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Issue 2/2012 – Contributors' Addresses:

Dr. Michaela Knoll,
Karlsruher Institut für Technologie (KIT), Institut für Sport und Sportwissenschaft, Engler-Bunte-Ring 15, Gebäude 40.40, 76131 Karlsruhe, Germany
Tel.: +49 (0)721 60843541
E-mail: knoll@kit.edu
Web: http://www.sport.kit.edu/14_201.php

Prof. Dr Athanasios D. Koustelios,
Department of Physical Education & Sports, University of Thessaly, Karies, 42100 Trikala, Greece
Tel.: +30 (0)24310 47006
E-mail: akoustel@pe.uth.gr
Web: http://www.pe.uth.gr/cms/index.php?option=com_content&view=article&id=162%3akoustelios&catid=58&itemid=100&lang=en

Prof. Dr Guy Le Masurier,
Vancouver Island University, 900 Fifth St, Nanaimo BC Canada V9R 5S5, Canada
Tel.: +1 (0)250 753 32452795
E-mail: guy.lemasurier@viu.ca
Web: http://www.viu.ca/shape/faculty.aspx

Prof. Dr Marcos Onofre,
Universidade Técnica de Lisboa, Estrada da Costa, 1499-002 Cruz Quebrada, Portugal
Tel.: +351 (0)21 4149104-0
E-mail: monofre@fmh.utl.pt
Web: http://www.fmh.utl.pt

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Von-Coels-Straße 390, 52080 Aachen
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Health Foundations

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Editorial

IJPE issue 2/2012 with the topic 'Health Foundations' deals with health-related aspects of physical education which are becoming increasingly more relevant in today's physical education in formal learning settings (i.e. at school) and in informal learning situations.

This issue contains two extensive review articles, one by the German researchers Dr M. Knoll and Prof. Dr N. Fessler dealing with the meaning of health-related physical activity in prevention and rehabilitation, and one by the Canadian research group lead by Prof. Dr G. C. Le Masurier dealing with school and community physical activity programming in Canada.
In addition, the results of an European study conducted by the EUPEA research group and coordinated by Prof. Dr M. Onofre (Portugal) are presented in the research article 'Physical education and sport in Europe: From individual reality to collective desirability'. Due to space limitations it was possible to print only the first part of the results here. The second part will be printed in IJPE issue 3/2012.
Issue 2/2012 is rounded off by a short contribution of the Greek research group around Assoc. Prof. Dr A. Koustelios relating to burnout and autonomy among physical education teachers in Greece.

Besides the sections Book Information / Book Review, IT News and Information, issue 2/2012 additionally contains the news of the five organisations ICSSPE, ISCPES, EUPEA, ENSEE and FIEP. The Upcoming Events section provides an outlook on conferences from mid-2012 to the end of 2012.
IJPE 2/2012 is again available either as print or online version. Access data for the online version: KadA3mQC

The meaning of health-related physical activity in prevention and rehabilitation – A review of German speaking publications in 2010 and 2011

M. Knoll & N. Fessler (Karlsruhe/Germany)

1 Introduction: Basics
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This review comprises German monographs and anthologies as well as articles published in professional journals between the years 2010 and 2011. This article ties in with the reviews on 'Physical Activity, Sport and Health' published in the 'International Journal of Physical Education' between the years 2000 and 2010 (Knoll, 2000, 2002, 2004, 2006, 2008, 2010). The following professional journals were examined systematically: 'Sportwissenschaft', 'Spectrum der Sportwissenschaften', 'Zeitschrift für Sportpsychologie', 'Sport und Gesellschaft', 'Deutsche Zeitschrift für Sportmedizin', 'Bewegungstherapie und Gesundheitssport', 'Sportunterricht', ‚Bewegungserziehung', 'Sportpädagogik', 'Motorik', Praxis der Psychomotorik' as well as 'Prävention'.

1 Introduction: Basics

Health-related physical activity is an inherently variable topic within the field of sports sciences. Throughout the years it has become an established discipline and is discussed from various sport scientific perspectives. This is seen in accordance with developments in the German-speaking realm and the increasing number of sport scientific congresses and conventions in this field. In coalition with researchers of various sport scientific disciplines, the Health Committee[1] of the German Union for Sport Sciences (dvs) sets the scientific standards for German-speaking sports science through annual conventions and represents the continuity as well as the variety in the development of this area of research. Within this review period, two conventions[2] were held: "Quality in physical activity and health" in 2010, where the focus was on topics related to measurement quality and quality assurance in health-related physical activity. In 2011, topics related to scientific transferability to health-related physical activity were discussed at the convention "Kids in motion – bringing together

[1] See also www.dvs-gesundheit.de
[2] The publications for both these conferences are expected to be available in 2012.

scientific efforts". This convention was integrated into the field-oriented "Kinderturnkongress"[3] at the Karlsruhe Institute of Technology.
At the initiative of the dvs Health Committee, topics pertaining to physical activity were also addressed at the German Union for Sport Sciences' 20th Sport Scientific Conference "Creativity – Innovation – Performance. Research moves SPORT moves research" (Hottenrott, Stoll & Wollny, 2011). Furthermore, in a first-time cooperation with the task force 'Movement Therapy' (part of the German Society of Rehabilitative Sciences) the dvs Health Committee held a conference on the topic "Sport, movement and chronic illness" as part of the German Sports Medicine Convention 2011. A hotly debated topic at this convention was: "Is there enough movement in health care?" In addition to the diverse convention activities, the dvs Health Committee also dedicated efforts into addressing questions concerning the quality of education of sport science students aspiring to work in the health industry: An excellent summary of university programs in Germany for health-related physical activity in sports sciences has been available since 2010 (www.dvs-gesundheit.de/Studiengänge).
Alongside the dvs Health Committee, other sport scientific disciplines within the German Union of Sports Sciences have also discussed topics related to physical activity and health at various conventions in the past two years; for example, the collective symposium for biomechanics, motor learning and exercise physiology in 2010 which focused on health from a movement and performance perspective (Mattes & Wollesen, 2010). Of particular interest are the 2010 published proceedings (Kähler & Schröder, 2011) from the 2008 annual 'Sport Economy' task force convention on the topic "Economical perspectives of sport and health".
In addition, multiple professional conventions have taken place over the past few years which are directed particularly towards teachers (including pre-school), fitness instructors and trainers and aide in the effective transfer of the scientific understanding of physical activity and health into practical situations. Regarding children and youths, conventions were held in Karlsruhe (recently 2011 "Kids in motion – utilizing energy", Baadte et al., 2011) and Osnabrück (recently 2011 "Childhood in motion") which have established a sense of tradition and appeal to practitioners in kindergartens, schools, sports clubs and local communities. Also published within this review period is the documentation of the Osnabrück convention in the year 2008 on topics regarding "Education possibilities through movement – starting in early childhood!" (Hunger & Zimmer, 2010).
Alongside these conventions and anthologies, fundamental scientific articles have also been published within this review period that are particularly relevant to the area of physical activity and health. Based on commented bibliography published in 2010 on physical activity and health (Waffenschmidt, 2010), Waffenschmidt (2011) put forward a bibliometric analysis on "physical activity and health in the conflicting areas of sports sciences, public health and health political requirements". This bibliography considers scientific publications of various authors residing in Germany which address movement-related primary prevention and health promotion from the year 2000 to 2007. The bibliometric analysis is founded on the characteristics of productivity, publication style, role players, topics as well as formal aspects (language, impact factor, citation). A central finding of this study is therefore, "that this area is developing, increasing in professionalism and nurtures information exchange with other scientific disciplines. […] Increasing influence from non-sport scientific role players could be identified. […] The study also confirms that the topics addressed by the analyzed publications are for the most part in agreement with the

[3] A conference addressing topics related to physical activity and exercise directed towards children.

priority areas in health politics" (Waffenschmidt, 2011, p. 3). This bibliometric analysis presents an excellent overview for the thematic spectrum of the publications in the early years of the new century and shows that the meaning of physical activity also plays a role outside of sports sciences; for example in related fields such as health psychology.

From the area of rehabilitation, the fundamental work by Hölter (2011) on movement therapy for psychological illnesses is noteworthy. In this publication, movement therapy is comprehensively explained as a clinical treatment method for psychological illnesses. Beginning with a representation of historical scientific fundamentals of this form of therapy, the connection between 'body and physical activity' is discussed as well as the theoretical fundamentals. Subsequently 'contours of a clinical movement therapy' are explained including diagnostics, direction of content as well as evaluation, and differentiated into various methods according to disorder and age. This publication is not only an important reference for theorists of sports and health sciences, but is also meaningful for therapists working in clinical institutions.

The anthology by Betz & Hottenrott (2010) was also published within this review period, addressing aspects of health-oriented training with children and youths, and presents mainly medical, natural science-related articles on health, performance and resilience of children and youths.

The publications discussed so far concern general topics in the field of physical activity and health. The following will point out articles that focus on diagnostics, parameters and characteristic of health-related physical activity (Chapter 2). Effects of health (Chapter 3) and health-oriented physical activity with children and youths (Chapter 4) as well as adults and seniors (Chapter 5) will also be discussed prior to a brief outline on future perspectives of sport scientific research (Chapter 6).

2 Health-related physical activity - Diagnostic, parameters and characteristics

Within this reporting period, a series of publications appeared that, in addition to thoughts on various characteristics of health-related physical activity, also discuss questions regarding diagnostics and determining factors of physical activity, i.e. influencing factors on an individual as well as collective level.

2.1 Diagnostic and health-related physical activity

This review period also presents a series of articles concerning questions related to diagnostics. For example, Ziemainz & Peters (2010) present an overview on instruments for measuring the current status of well-being of individuals participating in health-related physical activity. In a critical review, five different questionnaires used for this purpose were systematically and comparatively examined according to theoretical basis, structure and quality criteria. Subsequently, recommendations for implementation are given. Trampisch et al. (2011) look at the suitability of using questionnaires for acquiring information regarding everyday physical activity of older adults. Müller, Winter & Rosenbaum (2010) demonstrate which objective (i.e. subjective) style of procedure can be used to measure everyday physical activity in research. This work group also examined the accuracy of movement sensors, an instrument increasingly being implemented in physical activity related studies, when used with children and young adults (Müller et al., 2011). In the area of performance diagnostics for the cardiovascular system, the article by Scheld et al. (2011) on the testing of implementation possibilities of 6-minute walking tests for patients with heart problems is noteworthy. Measurement and analysis procedures on variability of heart frequency are discussed in the context of health promotion within the framework

of an international symposium in 2010 (Hottenrott, Hoos & Esperer, 2011) as well as in a journal article by Schega et al. (2010). In the area of strength diagnostics, the article by Marschall & Gail (2011) is worth mentioning. In this study, a standardized and evaluated test protocol for the consideration of important influencing factors on isometric muscle strength is presented that is suitable for trained recreational athletes. Theisen & Wydra (2011) developed a motor skill test, the GGT-Reha, for testing static and dynamic balance in the area of sports therapy.

2.2 Parameters of health-related physical activity

In designing health-related physical activity programs, the parameters play a fundamental role – i.e. the question, if and under which conditions an individual decides to start taking part in health promoting physical activities. In this regard, the dissertation by Niermann (2011) is worth mentioning which, in three empirical studies, examined questions on how to measure willingness and behaviour processes when it comes to physical activity and nutrition. Niermann (2011) also looked at the relevance of an effective self control for participation in physical activity and how this can be specifically targeted in health promotion. With an intervention study 'MoVo-Lisa', Fuchs et al. (2010) show how these subject areas can be implemented in therapeutic practices. 'MoVo-Lisa' is a psychological intervention program directed to support "building up and maintaining a physically active lifestyle following a stationary rehabilitation" (Fuchs et al., 2010, p. 270). In this regard, this program is not only directed towards strengthening motivation, but also volition, meaning the program is directed "towards promoting self-control, allowing intentions alone to actually lead to behaviour change" (Fuchs et al., 2010, p. 270). To test the effectiveness of this treatment, 220 participants at a stationary orthopaedic rehabilitation centre were examined within a quasi-experimental scientific design. In relation to physical activity and health issues one year after cessation of treatment at the clinic, the results of this methodical study show convincing evidence that a standardized and comparably affordable program "can contribute to the development of a sustainable physically active lifestyle" (Fuchs et al., 2010, p. 270).

The predominantly academic population groups and the corresponding specifically designed programs, for example a predominant type of illness and the associated symptoms, is supplemented by Sudeck, Lehnert & Conzelmann (2011). In this study, the individual goals and motives were considered as criteria for the program design in order to work against high dropout rates in health-related physical activity courses. To differentiate between so-called 'motive-based types', 228 participants were examined regarding their physical, health-related and psychological characteristics as well as their physical activity behaviour. Based on these results, different 'motive-based types' could be identified, who conceptually should take part in specifically designed physical activity programs. Keeping in mind the differentiation of various 'motive-based types', Sudeck & Conzelmann (2011) in a quasi-experimental study examined the extent to which a custom physical activity program for each identified type influences the various aspects of state of being in the participants. Despite methodical limitations, the results suggest the relevance in taking the various motives into consideration when systematically designing physical activity programs.

