Promotion of physical activity in schools

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Five questions
- Does the school play a role in PA promotion?
- What are the dimensions of PA at school?
- How to determine the potential role of the school in PA promotion?
- What kind of projects to implement?
- What do we have to remember?

Role of the school in PA promotion

The school is a pillar of the society
- Compulsory education ➔ All children and adolescents can access to PA opportunities
- Specialized educators
- Access to facilities

Bar-Or (2005)
Trost & Loprinzi (2008)

Ecological model
(Sallis et al., 2006)

The school is recognized as a partner in health promotion
- In the 90’, WHO launched the European Health School Network
  Nutbeam (1992)
  OMS Europe (1993)
- Development of the ‘Active School’ concept ➔ Several models
  Cale (1997)
  Ontario Physical and Health Education Association (2006)
There are several opportunities to be physically active at school

- Common opportunities (all pupils/students)
  - Physical education lessons
  - Recess during the morning, midday and afternoon
  - Specific opportunities (school related)
    - Extracurricular activities
    - Other events

  *In primary school*
  - Classroom movement breaks

  Guinhouya (2010)

  Bartholomew & Jowers (2011)

  Mahar et al. (2006)

The part of the school in youth PA is not well documented

- No standardized methodology
- No clear picture for comparison on (inter)national level(s)
- Analyses do not take PE into account

- Primary school
  - USA – 9.8y boys
  - 125’ of MVPA for days with extracurricular sports
  - 95’ of MVPA for days without

  Wickel & Eisenmann (2007)

  Slingerland et al. (2012)

  van Sluij et al. (2007)

  57 papers presenting data of interventions aiming to promote PA in youth (>18 y)

The evidence is not yet established

School PA = 45%

2/3 of the school PA
This paper summarises such evidence by using a lifespan approach with physical activity behaviour change for children and adolescents, adults and older adults.

What about the youth?

Specific school interventions

Biddle et al. (2012)

- 1329 papers
- Positive impact on:
  - BMI: 28%
  - Motor performance: 69.7%
  - Physical activity: 56.8%
  - Knowledge: 87.5%
  - Self-esteem: 30%
  - Attitudes: 43.8%

Demetriou & Ntiner (2012)

- School interventions (children): miscellaneous evidence.
- School interventions (adolescents): insufficient evidence.
- Primary care interventions (children): no evidence.
- Family interventions (children): inconclusive evidence.
- School interventions (adolescents): insufficient evidence.
- Community interventions (adolescents): insufficient evidence.
- Primary care interventions (adolescents): inconclusive evidence.
- Family interventions (adolescents): insufficient evidence.

Cale et Harris (2006, p. 415)

Conclusion

The evidence reviewed here has revealed that school-based physical activity interventions can be effective and achieve a range of positive benefits suggesting that minimal efforts to promote physical activity through PE programmes can indeed be worthwhile. Further, and despite limitations in the existing literature precluding definitive guidelines for schools to be made, consideration of the key trends and issues concerning the physical activity interventions clearly has implications for practice and has been used to inform a number of recommendations for the future direction of formal and informal physical activity programmes, initiatives and interventions. Until a stronger evidence base becomes available, schools and teachers should be encouraged to plan, implement and evaluate programmes and draw on such recommendations to inform their practice.

Comprehensive school-based strategies encompassing PE classroom activities, after-school sports, and active transport can increase physical activity in young people.

Promoting Physical Activity in Children and Youth: A Leadership Role for Schools: A Scientific Statement From the American Heart Association Council on Nutrition, Physical Activity, and Metabolism (Physical Activity Committee) in Collaboration With the Council on Cardiovascular Disease in the Young and the Council on Cardiovascular Nursing. Haase RL, Prince MA, Deadrick JT, McPherson L, McQueen JH, Young CE. Circulation 2006;114:1234-1239; originally published online Aug 14, 2006. DOI 10.1161/CIRCULATIONAHA.106.177072.
The main dimensions

- Scientific Statement from the American Heart Association Council (Pate et al., 2006)
- Physical education
- Sport at school
- Active transportation
- Life environment (recesses, spaces)
- Physical activity in the classroom

Strong school policy!

