. AP was scored using school records at the end of the school year using three main indicators: math and native language scores, and the average of math and language scores (1 through 5). T-test and general linear model were used to assess differences in academic scores, from different PA and CRF levels, adjusting for possible confounders. BMI groups were created according to Cole et al. (2012).

RESULTS
Results of AP according to different quartiles of either CRF or MVPA, suggest that higher quartiles of MVPA and CRF are associated with increased AP scores, particularly between the 1st and 4th quartiles, although only in CRF that difference is statistically significant (p< 0.05), particularly for native language (p=0.004) and the average of math and native language scores (p=0.012). A significant correlation is observed between MVPA and CRF (p< 0.01).

DISCUSSION AND CONCLUSION
The results suggest that AP is associated with higher levels of CRF, but not completely with MVPA, even after adjusting for possible confounders. That fact might be a result of the lack of power in the sample, since a correlation exist between MVPA and CRF, suggesting a line of association between MVPA, CRF and AP. Thus, we can advocate that, as optimization measures of AP of children and adolescents, schools should focus on implementing strategies for promoting PA and consequently increase cardiorespiratory fitness.

REFERENCES

KEYWORDS
Physical Activity, Adolescents, Academic Achievement
**Sports Games’ Role for Learning Health Knowledge**

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**PAPER THEME**
Physical activity in youth and children

**INTRODUCTION**
Learning through sport games can be effective for developing life skills since encompasses serious games and learning environment framework (Dumont and Istance, 2010). The aim of this paper is to develop and applied serious games in health education (Bak-Sosnowska and Skrzypulec-Plinta, 2012), using physical exercise and sports as a learning environment.

**METHODS**
201 students (15-22 years, 17.56±1.37) from Secondary School participated in the study. Learning games situations were constructed considering the follow proposals: (1) promoting the benefit of physical activity and (2) exploring some science concepts using physical exercise and sport games (McNeely, Nonnemaker and Blum, 2002; O’Donovan G et al, 2010). To evaluate the process effectiveness, two groups were formed, the control group (CG) and practical group (PG) that was exposed to problem solving through sport games. A survey was developed and tested, resulting in 23 items distributed across the following contents: Caloric Balance; Posture, Heart Rate.. Student’s knowledge perception about each concept and there need for acquiring more health behaviors knowledge were also observed. A Pre and Post- intervention test was made.

**RESULTS**
At baseline, no significant differences were found between the CG and PG in terms of background concerning knowledge about the learning contents (CB= p< .22, HR=p< .525). After intervention, results show that for all contents there were significant difference (p< .000), between groups (CG and PG). Comparing pre- and post-test it is clear that PG had significative better results for all Knowledge contents. Assessing the students’ knowledge perception about the contents (KP) and students searching for more knowledge information(SKI), for students’ knowledge perception there is no significant difference between pré and post-test (pré: p< .321 and post: p< .051). In respect to SKI after intervention results show that students of PG were searching for more knowledge information that students from CG with significant difference (pré: p< 0.172 and post: p< 0.005).

**DISCUSSION AND CONCLUSION**
The participation in the games successfully changed student’s health knowledge on many accounts. Results show that a learning environment based on games can be very useful to motivate and promote students success.

**REFERENCES**
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Dumont H and D Istance (2010) OCDE.

**KEYWORDS**
Learning environment; Games, Health concepts; psychical activity
The Investigation of Physical Activity Participation Habits of The Elderly Care Program Students and Their Attitudes Toward the Importance of Participation To A Physical Activity In The Active Ageing Process

INTRODUCTION
“Active ageing” is an important process in reducing and preventing the burden of injuries, diseases and disabilities as well as in increasing the quality of life. Regular physical activity participation as a healthy life style behavior is among the main determinants of active ageing process (WHO, 2002). From the point of healthy life style behaviours, since health personnel has been accepted as a role model in the public, the physical activity participation habits of different occupational groups working in the health area have been studied (Chiou 2014, Skaal 2011). However, there is no study related to the elderly care program students who will be working with elderly during long hours. Thus, the aim of our study was to investigate the physical activity participation habits of the elderly care program students and their attitudes toward the importance of participation to a physical activity in the active ageing process.

METHODS
This cross-sectional study was carried out by evaluating 106 volunteer students who are studying at Celal Bayar University, Health Services Vocational School, Elderly Care Program. Having obtained the informed written voluntary consent of the participants, using a questionnaire, the sociodemographical information, the physical activity participation habits and the attitudes toward the importance of participation to a physical activity in the active ageing process were recorded.

RESULTS
Seventy-six students (71.7%) had not got any habit of participating to a physical activity. The main argument of the students for no participation was the lack of time due to the busy lesson schedule (n=33; 23.40%). There were 1272 answers to the 12 positive-multiple-choice statements questioning the attitudes toward the importance of physical activity participation in the active age-
The Social Environment at Physical Activity and Nutritional Habits

INTRODUCTION
Research shows the primary factor that determining children’s nutritional habits and physical activity are family lifestyle. Social learning process socalled socialization starts at home; family is children’s informal learning environment; the other socialization environment is the social environment outside the home where is forming the life as much as family. Behaviours learned at both home and the social environments outside the home are directing the future lifestyle of the individual (Giddens, 2001). Childhood experiences of all individuals are decisive as Bourdieu’s statement in its social capital (Bourdieu, 1984). As a basic principle in the study, environments outside the home has been recognized essential at nutrition and physical activity habits. Additionally, the research has taken into consideration the children’s adopting nutrition and activity practices from the social environment outside the home which is different from their family and correspondingly that creates conflict between the two socializing tool (Giddens, 2001; Coakley, 2007; Siedentrop, 2004). In this research, conflict has seen as a factor that can cause changes in behaviour outside the home. In conclusion, the relation between home and outside the home are decisive environmental factors in child’s nutrition and physical activity behaviours and should be considered as a part of the child’s social capital.

METHODS
Research data has been collected via semi-structured individual interviews with mothers of the 12-15 age group whom regularly doing exercise. In this research, both the family and children’s exercising habits has been taken account. Interviews were carried out within two themes pre-determined by the purpose of the study; Environmental Factors in Nutritional Habits, Environmental Factors in Physical Activity Habits. In the study, the social environment outside the home implies school/ friend / game / sport / entertainment context.

RESULTS
Under the theme Environmental Factors in Nutritional Habits, in child’s nutritional habits home and outside the home factors are both effective and it has been observed that outside the home nutritional habits is adopted in home time to time. This is indicating a change in nutritional habits of the family that create diversity and variations. This change shows that the tendency of children’s nutritional habits at outside the home has been approved by the parents. This change is interpreted as the result of a conflict of these two socialization tools. The theme Environmental Factors at Physical Activity Habits; shows in general the children have been leaded (directed) by the family into regularly doing exercise. In addition to that, families are aware of the importance of physical activity for themselves and pay attention doing exercise occasionally. Participation is more common in families having health problem. The child’s school and peer group has been identified as a secondary important factor in maintaining these activities. This outcome is effected due to the fact that the sample group and also the family of the sample is exercising on a regular basis. In this sense, it is understood that the family is a control mechanism of child participation in exercise. As a result; social environment is a decisive factor nutrition and physical activity.

REFERENCES

KEYWORDS
Socialization, social capital, physical activity, nutrition, family, the social environment outside the home
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