In contrast to the listed articles addressing health behaviour change, other articles, such as Rütten & Frahsa (2011) and Rütten, Frahsa & Abu-Omar (2010), focus on adjusting an individual's social environment in relation to physical activity. Rütten & Frahsa (2011) present thoughts on theoretical conceptualization of social conditions affecting participation in physical activity as a main goal of health-related physical activity. In a case study example from the field of intervention (at a 'women's only'

swim time at a municipal indoor swimming pool) the factors are "discussed that could make a change of social environment possible, leading to an improvement in physical activity-related health promotion" (Rütten & Frahsa, 2011, p. 16) for women in difficult life situations (e.g. for Muslim women in Germany). According to the authors, consequences for intervention research arise from this theoretical approach, in particular for future planning of intervention studies which will have little to do with the conventional "orientation on a randomized, controlled experimental design". Rütten, Frahsa & Abu-Omar (2010) give an overview on political and infrastructural approaches in health promotion directed towards specific population groups and, in light of the status of international research, summarize the "scientific evidence regarding the connection between politics and infrastructure and physical activity" (Rütten, Frahsa & Abu-Omar, 2010, p. 18). The authors formulate the conclusion by outlining the international evidence base: "Whereas the current sport scientific discussion surrounding 'health promotion through physical activity' are primarily directed towards the development of physiological and psychological health resources and the self-defined core areas for intervention, 'health-related physical activity' and 'movement therapy' are concentrated on behaviour changes, the evidence regarding 'social conditions affecting health promotion of physical activity' found in many scientific studies has lead to a new focus in international public health discussions towards the development of political infrastructural parameters for physical activity" (Rütten, Frahsa & Abu-Omar, 2010, p.29). From the authors' point of view, there is a lack of "appropriate conceptualization of physical activity promoting conditions as well as an operationalization of these conditions – not only within empirically based research, but also in a sport related health promotion practice" (Rütten, Frahsa & Abu-Omar, 2010, p.19). On this basis, Rütten, Frahsa & Abu-Omar report on results of an ongoing research project which "attempts to identify criteria of good practice for the development of infrastructures for health promotion in a European context" (Rütten, Frahsa & Abu-Omar, 2010, p.18) and outline guidelines for the implementation of the corresponding measures to be taken.

2.3 Characteristics of health-related physical activity

In view of the various types of physical activities, endurance training continues to be the primary method of fitness training in health-related and rehabilitative physical activity. The importance of endurance training for physiological and psychological health has been proven (e.g. Knoll, 1997; Knoll, Banzer, Bös, 2006). For this review period, publications by Rösner (2011) and Scharhag et al. (2011) are noteworthy. As in previous review periods, the relevance of strength training has also been addressed in publications of the past two years. In this regard, König et al. (2011) present an overview on the current research on the effects of strength training for individuals with diabetes mellitus type 2 and the resulting recommendations for physical activity programs. The effects of strength training in relation to back problems were examined by Stephan, Goebel & Schmidtbleicher (2011).

With results on "health promotion in a university setting", Möllenbeck (2011) presents information on the increasing prevalence and effects of physical activity for university students and therefore addresses a population group that has hardly been looked at in the area of health-related sports sciences. The cross-sectional survey of more than 4000 students at the University of Göttingen presents an abundance of descriptive data on the health status and physical activity behaviour of the students. A scientifically relevant answer to Möllenbeck's (2011, p. 143) main research question, "to what extent does physical activity of students contribute to health promotion and

represent a health promoting factor", cannot be derived due to the cross-sectional nature of the study.
In addition, three publications (Mayer, 2010; Mayer & Thiel, 2011; Thiel, Mayer & Digel, 2010) are also of note, which discuss the topics of health and elite sports and how they are connected – an aspect that has hardly been addressed from a health-related physical activity perspective.

3 Effects of health-related physical activity

The relevance of physical activity as an influencing factor for health and subjective well-being is the initiating factor of the conceptualization of health-related physical activity programs.
Based on the evaluation of existing results from randomized, clinical studies, König (2011) presents the effects of medicinal interventions as compared to physical activity. By exemplifying arteriosclerotic related illnesses, he could show that physical activity can contribute substantially to risk reduction, being comparable to medicinal therapies.
The importance of movement therapy in clinical rehabilitation of children and youth and to what extent expert recommendations are being applied was examined by Ahnert et al. (2011). The authors show that the spectrum of the applied movement therapy for a corresponding illness of children and youths is relatively large and, in order to be in compliance with current therapy guidelines, standards should be improved.
In his review article, "Serious games in prevention and rehabilitation", Wiemeyer (2010) discusses an area that has hardly been examined in health-related physical activity research. 'Serious games' are meant to be understood as digital games (computer and video games), which are implemented as 'exergames' or 'games for health' for the purpose of health promotion (Wiemeyer, 2010, p. 252). Wiemeyer recognizes a great preventive potential in such games in which, for example, meaningful increases in energy expenditure or improvements in perception and coordination abilities could be made.
As in the past year, publications that focus on the area of secondary prevention through physical activity focus on cardiovascular related illnesses (among others, Coll Barroso et al., 2011). Notable are the articles from Lakämper (2011) on the EvaPlus-Project for women in cardiovascular rehabilitation (a project that combines health awareness programs with physical and expressive therapies) and the study by Nitsche, Sickert & Schulz (2011) on the structure of health promoting 'heart groups' in the area of Chemnitz/Germany.
Aside from the leading cardiovascular illnesses observed in morbidity statistics, other selected medical conditions and the extent to which they can be influenced by movement and/or sports therapy have been taken into focus, such as overweight and obesity. Huber (2010a) demonstrates in his overview article that lack of physical activity counts as a central factor influencing the development of obesity as well as indicating which epidemiological parameters are relevant. With the support of international research, it can be confirmed that "from the three known significant factors that influence body weight,… it is neither the individual metabolism nor nutrition, rather the consistent decline of physical activity that is responsible for the increasing numbers of overweight and obese people" (Huber, 2010a, p.50). Huber comes to the conclusion that "the role of nutrition in discussions about obesity is strongly overestimated; the role of movement is therefore to the same extent underestimated" (Huber, 2010, p.50). On the methodical, statistical level, Bucksch & Schlicht (2010) address the question as to whether physical activity can reduce the

risk of mortality for people who are overweight as well as for those of normal weight. The authors come to the following results: “If people who are of normal weight and those who are overweight follow the established activity recommendations, the risk to die early will sink” (Bucksch & Schlicht, 2010, p.72). Using the example of a twelve month physical activity oriented patient awareness program, M.O.B.I.L.I.S (multi-centre organized physical activity related initiative for lifestyle changes in personal responsibility; launched in Germany in 2004) which implements seminars on nutrition and behaviour change as well as 40 physical activity units, Berg et al. (2010) and Frey et al. (2010) demonstrate the success that can be experienced in weight reduction in obese adults (see also Baldus, Huber & Lagerstrom, 2010; Huber, 2010b with publications to special intervention programs). The study by Kemmler, Birlauf and von Stengel (2010) examines the influence of electromyostimulation training in participants with metabolic syndrome.

Another focal point for this review period is the physical activity related publications on medical conditions and illnesses involving the spine. In this regard, Schröder & Färber (2010) developed “segmental stabilization training as a building block of an evidence-based movement therapy for back conditions”. Kleinert & Raven (2011) show how the locus of control can change for individuals with back pain when involved in sport therapeutic programs. Niesen-Dietrich et al. (2010) examined the effects of comparable strength and endurance training programs on fitness level, overall health and back pain.

Areas that have been less explored in the past were addressed by, for example, Baumann & Bloch (2011), Rösner (2011), Wittmann et al. (2011) on the influence of physical activity and tumour-related illness, Wolfsegger et al. (2011) for autoimmune diseases, Bühlmeier & Alt (2010) for Parkinson’s disease as well as Deibert et al. (2010) on physical activity and liver diseases.

4 Health-related physical activity with children and youths

In the area of health-related physical activity with children and youths, several articles have been published within this review period that address topics such as motor performance ability, sportive activity and health of children and youths.

In an overview article, Krombholz (2011a) outlines the results on health and motor performance ability in children. For this purpose, the author refers to data from a child and youth health survey conducted throughout the whole of Germany (KiGGS Study) 2006. Using data from this nationwide survey, i.e. from the so-called ‘Motorik-Modul’ (MoMo a sub-study of KiGGS), Tittlbach et al. (2010) evaluate the results with a focus on the following question: “Is there a difference in the health of physically inactive children and youths who participate in a high rate of physical education (more than two units a week) and physically inactive children and youths with a low rate of physical education in school (less than and including 2 units a week)?” (Tittlbach et al., 2010, p.121). Based on data from 310 inactive children and youths, the results show “no significant difference between both groups concerning the examined health parameters” (p.123). The health parameters examined included physiological and psychological health resources, physiological and psychological stress symptoms as well as overall health. The authors come to the conclusion that the “potential effects of physical education on the health parameters can only be expected when quantitative loading and qualitative program design of the activities is specifically planned – meaning that physical education classes must be planned systematically as a health-oriented physical activity program” (p.125). The authors therefore recognize that this is not the primary purpose of physical education in schools.

The question of whether and in what way motor performance ability has changed across the generations continues to be controversially discussed. Krombholz (2011b) specifically examines the question of whether motor performance in boys and girls aged three to seven has decreased between the years 1973 to 2001. For this purpose, he was able to refer to data from three fitness tests from a coordination test (KTK) for children by Kiphard & Schilling (standing long jump; balancing backwards; jumping back and forth). Contrary to popular belief on regressing motor performance ability of future generations, Krombholz could not identify a decline of motor performance ability, also not when comparing each gender. Bös, Krug & Schmidt (2011) chose to implement a retrospective questionnaire, asking adults about their physical activity. In this study, various differences could be identified between elementary school children today and past generations (e.g. in acquiring motor competencies).

On multiple topics for health promotion in educational institutions, articles by Engelhardt & Halle (2010) for pre-school as well as Kleiner (2010) and Behrens (2011) for grade school are noteworthy for this review period. With the focus on grade school, Kleiner (2010) addresses the question of what effect does the lesson 'movement and sport' have on health and what sustainability can be attained for extracurricular physical activity behaviour, as well as for the years beyond school? Behrens (2011) presents thoughts on the importance of physical activity for the health of children and pleads for an expanded understanding of physical activity in a school setting that is not only limited to sport disciplines in physical education, rather increasingly includes new trends in sports.

As mentioned in the previous review, the topic of 'Learning in Motion' is the focus of various sport scientific studies and addresses children and youths in particular. For example, Krüger (2010) presents results of an evaluation for a teaching concept directed towards promoting learning success in the subject of biology through 'Learning in Motion' for junior high and high school students. The results show that students taking part in the 'Learning in Motion' program could demonstrate higher motivation to learn, better concentration and an above-average performance in written examinations on course content. A limiting factor to this study, however, is that no control group was taken into consideration. Concerning this area of research, it can be stated that there is an overall inconsistency of results from existing studies. In this regard, a representative study (N = 552 students; 14 classes each for the treatment and control groups; grades 3, 4, 6, 8 and 10) by Fessler, Stibbe and Haberer (2008, cf. also Fessler & Haberer, 2008) on the effects of 'Learning in Motion' on concentration showed no significant results between treatment groups that received more physical activity (in the form of a 'movement break' during lessons) and the control groups without any additional 'movement breaks'. The authors attribute this to inadequate examination methods, stating that "convincing intervention studies supporting the effects of physical activity on willingness to learn, learning ability and performance need to be more demanding than in previous studies, namely as long-term, longitudinal studies." In view of the existing scientific results on 'Learning in Motion', the results need to therefore be viewed conservatively, without doubting occasional effects that physical activity can have on learning performance or cognition.

By including physical activities in the everyday routine at school, questions arise concerning coordinating the school day through planned rotations of classroom lessons and recreation time, of phases of concentration and relaxation - the basis for an overall healthy development of the students. An entire issue of the journal 'Sportunterricht' (the information medium of the German Physical Education Teachers Association) is dedicated to the question: "Relaxation training in schools?"

(issue 6/2011, vol. 60). Of particular interest is the article by Fessler (2011), with conceptual reflections and theoretical models outlining relaxation techniques for children and youths and the implementation in the school setting. Schwarz & Budde (2011) bring up health-related thoughts on "directing awareness and consciously being relaxed" and Opper & Petermann (2011) introduce possibilities of "relaxation in schools with Qigong". Specific practical tips are given in this issue on yoga by Fessler & Geiser (2011), on massage techniques by Müller & Müllerschön (2011) and on stretching by Haberer (2011).