School policy for PA

Policy is the weak link of PA at school

- The first step of any intervention
- Very few studies about that fundamental aspect
  - 17/42 English secondary school had a written document focusing on PA promotion
    - Cale (2000)
  - Follow up of the implementation of the Healthy People 2010 (USA) between 2000 and 2006
    - Kann et al. (2007)
- Our experience
  - Compulsory physical education project
  - Uncommon description in the overall school presentation
  - Rare PE teachers involved in the writing of such policy

Physical education

From sport education to physical activity promotion

- Worldwide PE crisis
- (Physical) literacy
- Accountability

Worldwide crisis

- 1975
- 2000
Worldwide crisis
- Hardman (1998)

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Worldwide crisis
- Hardman (1998)
- Pühse & Gerber (2005)

35 countries

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Worldwide crisis
- Klein & Hardman (2007; 2008)
- Serious concern (Hardman, 2005)
  - Decline and marginalization of PE
  - Curriculum time allocation, subject status, material, human and financial resources, inadequacies in facility and equipment supply, low remuneration of teachers
- Questions about PE quality
  - Teaching process
  - Inadequate school-community co-ordination
  - Focus on competition performance sport
  - Lack of interest on ‘basic human movement’

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Worldwide crisis
  - “If exercise is medicine, physical education is the pill not taken”
  - PE should be the cornerstone of the promotion of physical activity
- Pühse, Gerber, Mouton & Cloes (2010)
  - Need of PE centred on current society needs and requirements
  - Sports and cultural physical activities = tools for general aims and not final objectives

But ...

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Worldwide crisis
- Sallis & McKenzie (1991)
  - PE teachers should adopt a new role
  - Need of QPE

Prepare youth for a lifetime of PA
Provide them with PA during PE classes

PE and public health

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**PE and public health**

- Sallis et al. (2012)
  - The gym is half full (support of PE; systematic analysis)
  - The gym is half empty (PE time; no consensus about QPE; lack of implementation)

**Physical Education’s Role in Public Health: Steps Forward and Backward Over 20 Years and HCPE for the Future**

Mainly focused on MVPA

- Health Optimizing PE

**Development of (Physical) Literacy**

- Whitehead (2007)
  - Physical literacy is the motivation, confidence, physical competence, understanding and knowledge to maintain physical activity at an individually appropriate level, throughout life
- Mandigo et al. (2009)
  - Individuals who are physically literate move with competence in a wide variety of physical activities that benefit the development of the whole person

**Development of accountability**

- PE for what?
  - PE ≠ Recreational activity
  - PE = Developmental activity
    - Motor dimension
    - Physical dimension
    - Cognitive dimension
    - Affective dimension
    - Social dimension
    - Concrete effects?

**What is the long term influence of PE?**

- Pate et al. (2011)
  - The scientific literature addressing the public health effects of physical education is surprisingly limited
  - Students can be provided with significant doses of PA during physical education classes
  - The actual dose of PA provided during typical PE classes is not well established
  - The effects of physical education on health and fitness outcomes are poorly understood

- Acquisition of a healthy lifestyle
- Expectations towards school physical education are too seldom being met (Huts et al., 2005)
  - 57% of 182 adults and 49% of 1,730 students for the overall opinion
  - 48.1% of the students with regard to the development of a physically fit and healthy lifestyle
  - 45.1% about the development of self-image and social functioning
  - 43.1% for development of motor competencies

- Few students consider that school and PE contributed to develop their active lifestyle (Cloe et al., 2009)

<table>
<thead>
<tr>
<th>Schools</th>
<th>Desire to adopt an active lifestyle (% of total agreement)</th>
<th>Support to become physically active</th>
<th>Motivation to be physically active as an adult</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belgium (French)</td>
<td>1.6</td>
<td>3.9</td>
<td>2.3</td>
</tr>
<tr>
<td>England</td>
<td>6.7</td>
<td>22.2</td>
<td>8.9</td>
</tr>
<tr>
<td>Belgium (German)</td>
<td>2.0</td>
<td>0.0</td>
<td>2.0</td>
</tr>
</tbody>
</table>