In addition to the articles presented on primary prevention, other articles which focus on secondary prevention have also been published within this review period. These publications address various illnesses in children and youths and the influence of physical activity. With regard to overweight and obesity, the physical activity program 'SafariKids on Discovery Tour' by Wagner (2010) is remarkable. This program is a resource-oriented physical activity program for the prevention of overweight children, developed for application in sports clubs. This twelve-week physical activity program is combined with a nutrition program, consists of a 60-minute unit every week and addresses children between the ages of eight to twelve, also including their parents. Walter et al. (2010) present a pilot study on the effects of "multi-modal outpatient care on lifestyle factor of obese children". The results show that "through a specified, structured and supervised afternoon program, significant improvements in motor performance ability and BMI" (Walter et al., 2010, p. 9) could be reached. The weight reduction, however, was quite low, which the authors attribute to the short duration of the intervention program. Changes in health-related quality of life could not distinctly be proven and are subject to gender specific influences. A further study by Gröne-Bentz (2011) addresses the effects of additional weekly physical activity units for overweight and obese children in remedial physical education on their motor performance ability. It could be demonstrated that the intervention program is more effective when implemented in groups of individuals of equivalent performance level as when the groups are heterogeneous relative to performance level.

Hofmann & Tietjens (2010) address the research status for physical activity with children and youth with types of cancer, a group which has only marginally been considered in research. Based on an evaluation of current research concerning the importance of physical activity for this relatively small population group, the authors present the concept of a 'mobile trainer', a person who would develop sport specific intervention methods and who would also act as an advocate for family, physical education teachers, sports clubs and doctors.

The anthology by Sepp (2011) is exemplary amongst the many practical tips for designing physical activity programs. Under the heading "Seriously active" it presents 90 units of physical activity in a group fitness room or swimming pool for obese children between the ages of eight and twelve. Secondly, the anthology by the German Youth Gymnastics Association (2010) is also of note and describes the use of adventure stories to inform children of 'healthy nutrition' during physical activity programs.

5 Health-related physical activity for adults and seniors

Physical activity, fitness and health are being increasingly addressed as central elements across an individual's lifespan from a sport scientific point of view (cf. Knoll & Woll, 2008). For this review period, a large portion of the publications take the older adult population into consideration. From a gerontology point of view, Kalinowski, Wulff & Dräger present thoughts on a resource analysis model for physical activity promotion in care homes for older adults. Publications by Geuter &

Holllederer (2011) as well as Späker (2011) address aspects of physical activity across a person's lifespan. Whereas Geuter & Holllederer (2011) draw on literature-based research to give a brief overview and recommendations for the type and extent of health promotion for older adults, Späker (2011) presents thoughts on designing movement-related health promotion programs for this population. Taube et al. (2010) examined the effects of inline skating on balance ability, an activity hardly researched in the area of physical activity and older adults.

Of particular importance during this review period was the topic of fall prevention on older adults, for which balance capabilities are vital. Considering demographic tendency and the growing group of older adults, this topic has much momentum (cf. Freiberger, 2010). Freiberger & Spies (2010) present the results of a field study on the effectiveness and sustainability of an evaluated fall prevention program in a communal setting. In this study, significant improvement in strength and balance ability could be identified as central factors in decreasing the risk of falling, which also had positive effects one year after treatment. The study by Kemmler et al. (2011) is particularly interesting, which examined the influence of an 18-month training program for various risk factors and illnesses (e.g. cardiovascular risk, fall frequency etc.) of older adults and simultaneously looked at health-related costs. While a 'middle to high effectiveness' of the program could be shown for the risk factors (i.e. illnesses) no significant effects were demonstrated in relation to health costs (Kemmler et al., 2010, p. 267). Among other things, the authors attributed this to the heterogeneous group of participants. In a carefully planned twelve-week intervention study, Illig & Pfeffer (2010) examined to what extent a health-related physical activity program executed once a week would influence the motor and cognitive regression processes in older adults. Although the treatments clearly lead to improvements in motor abilities, cognitive function ability could not be improved. According to the authors, it is "still unclear which type of physical activity leads to the most meaningful effects" (Illig & Pfeffer, 2010, p. 113).

From a so called *Motogeragogik*[4] point of view, publications on health-oriented approaches to physical activity promotion with older adults are admirable. For example, the article by Eisenburger et al. (2011) on aspects of documentation and quality development in *Motogeragogik*, Drastik-Schäfer (2011) on the implementation of psychomotor content for residents in retirement homes and care homes for older adults as well as the article by Eisenburger (2011) on psychomotor programs for adults with dementia. Two review articles address the role of physical activity in preventing dementia. Based on the evaluation of international studies, Bostelmann & Eidenschink (2011) consider the preventive effectiveness of physical activity to be proven, while Eichberg (2011) comes to a much more apprehensive appraisal: "to claim that movement and sportive activity would reduce the symptoms of dementia and delay the onset of the disease or even prevent it, would be over-exaggerated based on current research. A reason for this, is the minimal evidence regarding the influence of physical activity across an individual's lifespan" (Eichberg, 2011, p. 8).

Practically oriented publications for health-related physical activity as an older adult were brought forth by Reuß (2010), who presents a fitness training program for seniors 60+, and the German Gymnastics Association (2010) on fall prevention for older adults. The publication by Jasper & Regelin (2011) is also worth mentioning and focuses on people with dementia.

[4] 'Motogeragogik' (i.e. pedagogics of gerontology in the sports sciences) is a field of study in the German-speaking realm directed towards personal development and improvement of quality of life through physical activities for older adults.

6 Future perspectives

In summary, it can be stated that as was the case in recent years, German-speaking sport scientific research in health-related physical activity has focused predominantly on the determinants of health-related physical activity as well as on the development and evaluation of such programs. Prominent, however, is that in comparison to past years, a stronger focus has been placed on physical activity for older adults. In addition, promising topics which received less attention in the past were examined; such as the concept of designing programs according to the 'motive structure' of the participants, the importance of physical relaxation for various population groups in various settings or the implementation of new types of media (e.g. the 'serious games'). Once again, the area of diagnostics for various population groups was a focal point. In future, however, researchers must put even more emphasis on implementing methodical proven test instruments in the evaluation of intervention programs. This also applies to the assurance of quality standards for health-related physical activity programs through appropriate quality management. This should also be of a higher priority in future research, so that health promoting physical activity programs can be implemented with more confidence as a vital building block when designing programs and considering measures to be taken towards health promotion and prevention. This review clearly reveals that not only does the individual health behaviour need to be considered in public health measures, but more attention should be directed towards aspects of the social environment enabling people to take part in health promoting physical activity in Germany.

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Active in the North: School and Community Physical Activity Programming in Canada

C. Hickson[1], D. Robinson[2], S. Berg[3], N. Hall[4] ([1]Edmonton, [2]Antigonish, [3]Okanagan/Vancouver, [4]Winnipeg/Canada)

1 A Canadian perspective
2 What is a Canadian school?
3 From sea to sea to sea: Physical education in Canadian schools
4 Measuring up: Levels of success
5 Canadian challenges in physical education
6 Next steps: Where do we go from here?
References

1 A Canadian Perspective

Similar to other countries, Canada has attempted to provide children and youth with programming that promotes opportunities to be physically active. This programming can be found within both the Canadian school system and also community or regionally implemented initiatives. Although physical education programming at the school level has had a consistent presence for many years and community activity programs are not new phenomena, the present impetus for the continuation and the increase of opportunities through such programming can clearly be linked to the reported health crisis that exists within Canada and throughout much of the world (Patton & MacDougall, 2009). Therefore, in response to the well-documented benefits of physical activity and the continued reports suggesting that the health of children and youth in Canada is something that still needs to be carefully considered and planned for, educational jurisdictions and health agencies have continued to create a variety of school and community programming to combat the disturbing inactivity and health trends. The Ontario Ministry of Education (2010) Health and Physical Education curriculum document and the community physical activity awareness initiative *ParticipACTION* are examples of this response. Both communicate a common goal of healthy, active lifestyle choices.

Although the development of an active lifestyle in children and youth is commonly accepted as being critically important because it is likely to be carried over into adulthood (McKenzie & Lounsbury, 2009; Telama, Laakso, Nupponen, Rimpela, & Pere, 2009; Trudeau & Shephard, 2005), the effectiveness of the kind of physical activity opportunities provided to children and youth in Canada is something that has not been clearly established. For example, despite these physical activity opportunities, children and youth in Canada continue to exhibit many of the same health-related characteristics plaguing other nations. These include an increased incidence of overweight and obesity (Tjepkema, 2005; Tremblay, Katzmarzyk, & Willms, 2002) as well as a number of related chronic conditions, including diabetes, high blood pressure, and heart disease (Katzmarzyk & Ardern, 2004; Millar & Young, 2003; Tjepkema, 2005).

Reports (e.g., Blair, Hickson, & Rattigan, 2011; Hardman & Marshall, 2005) suggest that school physical education programs, world-wide, are in a state of decline and in some cases can be considered as a marginalized area of study when compared to other areas of the school curriculum. If this is the case, it is most unfortunate as, for many of the children and youth in Canada, physical education is the major source of physical activity (Trudeau & Shephard, 2005). This may well be illustrated by the 2007-2009 Canadian Health Measures Survey data that revealed that only 7% of children and youth met the Canadian physical activity guidelines of at least 60 minutes of daily moderate to vigorous physical activity (Colley et al., 2011).

The work of researchers such as Hardman and Marshall (2005), Telama (2009), Trudeau and Shephard (2005), and Colley et al. (2011) has been a catalyst for much thought and discussion. It has provided the platform for others to seek out complementary information that can be used to determine the consequences of such trends and the importance of supplemental programming to ensure that children and youth experience opportunities to choose and follow a healthy, active lifestyle.

This article outlines and discusses the programs established in schools and communities to promote and support activity for children and youth in Canada. Each section considers the various influences and how Canadian authorities have attempted to answer the needs of children and youth. For example, the initial sections provide an overview of the Canadian school, consider school programming, provide an overview of the community perspective, and discuss the success levels of initiatives. Whereas, the final sections of the paper address the challenges that still need to be overcome and provide suggestions as to what the next steps might be for Canada.

2 What is a Canadian School?

It is important to make it especially clear that the label “Canadian school” might be rightly regarded as a misnomer. That is, within Canada, control of *public* education has been afforded almost entirely to individual provinces/territories since the establishment of Canadian Confederation, and the signing of the Canadian Constitution Act,[5] in 1867 (Young & Levin, 2002).

As a result of this initial act, public education has been almost entirely under the jurisdiction of the geographically more-local provincial/territorial governments (and, hence, also publically funded through local taxation). Unlike the happenings within some other countries, Canada exhibits an almost-complete absence of federal

[5] The Constitution Act, 1867 was named the British North America Act, 1867 until 1982; within the United Kingdom, it widely continues to be referenced as the British North America Act, 1867.

involvement in education.[6] Consequently, there are no national curricula, standards, or teacher certification requirements for education.

In addition to school differences that might arise due to the presence of thirteen different provincial/territorial governments' influence on public education, each province/territory boasts a number of possible "types" of schools. For example, most students within Canada (approximately 93%) are educated within public schools (many of which are faith-based), though the variation between provinces/territories is particularly notable (Statistics Canada, 2000). For example, within the Northwest Territories, 100% of students attend a public school while within the province of Manitoba, approximately 87% attend a public school (Statistics Canada, 2000). Within Canada, the other 7% of students generally attend private schools (which, depending on the province/territory, may enjoy considerable autonomy with respect to curricula, standards, and teacher certification requirements) or Federal/First Nations schools (Statistics Canada, 2000).

Two other noteworthy elements prohibiting an entirely uniform description of Canadian schools are related to possible grade level structures and the diverse geography. Public, private, and Federal/First Nations schools all vary considerably in grade level structure. For example, some are elementary schools (e.g., grades kindergarten-6), some are middle or junior high schools (e.g., grades 7-9), some are senior high schools (e.g., grades 10-12), and some include all grade levels. Additionally, the extraordinarily diverse geography of Canada clearly has an impact on the types of schools students attend. In addition to the presence of urban, suburban, and rural schools, some schools are especially remote and/or northerly (where an entire school might have just three students, 24 hours of daylight, or immediate access to lakes, mountains, or one of three major oceans).

3 From Sea to Sea to Sea: Physical Education in Canadian Schools

Given the diverse nature of Canadian schools, particularly due to the geographic, structural, and political influences associated with the various provinces and territories, the types of physical education programs taught similarly vary. Notwithstanding this variance, there are certainly some common elements between and among some provinces'/territories' physical education programs.

(Health and) physical education. Within Canada, the 10 provinces and 3 territories are responsible for producing their own curriculum materials in all subjects, including physical education. These physical education curricula are generally revisited and rewritten every 10-20 years and, at present, the most dated physical education curriculum documents are from 1994 (see Saskatchewan Learning, 1994) while the most recent ones are from 2010 (see Ontario Ministry of Education, 2010). Some provinces/territories may produce a single curriculum document for all grade levels (see Alberta Learning, 2000) while others may produce multiple documents for the various grade levels (see Manitoba Education, 2011). Rather than producing their own original physical education curriculum documents, one of the provinces and all three territories "borrow" curriculum documents produced by their nearest provinces. For example, the Yukon Territory uses the British Columbia physical education curriculum, the Northwest Territories and Nunavut use the Alberta physical education curriculum, and Prince Edward Island uses part of the Saskatchewan physical education curriculum.

[6] The lone exception is that the Federal Government continues to play a role within some of Canada's Aboriginal communities. Many of these Aboriginal communities have been reclaiming their rights with respect to education in recent years; consequently, Federal involvement within these schools is generally declining.

Of the many provincial physical education curriculum documents in use (there are no fewer than 30), three provinces (Manitoba, Ontario, Quebec) have labeled their programs *Health and Physical Education* while the other seven have labeled their programs *Physical Education*. Those provinces with *Health and Physical Education* curricula typically include elements explicitly related to such topics as healthy lifestyle practices (e.g., substance abuse prevention, sexual health education) and personal and social management (e.g., health decision-making, building positive relationships; Kilborn, 2011). Despite this obviously more-holistic approach, teachers who teach *Health and Physical Education* are functionally required to teach health *and* physical education. Such a requirement does not exist for physical education teachers within the other provinces/territories as a separate health curriculum is offered within these teachers' schools.

Physical education curricular programs across Canada generally have very similar aims/goals, curricular elements, and suggested activity experiences. Students are expected to achieve cognitive (knowledge, knowing), psychomotor (skills, doing), and affective (attitudes, valuing) outcomes so that they might become enabled to lead active and healthy lives. By attending to these three domains, physical education teachers aspire to empower their students to become physically educated, or physically literate. Activity experiences, through which outcomes are taught, are similarly grouped within most provincial/territorial curricula. For example, they generally include such categories as gymnastics (e.g., pyramid building, educational gymnastics), dance (e.g., partner, line), sport experience/games (e.g., cooperative games, invasion games), alternative activities/outdoor pursuits (e.g., hiking, skiing), and active living (e.g., aerobics, rope jumping).

Time allocations and graduation requirements. Currently, with few exceptions, all elementary and junior high students in Canada are required to receive physical education instruction (Canadian Association for Health, Physical Education, Recreation, and Dance, 2006). However, different provinces/territories have set different instructional time allocations (as guidelines or requirements) for physical education within all of the grade levels. In the elementary years, some provinces allocate 5% of the total available instructional time (approximately 75 minutes/week) to be dedicated to physical education instruction while other provinces allocate as much as 165 minutes/week. In the junior high years, the same sort of range exists, with the majority of provinces allocating near 10% of instructional time (approximately 150 minutes/week) to physical education instruction (Active Healthy Kids Canada, 2011).

Within senior high school, most provinces/territories require students to complete a single physical education course. Two provinces/territories do not require the completion of any physical education courses while one province has recently required students to complete more than one physical education course as a condition for graduation. The lone physical education course required within most provinces/territories can be for as little as 75 instructional hours, though most provinces/territories require 100-110 total instructional hours. It is also important to note that in addition to the *Physical Education* and *Health and Physical Education* courses available within high school, many provinces/territories offer other physical education or physical activity-related programs as possibilities. These other courses are sometimes available as options in lieu of regular physical education and sometimes are offered as additional courses. These possibilities include *Recreation and Fitness Leadership* in Ontario, *Physically Active Living* in Nova Scotia, *Healthy Living* in Newfoundland and Labrador, and *Outdoor Pursuits* in New Brunswick (Kilborn, 2011).

Daily physical activity. The limited number of minutes afforded to physical education instruction in Canadian schools clearly does not allow students to meet the in-school physical activity guidelines suggested by the Public Health Agency of Canada (2011) or the Canadian Society for Exercise Physiology (2011). Furthermore, Canada's premier professional organization for physical and health educators, Physical and Health Education Canada has been advocating for quality daily physical education for all students in Canada (2011b). Physical and Health Education Canada's minimum standards required for a quality daily physical education program include a number of elements, including: daily instruction for at least 30 minutes, qualified and enthusiastic teachers, activities which enhance health-related fitness components, and creative and safe use of facilities and equipment (2011b). Coupled with these idealized standards, which are arguably recognized across the country (though not necessarily adopted or met), is the current distressing reality concerning the health and wellness of Canadian youngsters. That is, Canada, like so many other developed nations, is in the midst of an overweight and obesity epidemic; currently more than a quarter of all students in Canada are overweight or obese (Katzmarzyk, 2002).

Presumably, these very factors have provided an impetus for three provinces' and one territory's introduction of daily physical activity. By mandating 20 or 30 minutes of daily physical activity, schools within British Columbia, Alberta, Ontario, and Yukon Territory are expected to ensure that all students participate in a minimum number of minutes of daily physical activity. The implementation of daily physical activity within these provinces has not been without struggle or resistance. Critics of daily physical activity implementation have pointed to the problems associated with the heterogeneity of interventions (Ramanathan, Allison, Faulkner, & Dwyer, 2008), reluctant implementation by physical education teachers (Robinson & Melnychuk, 2008), and the "quick fix" nature, and result, of an initiative informed by obesity discourses (Sykes, 2011). While the daily physical activity initiative might have noble goals with respect to heath and wellness, it must be acknowledged by all that daily physical activity is not an adequate substitute for quality physical education (though it could, of course, be considered a suitable supplement for it). Perhaps this notion was best elucidated when Fishburne and Hickson (2005) suggested, *"whereas it is very unlikely that you could have meaningful physical education without participation in physical activity, it is quite possible to receive physical activity without any meaningful education"* (p. 26).

Inter-school athletics and intra-school activities. In addition to the physical education opportunities afforded to all students within Canada (and the daily physical activity opportunities offered to some), many Canadian schools also have inter-school athletics programs and intra-school activities (i.e., intramurals). While it is difficult to ascertain how many students participate in these programs, a recent survey of parents/guardians in Canada found that 77% reported their children attended schools where they had additional physical activity or sport opportunities outside of their regular physical education programs (Canadian Fitness and Lifestyle Research Institute [CFLRI], 2010). Notwithstanding the promise of such a claim, two important observations regarding students' participation in inter-school athletics and intra-school activities deserve serious attention. First, students' participation in such extracurricular activities clearly wanes with age/grade level (Colley et al., 2011). Second, a recent Canadian study has revealed that while a full 50% of male students might participate on a school athletic team during their school years, only 35% of female students do so (Québec Adiposity and Lifestyle Investigation in Youth [Quality] cohort study, as cited in Active Healthy Kids Canada, 2011).

4 Going Beyond Physical Education: Community Driven Activity Programming

In a perfect sense, all children and youth within Canada would receive physical education on a daily basis. This is the recommendation from Physical and Health Education Canada (2011b). Since many schools do not have the human, material, or facility resources to offer daily physical education, schools need to provide quality physical education as well as other opportunities for students to meet the required amount of physical activity on a daily basis (Rink, Hall, & Williams, 2010). Besides physical education and daily physical activity, there are other programs that are aimed at promoting the overall health and well-being of children and youth in Canada. This is essential as the Active Healthy Kids Report Card (2011) indicates that physical education programs in schools across the country receive below average grades when it comes to providing children and youth with adequate amounts of physical education.

The school setting provides a unique opportunity in which to create positive learning experiences and it can foster healthy habits in children and youth. In Canada, the ultimate authority for school health-related programming rests at the provincial/territorial jurisdiction level. As a result of the growing concern for child and youth well-being, provincial/territorial governments as well as school jurisdictions have implemented a range of school-based health promotion policies and initiatives. Since children spend a majority of the day in schools, these environments seem to be an ideal location for physical activity and most Canadian schools have the resources and staffing to help promote and deliver physical activity programs. These programs and policies have not only provided children and youth opportunities and programming for physical activity, they have also focused on nutrition and other healthy practices that encompass an active living philosophy. National agencies in Canada have also focused on school environments for nutrition, physical activity, substance misuse prevention, and mental health initiatives (Minister of Public Works and Government Services Canada, 1997). As mentioned, school-based programs provide a unique arena in which to provide programs and interventions to improve child and youth health and well-being habits (World Health Organization, 1998). However, as with most learning, school-based programming should be viewed within a broader framework, that also considers the involvement of community organizations, services, and families.

Across the country, successful school-based programs have focused on the combining of nutrition and physical activity, increasing physical activity, and healthy bone and muscle development (Action Schools! BC, 2011). In most cases, these programs are within a framework that is referred to as Health Promoting Schools (HPS). In Canada, the context of a HPS generally includes a focus on the following components: teaching and learning, health and other support services, healthy school policies, and supportive social and physical environments (Berg, Hickson, & Fishburne, 2010; Physical and Health Education Canada, 2012). In fact, HPS research has been found to be effective in promoting positive changes (Murray, Low, Hollis, Cross, & Davis, 2007).

Throughout Canada, there are a large number of programs and interventions involving a HPS approach. In Western Canadian provinces, programs such as *Action Schools! BC*, *EverActive Schools* in Alberta, *in motion* Saskatchewan and *Healthy Schools Manitoba* have moved beyond physical activity and have included nutritional programming and other health promoting services. These programs are based within school programming, have been identified as “best practices” within a HPS framework, and have shown positive results in healthy eating and physical health

changes in students (Action Schools! BC, 2011). Within Eastern Canada, programs similar to the West are in place for school children such as *Active Kids, Healthy Kids* in Nova Scotia and *Healthy Schools* in Ontario. Depending on the geographic location and needs of the community and schools, the program concentration may be different. In Northern Canada, for example, the Yukon and Northwest Territories have identified substance misuse prevention as one of the key components for programming within the school setting (Joint Consortium for School Health, 2011). These programs are primarily funded through provincial agencies. One of the challenges for promoting physical activity and other positive healthy choices is the geographic size of some of Canada's provinces and territories. Some areas, such as the Northwest Territories, have indicated that they are challenged in terms of small population, a large geographical area, and limited resources. Therefore, a key challenge for that region of Canada is the decentralization of responsibilities for the delivery of school health promotion programs. This requires much effort and marketing to get "buy-in" from the education, health, and social service sectors, as well as the communities (Laitsch, 2009).

On the national scale, programs have been developed to reach all populations, including children and youth. These programs have been designed to primarily increase the physical activity levels and a majority of the funding for these programs originates from the Federal Government of Canada. For example, the program ParticipACTION has become synonymous with the promotion of physical activity across the country. Health Canada and the Public Health Agency of Canada continually promote healthy, active living within schools, homes, and communities across the country.

The inclusion of such programs and interventions should contribute to child and youth well-being. However, it is important to recognize that these programs are integrated into the school environment and do not take away from regular programming such as physical education and health education classes. Such programs are beneficial to children and youth and provide excellent extensions to the school curriculum.

Measuring Up: Levels of Success Although the preceding discussion has described much of the present situation regarding what is presently being done across Canada in physical education and physical activity programming, there is still the question of "how successful are these programs?"

Time spent on physical education. First of all, with regards to the allocated time for physical education in schools across Canada, the recommendation from Physical and Health Education Canada has been for all children and youth to receive a minimum of 150 minutes of quality daily physical education per week (2011b). Based on the physical education time allocations discussed earlier, many of the students in Canada are not receiving the minimum recommended amount of daily physical education. For example, elementary school students in Prince Edward Island are allocated 90 minutes of physical education in a 6-day cycle (Active Healthy Kids Canada, 2011). In fact, 44% of students in Canada have physical education instruction only once or twice each week (CFLRI, 2005). Moreover, many students in Canada receive no physical education after their first year of senior high school because they are no longer required to take physical education.

The provincial time allocations appear to be sufficient to meet this minimum requirement in some parts of Canada. However, it is still incredibly difficult to describe, with confidence, how much time is actually dedicated to physical education instruction within Canadian schools (Active Healthy Kids Canada, 2011). That is to say, instructional time allocations and actual school practice often vary considerably. Although there may currently be evidence that *some* schools offer *daily* physical

education, clearly exceeding the (minimum) time allocations set by their provincial/territorial governments (Physical and Health Education Canada, 2011a), this may not be the norm. Unfortunately, schools' deviations from the time allocations for physical education are more often the other way. Specifically, most schools neglect to meet the allocations set out by their provincial/territorial governments, irrespective of the fact that many of these allocations are in fact *requirements*, rather than guidelines. In fact, a full 43% of Canadian schools fail to meet the instructional time allocation for physical education as set by their provincial/territorial government (Cameron, Craig, Coles, & Cragg, 2003). Thus, it is fair to say that, at the present, the time spent on physical education in Canadian schools is extremely variable and the majority of students in this country are not receiving the recommended daily amount of physical education.

Physical activity in Canadian schools. The actual amount of physical activity occurring in Canadian schools is clearly dependent upon the individual schools. However, research has suggested that schools remain a key location with regards to children and youth participation in physical activity (CFLRI, 2008). Specifically, it has been found that parents across Canada believe that their children are more physically active at school than in any other location. This was especially true for students who are between ages 10-14 and for female students (CFLRI, 2008). That said, the actual amount of physical activity, particularly moderate to vigorous physical activity, occurring at Canadian schools during physical education classes may not be that much. In a recent study with a group of 8-11 year-olds from nine elementary schools in British Columbia, Nettlefold et al. (2011) reported that only 3% of boys and 2% of girls spent at least 50% of their physical education classes involved in moderate to vigorous physical activity. Similar results have been found on a study conducted in private schools in Ontario (Costa, Manske & Leatherdale, unpublished). Although these studies only focused on a small segment of the overall population the results are disconcerting. It cannot be assumed that students within Canada are meeting the required amounts of physical activity even in situations where schools are allocating sufficient time for physical education classes.

It needs to be understood that physical activity at Canadian schools does occur beyond the physical education classes. Daily physical activity is one way that some provinces/territories (British Columbia, Alberta, Ontario, Yukon) are trying to improve levels of physical activity at school, and this activity does not need to be part of a physical education class. The most promising finding has been from the Daily Physical Activity Survey Report (Alberta Education, 2008) in which it was reported that overall levels of daily physical activity in Alberta schools have increased since implementation of this program, and that the number of teachers who indicated their schools have daily physical activity programs has increased from 30% to 70%. This report illustrates that a mandated program can have a positive influence on the physical activity opportunities offered in schools.

As discussed earlier, inter-school athletics programs and intra-school activities (i.e., intramurals) are also a source of physical activity for many Canadian students. Specifically, 77% of Canadian parents have suggested that their child's school provides opportunities for physical activity or sport outside of regular physical education classes. Research in the schools has supported the parents' suggestions. A study in Ontario found that 83% of schools in that province reported the existence of intramural programs or clubs that involve physical activity (Manske, Kroeker, Byers, & Murkin, 2008). However, it must also be noted that the involvement of students in out-of-class school-based physical activity programs has been found to decrease significantly as students age (Colley et al., 2011). In British Columbia, it has been

reported that participation in out-of-class physical activity programs is at an impressive 91% for elementary schools, and yet dwindles to a lowly 37% in secondary schools (BC Principals Survey, as cited in Active Healthy Kids Canada, 2009). Considering this trend, it would seem that finding ways to keep students involved in physical activity once they reach secondary schools should be of extreme concern. Possibly making physical education classes mandatory throughout all years of secondary school, as is the case in Manitoba, is the best solution.

Community programming impact. It is not easy to assess the full impact of the community implemented programs directed towards child and youth physical activity in Canada. This is because it is very hard to measure just how much of a difference programs such as ParticipACTION have had on the overall physical activity levels across this country. However, there is one clear measure that deserves to be highlighted and that is the awareness levels that have changed with regards to physical activity due to programs such as ParticipACTION. Awareness of this particular program has been very impressive over the years. In many ways ParticipACTION has become synonymous with physical activity awareness in Canada. For example, it has been recently reported that 82% of Canadians were aware of this program when prompted. This is an impressive statistic when considering the average awareness rate of most similar programs around the world is 70% (Cavill & Bauman, 2004). Furthermore, it has been indicated that 83% to 95% of those people aware of ParticipACTION believed that it is useful with regards to promoting physical activity participation. Thus, at the bare minimum, this program appears to have succeeded in the creation of awareness regarding the critical importance of physical activity.

The community implemented program that has perhaps been the most effectively assessed for its impact on children and youth is the Action Schools! BC program. Intervention research studies conducted by Naylor et al. (2006, 2008) have found that this program has significantly improved the delivery of physical activity, physical activity levels, and cardiovascular health of male and female students. These results are most encouraging and thus have led to increased adoption of this program in British Columbia schools. The program grew from a baseline enrolment of 500 students in 2004 to approximately 450,000 students in 2009 (Active Healthy Kids Canada, 2009), and presently 92% of British Columbia schools are registered in this program (Action Schools! BC, 2011). Although this is only one program, it is a concrete indicator that community implemented programs can have a positive impact on physical activity of children and youth in Canada.

Canadian Challenges in Physical Education There are a number of unique Canadian characteristics which impact the quantity and quality of physical education opportunities afforded to students. The challenges encountered by teachers and students are related to many different factors. These factors include the multiple systems of education, the vast and varied geography and climate, and the ethnic and cultural diversity of students.

Systems of education. The authority vested in provincial/territorial ministries of education has resulted in considerable inconsistencies with respect to the quantity and quality of physical education instruction within all levels of schooling. With respect to the quantity of physical education instruction, students living within many provinces/territories can expect to have fewer than 150 minutes/week. Though there are no national standards for physical education instructional time, Physical and Health Education Canada steadfastly advocates that a quality physical education program ought to have a minimum of 150 minutes of instruction per week (2011b). Despite this “national” goal, a constant challenge for those who teach physical education is the limited time afforded to them by their governments, school boards, or

principals. With respect to the quality of physical education, the different systems of education have taken up different positions with respect to daily physical activity and the teacher qualification standards for physical education teachers. While some provinces/territories might boast that all of their physical education teachers are trained specialists with a Bachelor of Kinesiology or Bachelor of Physical Education degree (in addition to a Bachelor of Education degree), other provinces/territories have teachers who teach physical education without a single physical education-related pedagogy course (see DeCorby, Halas, Dixon, Wintrup, & Janzen, 2005; Government of Alberta, 2012).

Geography. With almost 10 million square kilometers of land, Canada is the world's second largest country. Across this great landmass, there are urban, suburban, and rural schools. While the happenings within urban and suburban schools may be readily recognizable to those within similarly located schools in other Western nations, such is not likely the case for some of Canada's most rural schools. Within Canada, the economic downturn of the 1980s, followed by the globalization of the marketplace in the 1990s, led to especially high levels of unemployment and "a deterioration of rural economic, social and environmental well-being" (Miller, 1995, p.163) in rural communities. The impact of these two decades on many rural schools has been felt as many lost a considerable number of students; some schools amalgamated with others and some remain open despite incredibly low enrollments. Today, many of these rural schools are especially small and might have fewer than 100 students. In fact, some of these rural schools that are particularly remote might include a single teacher with fewer than a dozen students in a one-room schoolhouse (e.g., Wingrove, 2010).

These remote schools are not specific to any particular geographic location. Some exist in logging communities in the West, others in coastal fishing communities in the East, and others in Inuit communities in the North. While the challenges for the smallest rural schools might be obvious (e.g., multi-grade level instruction, multi-age classes, lack of human and material resources, etc.), larger rural schools also present challenges for physical education teachers. For example, with many students commuting by school bus (over large distances and long periods of time), opportunities for before and after-school intramural and inter-school athletics opportunities are limited. In fact, within many of these schools, it would not be uncommon for students and their physical education teachers (as coaches) to travel during regular instructional time in order to play an after-school inter-school athletics game. Furthermore, given the industries that often support these rural communities (e.g., fishing, farming, mining, forestry), students may be absent for extended periods of time to support their families (e.g., by setting lobster traps, harvesting crops, etc.) or may "drop out" of school altogether to begin careers in the community industry.

Climate. Canada's climate also has an impact on what, and how, physical education might be taught. Again, given the size of the country, the climate across the country varies tremendously. While the North may have permafrost, as one moves south, there is a more distinct separation of seasons. Depending on the location, temperatures may be as high as 35°C in the summer and may be as low as -40°C in the winter. High temperatures are not generally prohibitive with respect to outdoor classes for physical education (as would be the case in, say, Australia). However, low temperatures (especially if paired with the presence of snow) seem to be especially prohibitive. That is, many schools do not allow students outdoors if the temperature falls below -20°C.

Although outdoor pursuits are explicitly described as potential (or required) physical education activities within all provincial/territorial curriculum documents, physical

education teachers are often seemingly hesitant to teach outside when teaching physical education in the winter months. While one might suspect that within a "winter nation" like Canada, activities such as cross country skiing, downhill skiing, snowshoeing, and ice-skating might be staple activities within physical education programs, this does not seem to be the case (Mandigo et al., 2004). Admittedly, such activities are included within some physical education programs, but they are seemingly, more often than not, given minimal (if any) time and might be offered in a "one-off" type of manner. Despite the observation that some Canadians might embrace these sorts of leisure activities, they do not have a central role within physical education programs. While there are many factors related to this observation, perhaps the most prohibitive variables are the short periods of time often allocated for physical education instruction, the uncertainty of the weather on a day-to-day (or in some cases, hour-to-hour) basis, and the expensive material resources required for such activities. Nonetheless, given that a considerable number of Canadians brave through cold and long winters, it would seem that these sorts of activities might be worthy of being afforded a greater consideration.

Ethnic and cultural diversity. As is commonly recognized worldwide, Canada is an especially multicultural country. In fact, according to a census in 2001, the proportion of foreign-*born* Canadians was 18%, the highest it had been in 70 years (Taylor & Doherty, 2007). With over 200 ethnic groups within Canada, teachers have an especially challenging task of teaching in a culturally relevant manner. This difficulty is compounded by the fact that the majority of physical education teachers within Canada are Caucasian (Halas, 2006; Melnychuk & Robinson, 2010). With so many largely privileged white physical education teachers teaching students of so many ethnic and cultural backgrounds, there are a number of challenges. These include language barriers (some immigrant students do not speak English or French) and cultural barriers (some immigrant students are entirely unfamiliar with common Canadian movement activities). Despite the challenges faced by physical education teachers, when embraced, the rich ethnic and cultural diversity provides potential for especially positive physical education experiences. For example, physical education teachers might purposely endeavor to include their students' cultural traditions and activities into their instruction. This might include the introduction of Indigenous games or dance, "alternative" non-traditional games such as cricket or netball, specific cultural dances such as Tinikling, or Eastern Movement Traditions such as Tai Chi.

5 Next Steps: Where do we go from here?

We would like to present three ideas for improvement for Canadian physical education and physical activity programming. Namely, quality programming, diversity of experiences offered, and coordinated, comprehensive programs.

First, an important consideration is the role and quality of physical education and physical activity programs. Similar to many other countries, Canadian physical education programming occupies a precarious position (Chorney, 2011). Teachers of physical education need to be skilled at teaching both students and the curriculum. It could be argued that in the past teachers of physical education rarely taught in such a manner and, consequently, many a case of student disengagement would arise. However, physical education and physical activity school programming is a location where all children and youth, regardless of gender, age, or socio-economic status, can have equal opportunity of participation. Therefore, it is critically important that physical education programs and physical activity opportunities are of a high quality. However, achieving such an aim is not easy and must begin with concerted discussions and experiences in teacher education programs, and be implemented at the

school level through commitment to such things as curriculum time allocation and equality of status. If children and youth in Canadian schools were to receive quality physical education programs that are supplemented by extra-curricular physical activity opportunities, perhaps they would start to benefit in their health.

Second, physical education and physical activity programs need to appeal to all children and youth. Therefore, it is critical that programs meet their needs. In doing so, such programming has the opportunity to develop a positive attitude toward healthy, active living and lifelong activity (Sheehan & Price, 2010). Simply, participation in a variety of situations can help to create possibilities for children and youth to find their interest and this may help students develop the potential for long-term engagement and participation (Bradford, Evaniew, & Hickson, 2012). Unfortunately, all too often, there are comments about unpleasant childhood physical education experiences in narrowly focused programs. Therefore, programs need to be diverse and engaging in order to appeal to all children and youth. For example, Plaisirs d'Hivier is a school-based physical activity program offered in the province of Québec in an attempt to engage children and youth in their community surroundings during the winter months through activities such as snowshoeing and skating (Patton & MacDougall, 2009). Such programs assist in helping children and youth in finding activities that they want to pursue.

Third, recognizing that individual programs and initiatives struggle to meet the physical and health needs of children and youth, a strong argument can be made for the continued emphasis on coordinated, comprehensive style program models. This might take the form of the amalgamations of curricula or the combining of service models between schools and communities. Two examples of such models can be found in Alberta. First, an amalgamation of curricula can be witnessed, where a Wellness Education framework (Alberta Education, 2009) has been created. It is being considered by the provincial educational authority as an approach to combine physical education, physical activity, and health curricula to meet the needs of children and youth and thereby promoting healthy children (and eventually adults) that choose an active lifestyle. Second, the Alberta Healthy School Wellness Fund (Alberta Education, 2010) has been established by a consortium of parties, the Alberta Coalition for Healthy School Communities, Alberta Health and Awareness, and the Centre for Health Promotion Studies (School of Public Health, University of Alberta). This fund allows for wellness style activity programs to be developed and supported in a comprehensive manner. Since 2007, $2.7 million has been provided to schools to support school initiatives (Alberta Education, 2010).

Canada faces many challenges as it looks ahead to the future. Providing school and community-based programming experiences that engage all children and youth may well be difficult but the result of not trying to reach such an audience would, most likely, be especially problematic. Without immediate and purposeful attention to such experiences, there is little reason to believe that the earlier-mentioned health-related characteristics plaguing Canada might disappear or diminish. Therefore, although the road ahead may be riddled with potholes and ravines, there are enough vehicles that offer the potential to succeed in assisting children and youth in Canada to follow healthy, active lifestyles!

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Research Article

Physical education and sport in Europe: From individual reality to collective desirability (Part1)

M. Onofre[1], A. Marques[1], A. R. Moreira[1], M. Holzweg[2], R.-M. Repond[3], & C. Scheuer[4] ([1]Lisboa/Portugal, [2]Stellenbosch/South Africa, [3]Magglingen/Switzerland, [4]Luxembourg/Luxembourg)

Introduction
1 Methodological procedures
2 Results
2.1 Name of the subject
2.2 *Status of PE in the curriculum*
2.3 *Evaluation*
2.4 Main aims of PE
2.5 Generalization levels of the PE program
2.6 Number of students per class
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2.8 Facilities for PE
2.9 PE teacher education (PETE)
2.10 Extracurricular activities
3 Conclusion
References

Keywords: Physical education and sport, Europe, EUPEA,

Introduction

Physical education (PE) has been a part of the official curriculum of many European countries for over 100 years. Despite its curricular status PE has been marginalized, having more or less importance depending on the country. For this reason in 1978 UNESCO drafted the international charter of PE and sports. The charter states that the discipline of PE is a universal right of all people and all states must provide every citizen with quality PE.

After more than twenty years PE still kept facing the same problems. In the 1st World Summit on PE in 1999 in Berlin (Germany), Professor Ken Hardman presented a report on the state of PE in the world. In this report he showed the challenges the discipline faced: the status of PE in the curriculum, allocation time, PE teacher education (PETE), resources. From the World Summit on PE it was concluded that despite scientific evidence of the value of physical activity (PA), PE continued to face a perilous situation in all regions of the world and was not considered a priority.

In the same year the 3rd International Conference of Ministers and Senior Officials Responsible for PE and Sport (MINEPS III) was held in Punta del Este (Uruguay). During that event a statement was drafted, proclaiming the importance of PE as an essential and integral part of education and social and human development. This meeting was important because it helped to improve PE's political agenda.

In 2001, a group of specialists from the Council of Europe Committee for the Development of Sport (CDDS) decided to perform research into the status of PE and school sports in order to provide recommendations which would be discussed in an informal ministers' meeting which was to take place in Warsaw (Poland) in 2002. In the Warsaw meeting, the mentioned research report was analysed and allowed the conclusion that PE should be a compulsory part of the school curriculum, for all students, involving at least one hour of daily PA delivered by well-trained PE teachers.

Over thirty years after the launch of the International Charter of PE and Sports by UNESCO, and after several international meetings, research and reports (Hardman, 2007, 2008, 2009; Hardman & Marshall, 2000; Klein & Hardman, 2008) continue to reveal that PE continues to face many of the same problems. What are the reasons for this? We know that those international meetings are mainly attended by politicians, non-governmental organization leaders and academics and represent opinions that they formulated. Are the diagnoses and prescriptions of these stakeholders coincident with the concerns of the practitioners, with those who effectively are responsible for the implementation of PE, the final decision makers? Are these intentions really disseminated within the real context of the PE curricular development? What are the professionals' thoughts on this? How do they perceive what is going on in PE at school level? Do they have similar orientations for PE?

As a representative of the European PE professional community, and in the context of the harmonization of the European Union (EU) educational politics, EUPEA decided to conduct this survey on the situation of PE in Europe and on what PE teachers desire for European PE. This is a valid attempt to add a bottom-up view to the top-down debate in order to improve the quality of PE.

1 Methodological procedures

Data from 21 countries (22 associations, 2 from Belgium – Dutch-/French-speaking) members of EUPEA was gathered. The board of each association received a questionnaire to complete. As some of the board members were not PE teachers in a public school, they were asked to answer the questionnaire with the help of a PE teacher.

In summary, the survey questionnaire was divided in two parts: the first part was related to the present and real situation of PE in each country, and the second part was about what each country would like PE to be in Europe. The open/closed questions for both parts covered the following issues: programs, assessment and extra-curricular activities, allowed to identify aspects and name of the subject, status of subject in the curriculum, evaluation, main goals of PE, characteristics of the PE program, number of students per class, PE curriculum time allocation, facilities for PE, PE teacher education (PETE), and extracurricular activities.

2 Results

2.1 Name of the subject

Tables I and II show how the subject designation varies by school level with reference to the actual and the desired situation.

Depending on the country, the subject has different designations at kindergarten level (cf. Table I). Nevertheless, the term *PE* stands out and is the one most commonly used. When the term PE is not mentioned, there are some divergent designations, as in Belgium, Cyprus, Germany, Portugal, and Switzerland. Latvia named the subject *Sport*. Comparing the name used nowadays and the one desired for Europe, the term PE is almost consensual. However, Germany remains focussed on the designation of

Elementary Movement. In Holland, it was suggested that the subject matter should be called *Movement Education and Sport*. Romania proposes to adopt the terminology *Fundamental Skills Development*, whilst Croatia, Cyprus, Latvia and Switzerland would prefer to use the expression *PE*.

Table I

Real and desired subject name in each country at kindergarten and primary school level

Country	Subject name (kindergarten)	Desired name for Europe (kindergarten)	Subject name (primary school)	Desired name for Europe (primary school)
Belgium	Movement Education	--	--	--
Belgium II	--	--	--	--
Bosnia & Herzegovina	--	--	--	--
Croatia	--	PE	PE	PE
Cyprus	Gymnastics	PE	PE	PE
Czech Republic	PE	--	--	--
Denmark	--	--	--	--
Finland	--	--	PE	PE
France	--	PE	Physical and Sport Education	Physical and Sport Education
Germany	Elementary Movement	Elementary Movement	Sport Education	Sport Education
Italy	Body and Movement	--	--	--
Latvia	Sport	PE	PE	PE
Luxembourg	PE	PE	PE	PE
Netherlands	Sense and physical exercise	Movement Education and Sport	Movement Education and Sport	Movement Education and Sport
Poland	--	--	PE	PE
Portugal	Physical and Motor Education	--	--	--
Romania	PE	Fundamental Skills Development	Fundamental and Sports Skills Development	Fundamental and Sports Skills Development
Serbia	PE	PE	PE	PE
Slovenia	PE	PE	PE	PE
Sweden	--	--	--	--
Switzerland	Physical Kinetics or PE	PE	PE	PE
United Kingdom	PE	PE	PE	PE

Eight countries did not give any designation to the discipline in primary schools (Table I). As for the others, PE is the most common term and used in 10 countries. In

the case of France the subject is called both PE and Physical and Sport Education. Germany restricts the name to Sport Education, denoting a stronger sportive conception for the primary school. Romania maintains the term Fundamental (basic) skills.
Regardless of the main reference to PE as to the desired name within this school level, all countries assume that the terminology used is the most appropriate, with no change in any countries. If the terminologies used carry any conceptual weight, it is implied that each country assumes that its own national practice should become the standard for every country.

Table II

Real and desired subject name in each country at middle and high school level

Country	Subject name (middle school)	Desired name for Europe (middle school)	Subject name (high school)	Desired name for Europe (high school)
Belgium	Bodily Education	--	Bodily Education	--
Belgium II	--	--	--	--
Bosnia & Herzegovina	Physical and Health Education	--	Physical and Health Education	--
Croatia	Physical and Health Education	PE	Physical and Health Education	PE
Cyprus	PE	PE	PE	PE
Czech Republic	PE	--	PE	--
Denmark	Sports	--	Sports	--
Finland	PE	PE	PE	PE
France	Physical and Sport Education	Physical and Sport Education	Physical and Sport Education	Physical and Sport Education
Germany	Sport Education	Sport Education	Sport Education	Sport Education
Italy	Body, Movement and Sport	--	PE	--
Latvia	Sport	PE	Sport	PE and Health Studies
Luxembourg	PE	PE	PE	PE
Netherlands	Movement and Sport	Movement Education and Sport	Movement and Sport	Movement Education and Sport
Poland	PE	PE	PE	PE
Portugal	PE	--	PE	--
Romania	PE	Games Skills	PE	Sports Skills
Serbia	PE	PE	PE	PE
Slovenia	PE	PE	PE	PE
Sweden	--	--	--	--
Switzerland	PE	PE	PE	PE
United Kingdom	PE	PE	PE	PE

At middle school level the term PE is also the most common, used in 11 countries. In Germany, Denmark and Latvia the discipline is called *Sport*, an allusion to the sportive conception of the subject. Croatia and Bosnia used the same designation, but both desire to use PE. Regarding the name that the discipline should have in Europe, all countries that use the terminology PE prefer to keep it, with the exception of Romania which suggested *Games Skills*. On the other hand, Latvia suggests PE instead of *Sport*. France and Germany would keep the name. Whilst the term seems generic for the French, combining the concepts of PE and sportive education, in Germany the name relates only to sportive education.

It is clearly visible that the designation *PE* is the most used and most consensual within Europe (Table III). This is probably due to the subject's history which soon adopted the name and has stuck with it in most countries. However, the fact that there are some different names could represent different conceptions of PE within European countries, which hinders the adoption of a common name in some countries.

The name PE seems to represent the most appropriate term. It involves the learning of PA to promote a healthy lifestyle in three senses: learning to enjoy and how to play different PA, learning how to analyse different PA, improve physical aptitude, and learning the way to improve it. Moreover, it is clear that some countries have an educational model that relates to sports, which can result in giving a higher importance to the practice of formal sports in classrooms, resulting in the exclusion of less physically agile students.

Table III

The most common subject name

	Kindergarten	Elementary school	Middle school	High school
Subject name	PE	PE	PE	PE
Desired name	PE	PE	PE	PE

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Sport International

Burnout and autonomy among physical education teachers in Greece

A. Koustelios, E. Zournatzi, & D. Karabatzaki (Thessaly, Greece)

1 Introduction
2 Aims
3 Methodology
3.1 Sample
3.2 Instruments
3.3 Procedure and statistical methods
4 Results and discussion

Abstract
The purpose of this study was a) to examine the level of autonomy experienced by a sample of Greek physical education (PE) teachers, and b) to explore the relationship between burnout and autonomy among the given sample of Greek PE teachers. The sample consisted of 219 PE teachers (82 men and 137 women). Job burnout was measured using the Maslach Burnout Inventory (MBI) (Maslach & Jackson, 1986). Autonomy was measured using a four-item scale developed by Beehr (1976). Findings showed that the specific Greek physical education teachers experienced a medium level of autonomy while statistically significant positive correlations between personal accomplishment and autonomy ($p<.01$) were also reported.

Keywords: Burnout, autonomy, physical education, teachers

1 Introduction

Over the last decades the concept of burnout has become a major theme in the organizational research literature while researchers have made several attempts to approach a workable definition of job burnout. According to several studies, therefore, it was found that the concept of burnout is "a tridimensional syndrome characterized by emotional exhaustion, cynicism (depersonalization) and reduced efficacy (reduced personal accomplishment)," (Maslach, Schaufeli & Leiter, 2001, p.399). According to Maslach et al., (2001), emotional exhaustion refers to feelings of being emotionally overextended and depleted of any kind of emotional resources. The cynicism (or depersonalization) refers to a negative, callous, or excessively detached response to various aspects of the job while the component of reduced efficacy or personal accomplishment refers to feelings of competence or incompetence and a lack of achievement and productivity at work.

Several studies have identified organizational factors closely related to burnout (Koustelios, 2001; Koustelios & Tsigilis, 2005; Tsigilis, Koustelios & Togia, 2004; Tsigilis, Zournatzi, & Koustelios, 2011). Literature relevant to burnout has argued that, among others, autonomy at workplace can substantially affect job burnout of various employees, namely, teachers, nurses, etc (Aiken & Sloane, 1997; Dworkin,

Saha, & Hill, 2003; Maslach & Jackson, 1984; Varjus, Suominen, & Leino-Kilpi, 2003).

The issue of autonomy aspires to be one of the most important ones in the field of organizational research literature. Hackman and Oldham (1980, p.79) defined autonomy as "the degree to which the job provides substantial freedom, independence and discretion to the individual in scheduling the work and in determining the procedures to be used in carrying it out". According to Baron (1986, p.96), autonomy refers to "the extent to which a worker has a great deal of freedom and discretion to carry out the job as desired".

Autonomy is usually regarded as a desirable feature related to organizational commitment, organizational effectiveness, job satisfaction and better job performance (Arnold, Robertson, & Cooper, 1993; Ballou, 1998; Drucker, 1985; Koustelios, Karabatzaki, & Kousteliou, 2004; Yammarino & Dubinsky, 1990). Indeed, it constitutes a very crucial factor towards effective educational organization, since, as Sergiovanni and Moore (1985) pointed out, autonomy empowers individuals within the system to address students' constantly changing needs. In contrast, the absence of professional autonomy can lead to teacher's alienation and burnout (Dworkin, et al., 2003). As Helms (2006) pointed out, "according to job design theories, increased autonomy should make employees feel a greater responsibility for the outcomes of their work, and therefore have increased work motivation. Research indicates that when employees exhibit greater levels of autonomy, their personality traits (specifically conscientiousness and extroversion) have a stronger impact on job performance. Thus, rendering employees more autonomous would mean a high probability of them transferring their personal attributes to the corporate setting, and thus contributing to a successful job performance".

2 Aims

Although the phenomena of burnout and autonomy have recently been under great discussion and debate worldwide, research regarding these issues is rather limited in Greece. In fact, the vast majority of research on burnout and autonomy has been undertaken in English-speaking countries; therefore their possible application to Greek reality remains highly questionable. To that end, the purpose of this study was to shed light on this important challenging issue through two different research orientations: a) to examine the level of autonomy experienced by a sample of Greek physical education teachers, and b) to explore the relationship between burnout and autonomy among Greek physical education teachers.

3 Methodology

3.1. Sample

The sample of this study was comprised of 219 PE teachers from Greece. 82 men and 137 women participated. The mean age was 39.7 years (SD=7.4), while the mean for working experience was 12.7 years (SD=7.8).

3.2. Instruments

Job burnout. Job burnout was measured by the Maslach Burnout Inventory (MBI) (Maslach & Jackson, 1986). The Maslach Burnout Inventory contains three subscales: emotional exhaustion, depersonalization, and personal accomplishment. The nine items in the emotional exhaustion subscale describe feelings of being emotionally overextended and exhausted by one's work. The five items in depersonalization subscale describe an unfeeling and impersonal response towards recipients of one's care or service. The subscale of personal accomplishment contains eight items that

describe feelings of competence and successful achievement in one's work with people. Concerning emotional exhaustion and depersonalization, high mean scores correspond to higher degrees of experienced burnout. In contrast with the other two subscales, lower mean scores on personal accomplishment correspond to a higher degree of burnout. Each respondent was requested to indicate the frequency of the feeling represented by each item on a 7-point Likert scale, ranging from 0 (never) to 6 (every day).

Autonomy. Autonomy was measured by a four-item scale developed by Beehr (1976). Respondents were instructed to answer items on a 4-point scale anchored by very true (4) and not at all true (1).
The final part of the questionnaire requested demographic information relating to gender, age and years of working experience.

3.3 Procedure and statistical methods

The method chosen was that of self-completed questionnaires. Researchers informed all subjects that their participation was completely voluntary and the individuals' responses would be held in confidence. Quantitative data was analyzed using the Statistical Package for the Social Sciences. Means, standard deviations and correlation coefficients were computed for all variables of the study.

4 Results und discussion

The internal consistency of the scales used in this study was measured with Cronbach's alpha coefficients. It was found that the Cronbach alpha coefficients were .75 for emotional exhaustion subscale, .64 for depersonalization, and .63 for personal accomplishment subscale. Regarding autonomy scale, α coefficient was .70.
Means and standard deviations and Pearson correlation coefficients for the three subscales of burnout as well as for autonomy scale are presented in Table I.

Table I

Means, standard deviations, and correlation matrix of variables

Variables	M	SD	1	2	3	4
1. Autonomy	2.3	0.5	1			
2. Depersonalization	4.1	2.2	0.9	1		
3. Emotional exhaustion	15.3	8.7			1	
4. Personal accomplishment	39.8	5.3	.21**	-.29**	-.25**	1

**p<.01

A medium level of autonomy was experienced by the PE teachers of the present study. Also, the level of autonomy experienced by the PE teachers in this study was lower than that of other occupational groups in the United States (Beehr, 1976) and Greece (Koustelios, et al., 2004). The subjects in the present study reported low levels of burnout in emotional exhaustion and depersonalization dimensions and a high level in the personal accomplishment dimension. The scores of 15.3, 4.1, and 39.8 for emotional exhaustion, depersonalization, and personal accomplishment, respectively, revealed that the burnout of Greek PE teachers was lower than that of all the

occupational groups presented by Maslach & Jackson, (1986) (i.e., 20.9, 8.7, and 34.5).

The results of the present study are not in line with previous studies, which reported a linkage between autonomy and job burnout, especially with emotional exhaustion among nurses (e.g., Aiken & Sloane, 1997; Flynn & Aiken, 2002). In particular, findings suggest that there is a positive significant correlation between autonomy and personal accomplishment (.21), while no significant relationships were found between autonomy with depersonalization (.09) and emotional exhaustion (.08).

As Dondero (1997) pointed out, overall effectiveness of the organization is based on the autonomy of the individual worker. Findings of the present study showed significant relationships between autonomy and personal accomplishment in reference to feelings of incompetence and lack of achievement as well as productivity in one's work with people. Increasingly, perceived autonomy of physical education teachers should be of immediate priority to those managing schools.

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Book Information / Book Reviews

Compiled by H. Haag (Kiel, Germany)

There are two major networks available with regard to sport, sport education and sports science:
(1) Published material
(2) Organisations/Institutions

The Directory of Sport Science (ICSSPE (ed.). (2008). Directory of Sport Science (5th ed.). Champaign: Human Kinetics) offers an excellent opportunity to obtain this network information at international level (in English).

In 2011, a similar publication in regard to the network approach was published in Germany (in German). This publication with pages in print (as an introduction) and a CD offers a similar service for professional literature published in German as the "Directory of Sport Science" for professional literature published in English.

Mess, F. & Haag, H. (2011). Informationswege zu Sport, Sporterziehung und Sportwissenschaft (Information avenues for sport, sport education and sports science). (2nd ed.). Schorndorf: Hofmann.

The network for published material has the following sections:
(A) Basic information for sport, sport education and sports science
(B) Literature for practical sports
(C) Literature for the theory fields of sports science
(D) Literature for the theme fields of sports science.

The network for organisations and institutions for sport, sport education and sports science:
(E) Top level organisations and institutions for sport, sport education and sports science
(F) Theory field related organisations and institutions of sports science
(G) Theme field related organisations and institutions for sport education and sports science.

In summary, both publications offer a good opportunity to find a database on information relating to sport, sport education and sports science.

IT News

Compiled by M. Holzweg (Stellenbosch, South Africa)

IACSS
The International Association of Computer Science in Sport (IACSS), and its predecessor (the working group COSISP), were founded to improve the international cooperation in the field of Computer Science in Sport. IACSS consists of a worldwide, international network of researcher, guaranteeing the exchange of views, the discussion and presentation of current research results as well as the realisation of joint research projects. The well-structured IACSS website (www.iacss.org) also provides a newsletter, a download area (login required) and a literature search.

Edusoft®
Edusoft provides practical assessment products and services that make it easy to collect, analyze, and act on student performance data to improve instruction. Edusoft® allows to administer tests quickly, easily and cost-effectively, deliver rapid turnaround of results, improve the reliability of assessment programs, connect assessment to instructional decisions, increase the effectiveness of your instructional investments, save teachers time. The Edusoft® Assessment Management System includes the following modules: Benchmark exams, teacher tools, curriculum management and site analysis.

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Information

Compiled by H. Haag (Kiel, Germany)

School of Human Performance and Leisure Sciences at Barry University, Miami Shores, Florida, USA issue newsletter

The above school has the following mission:

- To advance human potential through the integration of mind, body and spirit in pursuit of excellence
- To serve local and global communities through scholarships on professional practices in science, sport, recreation and wellness

Its values include:

- A strong sense of ethics, personal and social responsibility through reflection, and a search for knowledge within a global perspective
- An holistic approach to addressing the challenges of society, focusing on the importance of human action as a contributor to solutions
- Communication as a vehicle for integrity and justice
- Excellence in teaching, in engaged learning, and in collaboration with communities
- Societal contributions that combine intellectual curiosity with practical application

- Faculty and staff engagement in theoretical and empirical research as well as instructional development
- A highly multicultural environment that supports a cosmopolitan campus lifestyle.

Prof. Dr D. Kluka has been appointed dean of the school. In order to follow the mission the publication of a newsletter is of the utmost importance. For further information please send an e-mail to DKluka@mail.barry.edu

2nd World Forum on Physical Education and School Sport & the International Workshop on Physical Activity and Quality of Life, 6-9 November 2012, Havana, Cuba

Topics of the World Forum will be:
- Basic competitions through physical education
- Infant motor skill from 0-6 years
- Curricular perspective of physical education
- Strategy for health promotion in female and male children and young people. The school and the physical activity
- Assessment of the quality of physical education
- Physical education for students with educational needs

Topics of the workshop include:
- Physical activity, working capacity, health and social integration
- Physical activity and aging
- Physical activity and non-transferable diseases
- Fitness: An alternative for health
- Infrastructure outdoor sports and open spaces
- Mega events

For further information:
Website: http://aiefde.inder.cu/index.php
E-mail: convencion@inder.cu; aiefde.presidencia@gmail.com

ICSSPE News
www.icsspe.org / icsspe@icsspe.org

Compiled by K. Koenen (Berlin, Germany)

ICSEMIS 2012
From 19 to 24 July 2012, the International Convention on Science, Education and Medicine in Sport (ICSEMIS) will take place in Glasgow, United Kingdom, just before the Opening Ceremonies for the 2012 Summer Olympic Games. ICSEMIS is jointly organised by the International Olympic Committee (IOC), the International Paralympic Committee (IPC), the International Federation of Sports Medicine (FIMS) and the International Council of Sport Science and Physical Education (ICSSPE) and was first held in 2008 in Guangzhou, China. This year's convention will take place in the Scottish Exhibition and Conference Centre to bring together sport and exercise

scientists and leading experts and policy makers from all disciplines. Researchers, students and practitioners from every branch of sport and exercise are invited to attend and to share this unique opportunity for multi- and interdisciplinary scientific exchange.
The 2012 annual ICSSPE meetings will be held also at the Scottish Exhibition and Conference Centre / Crown Plaza Hotel in Glasgow just prior ICSEMIS from 16 to 19 July. All members are invited to join.

Communities and Crisis – Inclusive Development through Sport
From 26 to 31 October 2012 participants will once again experience a seminar on physical activity and sport programmes as part of psycho-social interventions in social problem and crisis areas. Once more, this hands-on seminar will take place in Rheinsberg, Germany.
Diversity, inclusion of persons with disabilities, gender issues, community building, and cultural competency will be addressed as key issues as they closely relate to projects in post-trauma and social problem communities. International experts from the fields of sociology, psychology, social work, sport and physical education will present a curriculum that includes both practical and experimental workshops as well as theoretical learning sessions.
The registration form will be available in due course on our website www.icsspe.org.

Paths to Success – Inspiring Future Leaders III
"Challenges in Communication"
For the third time, the German Olympic Sports Confederation (DOSB), ICSSPE and Freie Universität Berlin (FU) will jointly host the international seminar Paths to Success at SEMINARIS Campus Hotel in Berlin, Germany from 23 to 25 November 2012. The focus of this seminar will be to provide young men and women with skills and insights to enable a career as future leaders in sport, sports science and physical education with a special focus on "Challenges in Communication". For several years, the search for young professionals to take up leadership positions has been high on the agenda of German and international sports organisations. During the seminar, successful leaders and coaches in sport will share their experiences and strategies to improve communication and presentation skills. Please check our website at a later date for more information and registration.

MINEPS V
The Federal Republic of Germany has been chosen by the United Nations Educational, Scientific and Cultural Organisation (UNESCO) to host the 5th International Conference of Ministers and Senior Officials Responsible for Physical Education and Sport (MINEPS V). The conference will be held in cooperation with the city of Berlin and ICSSPE from 28 May to 1 June 2013 at the hotel InterContinental Berlin. The three overarching topics for the conference will be "Sport as a Fundamental Right for All", "Promoting Investment in Sport and Physical Education Programmes" and "Preserving the Integrity of Sport". More information will be available on our website soon.

For further information please contact:
International Council of Sport Science and Physical Education (ICSSPE)
Tel.: +49 (0)30 3641 8850
www.icsspe.org / icsspe@icsspe.org

ISCPES News
www.iscpes.com / walterkyho@yahoo.com

Compiled by M. Holzweg (Stellenbosch, South Africa)

International Sport Studies (ISS) volume *34*(1)
In June 2012 the International Society for Comparative Physical Education and Sport (ISCPES) will publish the first issue of its 2012 ISCPES journal *International Sport Studies* (ISS). Issue *34*(1) will contain the following articles:
- Physical Education in the United States (by L. Housner and A. Taliaferro)
- The International Association of Athletics Federations (IAAF) Kids' Athletics Program in China (by D. Yang, L. Housner, Y. Long and H. Sun)
- Effects of Physical Activity or Physical Education on Students' Academic Achievement (by W. Ning)
- The Olympic Ideal and the Multiple Agendas of the Games (by R. Reese)

The ISS is available via the ISCPES office in Macau.

New ISCPES Executive Board
The new ISCPES Executive Board was elected at the General Annual Meeting of ISCPES during 18th Biennial Conference in Los Andes, Venezuela from 18 to 21 April 2012. The new ISCPES Executive Board (2012-2014) consists of Assoc. Prof. Dr Walter Ho (President), Prof. Dr Lateef O. Amusa (South Africa), Prof. Dr Keh Nyit Chin (Taiwan/China), Martin Holzweg (Germany), Prof. Dr Rosa López D'Amico (Venezuela), Prof. Dr José Prado (Venezuela), and Prof. Dr Abel L. Toriola (South Africa).

For further information please contact:
International Society for Comparative Physical Education and Sport (ISCPES) www.iscpes.com / walterkyho@yahoo.com

EUPEA News
www.eupea.com / info@eupea.com

Compiled by C. Scheuer (Luxembourg, Luxembourg)

Structure of EUPEA
During the last forum of EUPEA in November 2011 in Brussels, the following team was elected to lead EUPEA for the next three years.
Executive board:
President: Claude Scheuer (Luxembourg), Vice President: Marcos Onofre (Portugal), General Secretary: Eric De Boever (Belgium) & Scientific Advisor: Martin Holzweg (Germany).
Representatives of the regions:
North: Lucas Janemalm (Sweden), South: Luca Eid (Italy), South East: Hrvoje Sertic (Croatia), Central: Udo Hanke (Germany), the representative for the East has yet to be defined.

Board members: Jan Rijpstra (Netherlands), Ruedi Schmid (Switzerland) & Riitta Paarjarvi (Finland)
Former president: Rose-Marie Repond (Switzerland)

EUPEA Action Plan 2012-2014
The newly elected board presented the EUPEA Action Plan 2012-2014 to the members present at the EUPEA Forum in Brussels in November 2011. The following five topics will lead the work of the EUPEA Board and executive committee during the next years:

- Members
- Communication/Information
- Cooperation with other PE associations
- Politics
- Research/Publication

EUPEA and other associations
The cooperation with other associations is one of the main topics of the action plan:

- The alliance EUPEA-FIEP Europe

Together with FIEP-Europe EUPEA is forming an alliance to get a stronger voice in Europe in the field of physical education. EUPEA's former president, Rose-Marie Repond, the new president Claude Scheuer, and the president of FIEP-Europe, Prof. Dr Branislav Antala (Slovakia) are identifying ways and opportunities to follow to reach the improve the cooperation between these two associations.

- Council of Europe Conference of ministers responsible for sports

EUPEA's membership in the Consultative Committee of EPAS (Enlarged Partial Agreement on Sports) of the council of Europe allowed EUPEA to follow the Conference of ministers responsible for sports in Belgrade (Serbia) on 15 March.

- Expert group European Commission 'Sport, Health and Participation'

The former president, Rose-Marie Repond, is representing EUPEA in this European Commission working group.

- Further cooperation with ENGSO and AIESEP is on the agenda of EUPEA.
- EUPEA Representatives in Global Forum GOFPEP 2012

EUPEA was represented by Claude Scheuer (Luxembourg), Eric De Boever (Belgium), Udo Hanke, Martin Holzweg (both Germany), and Jan Rijpstra (Netherlands) at the Global Forum 2012 for Physical Education Pedagogy, organized by Prof. Dr Roland Naul in cooperation with Prof. Dr Mingkai Chin and Prof. Dr Christopher Edginton in Velen, Germany (9 to 11 May), bringing together experts in physical education from all over the world.

New Institutional Members
During the board meeting in Amsterdam in February 2012, the application forms of two new institutional members were accepted by the board:

- Faculty of Physical Culture, Palacky University in Olomouc, Czech Republic
- Faculty of Language and Literature, Humanities, Arts and Education, University of Luxembourg

For further information please contact:
EUPEA - European Physical Education Association
Tel.: +32 (0)92 189122
www.eupea.com / info@eupea.com

ENSSEE News
www.enssee.eu / office@enssee.eu

Compiled by K. Petry (Cologne, Germany)

The European Network of Sport Science, Education & Employment (ENSSEE) is an international non-profit organisation for universities and non-universities. ENSSEE provides an ideal meeting place for debating and proposing ideas as well as common initiatives to promote education, training, and employment in sport.

"CoachNet" meets in Cologne

CoachNet – a project to further develop a coordinated network for Sport Coaching in Europe – has made significant progress during its second meeting in the Cologne-based coaching academy of the German Olympic Sports Confederation (viz *DOSB Trainerakademie*).

The 13 project partners from nine European countries came together between 17 and 18 April to discuss further steps. The focus of this meeting lay on the development of a concise project vision. In order to formulate this vision as comprehensively as possible, the partners shared their views on the field of sports coaching and discussed relevant issues.

Following this step, further action will be taken within the next phase which will concentrate on research. The national bodies and stakeholders connected to coaching within the EU member states as well as some other European countries have to be identified and, in a second step, their role as well as their position in the networks of sport coaching.

Coherent and inclusive mechanisms

Under the supervision of Leeds Metropolitan University (UK), the project pursues the objective to establish a coherent and inclusive mechanism for the coordination of sport coaching at European level.

Following this objective, CoachNet aims at including stakeholders in the following categories:

- Coaches' associations (national & European level)
- Lead national organizations in Sport Coaching
- International federations (European level)
- Higher education institutions
- Employers of coaches

At the first project meeting in Leeds from 25 to 26 January, the partners discussed different possibilities on how to make the 'voice of the coach' heard best at European and national levels. These ideas now have been reassessed. During the next meeting to be held in Helsinki in June, evaluation will provide a first overview on the coaching sector in Europe.

For further information on the CoachNet project, please visit www.coachnet.eu

For further information on ENSSEE please contact:
European Network of Sport Science, Education & Employment (ENSSEE)
Tel.: +49 (0)221 49825800
www.enssee.eu / office@enssee.eu

FIEP News
www.fiepeurope.eu / antala@fsport.uniba.sk

Compiled by B. Antala (Bratislava, Slovakia)

FIEP Publications
Integration and Inclusion in Physical Education – 2010, articles of 36 authors from 12 countries, 170 pages.
Healthy Active Life Style and Physical Education – 2011, articles of 63 authors from 16 countries, 275 pages.
Professionals and Volunteers in Physical Education – 2012, articles of 35 authors from 13 countries, 160 pages

The above publications can be ordered for EUR 20 per book plus EUR 5 for post and package in Europe and EUR 12 for post and package outside Europe. Please send orders to antala@fsport.uniba.sk.

FIEP Congress
8th FIEP European Congress - Bratislava, Slovakia, 29 August to 1 September 2013
The 8th FIEP European congress will be held in Bratislava, Slovakia from 29 August to 1 September 2013. The topic idea is "Physical Education and Sports Perspective of Children and Youth in Europe". The congress will be organised by Comenius University in Bratislava. Please contact Ludmila Zapletalova at fiep2013@fsport.uniba.sk. For more information please visit www.fiep2013bratislava.com

FIEP Awards
FIEP Europe Thulin Award - European award for awarding the most famous physical education personalities who have made great contributions to the development of physical education at national and European level, and also awarded for the best young researchers in the field of physical education. Awards are issued every two years.
FIEP International Cross of Honour on Physical Education – World award for awarding the scientific workers and educators in the field of physical education who with their extraordinary work influenced physical education development in the world. Awards are issued annually.
Please send propositions of laureates for awards to sedlacek@fsport.uniba.sk.

PE Alliance
FIEP started negotiations on a *PE Alliance* between FIEP Europe and EUPEA. This Alliance would like to act as a platform for common steps and support for development of physical education in Europe and for influencing politicians and policy at national and European level. FIEP Europe and EUPEA both confirmed interest in close cooperation.

For further information on FIEP please contact:
Fédération Internationale d'Education physique (FIEP)
E-mail: antala@fsport.uniba.sk
www.fiepeurope.eu

Upcoming Events

Prepared in cooperation with
ICSSPE (Berlin)
Tel. +49 (0)30 36418850
www.icsspe.org / icsspe@icsspe.org

17th Annual Conference of the ECSS
Sport Science in the Heart of Europe
04-07 July 2012
Bruges/Belgium
www.ecss-congress.eu/2012

ICSEMIS 2012
Inspiring a Learning Legacy
19-24 July 2012
Glasgow, Scotland
www.brunel.ac.uk/2012/news/icsemis

Annual Summer School
Physical Activity and Sport: Current Topics and Emerging Issues
20-25 August 2012
Copenhagen, Denmark
www.ifi.ku.dk/summerschool

ICSSPE International Seminar
Communities and Crisis - Inclusive Development through Sport
26 October-01 November 2012
Rheinsberg, Germany
http://www.icsspe.org/index_8d6b2484.php.html

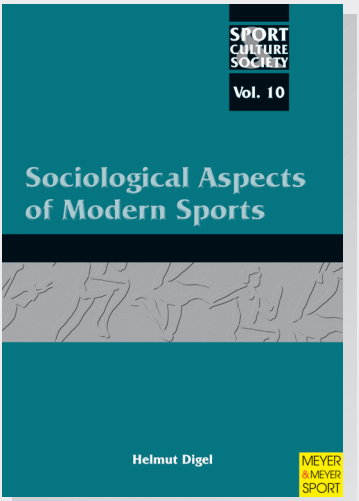
2nd World Forum on Physical Education
06-09 November 2012
Havana, Cuba
tgarciajim@gmail.com

17th IAPESGW World Congress
Physical Education and Sport: Promoting Gender Equality
10-13 April 2012
Havana, Cuba
www.iapesgw.org

4th World conference of the International Society for the Social Sciences of Sport
12-19 September 2012
Kranjska Gora, Slovenia
www.spolint.org/index.php?id=1&lang=en

SPORT, CULTURE AND SOCIETY

Physical activities, fitness, and sports can be considered cultural practices reflecting multiple meanings. The “Sport, Culture and Society” series deals with issues intersecting sport, physical activity, health, aging and cultural concerns. The focus of the series is interdisciplinary, ground-breaking work that draws on different disciplines and theoretical approaches, such as sociology, philosophy, cultural anthropology, history, cultural studies, feminist studies, post-modernism, or critical theory.



Helmut Digel
Sociological Aspects of Modern Sports

The book deals with the Sociological Aspects of Modern Sports and features articles on social change and sports development (e.g. the problem of doping and the responsibility of science, talent identification and promotion), on the Olympics (e.g. the Olympic idea and reality, the athletes’ village) and on athletics (e.g. on the development of world athletics, what makes athletics valuable).

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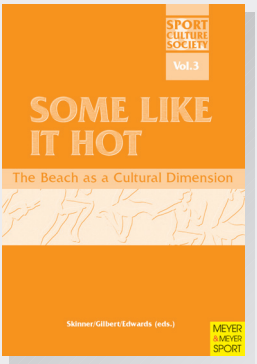

James Skinner/Keith Gilbert/
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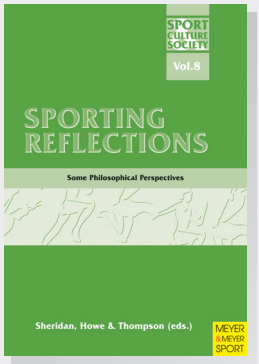

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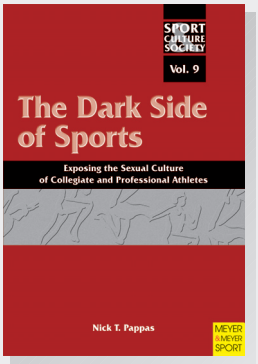

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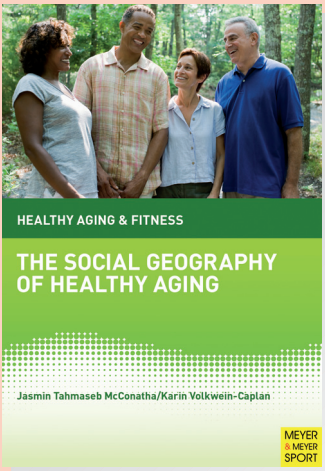

Jasmin Tahmaseb McConatha and Karin Volkwein-Caplan

The Social Geography of Healthy Aging

The healthy and successful transition to later life can be a difficult experience. This book will discuss the historical, cultural, and social psychological factors that shape the quality of life of older women and men. A central premise of the proposed book is that where we live is vital to how we age. Thus, the book has a look at stories of older women and men who are from different cultural backgrounds.

176 pages, full-color print
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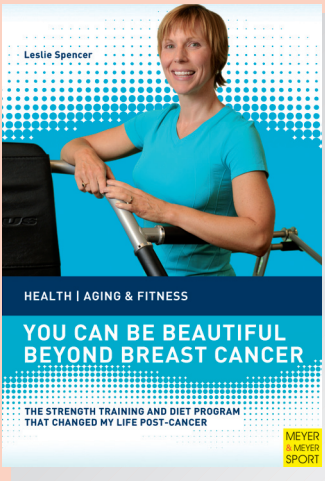

Leslie Spencer

You Can Be Beautiful Beyond Breast Cancer

You Can Be Beautiful Beyond Breast Cancer is the personal story of Leslie Spencer, a professor of health and exercise science, who trained for and competed in her first women's figure competition during treatment for breast cancer. Following sound and practical guidelines, she provides fitness and nutrition strategies to enable cancer survivors to reach new levels of wellness.

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