- But PE can also be related to positive effects
  - Motor and affective aspects in daily PE (Piéron et al., 1996; Cloes et al. 2009)
  - PA promotion (Dudley et al., 2011; Lonsdale et al., 2013)
  - Physical activity at adulthood of daily PE (Trudeau et al., 1999)

- Objectives should reflect the specific cultural dispositions that allow them to be autonomous

- Need of QPE

- Quality PE
  - Definitions
    - Towards a dreamland

- How to define QPE?
  - AIESEP Specialist Seminar in Jyväskylä (2013)
    - QPE reaches the objectives for all students
    - Objectives should reflect the specific cultural contexts
    - QPE classes should allow students to have positive individual and collective learning experiences where they develop knowledge, skills and dispositions that allow them to be autonomous and responsible decision makers relative to engagement in PA and sport in their lives

- AIESEP Specialist Seminar in Jyväskylä (2013)
The specific role of PE

- **Basic role** of PE in the promotion of an active lifestyle (Cloes, 2010)
  - Fight against inactivity (representations)
  - Water safety; basic life support; automated external defibrillation
  - Warming up; cooling down; stretching; fitness
  - Ergonomic principles, respiratory control; relaxation
  - Selection of one's working intensity; heart beats checking; muscles and body functioning
  - Improvement of motor skills (balance, manipulative skills, work in high situation, running ...)

... And – of course – learning of sport activities!

Specific actions of PE in the promotion of an active lifestyle (Cloes et al., 2009)

- Diversified activities
- Students' notebook/portfolio
- Out of school's sport activities
- Initiation into unusual sports

Other examples

- Students' projects ...
- Collaboration with other teachers, partners (PE = cornerstone)
- Using available resources
- Using technology (HRM, computers, video, iPad ...)

Teacher education

- **New approach** of PETE (Armour, 2014)
  - Pedagogical cases
  - Scenarios
  - Sport science experts
  - Sport pedagogy expert

Pre and in-service teaching
Great cultural diversity
- USA, England, Belgium, Germany ... Portugal have specific systems

Evolution toward competition and performance
- Decrease of the pleasure declared by the youth
  - Benhaim-Grosse (2007)
- Problem with girls and less skilled youth
  - Fairclough et al. (2002)

A major lack
- Collaboration with the community

An important way to reach the recommendations
  - Cooper et al. (2005)
  - France
    - 38.8% for 3-10 y; 31% for 11-14 y
    - 7% of 11-15 ans >30'/day
  - ENNS (2007)
  - AFSSA (2009)
  - Godeau et al. (2008)

Walking, biking, skating, scootering should be promoted
- USA
  - 38.8% for primary; 12.4% for secondary; 8% for highschool
  - Fulton et al. (2005)
- Lichtenstein + Switzerland
  - 87.8 + 91% of 10-11 y
  - 35.5 to 37 minutes/day
  - Kühnis et al. (2013)
Give them places to play
- Sports and school facilities, playground
- Recesses
- Positive effects

Ramstetter et al. (2010)

Overall facility provision, unfixed equipment, and perceived encouragement are associated with recess physical activity

Ridgers et al. (2012)
Cardon et al. (2008)

Physical activity in the classroom

A break to move to learn better
- Positive effect of PA during classroom on academic achievement
  Rasberry et al. (2011)

- A more positive attitude of teachers in North-American and Asian contexts
  Liu et al. (2007)

Analysis of the school action on PA
Several instruments have been developed and tested

Hill & Turner (2007)

Tools to know where a school is
- Several instruments have been developed and tested

Rickwood et al. (2013)
**Tools to know where a school is**

- **PASS: Physical Activity School Score**
  - Lounsbury & McKenzie
  - A free, user-friendly, web-based, 8-item tool that assesses and increases awareness of evidence-based physical activity practices at elementary schools

http://activelivingresearch.org/physical-activity-school-score-pass

**Guidelines to implement PA promotion at school**

- **One of the first document:**

  CDC (1997)

  Guidelines for School and Community Programs to Promote Lifelong Physical Activity Among Young People

  National Center for Chronic Disease Prevention and Health Promotion, Centers for Disease Control and Prevention

**Articles**

- Guidelines for School and Community Programs to Promote Lifelong Physical Activity Among Young People

**Implementation of PA promotion**

Cale et Harris (2008, p. 415)

- Augmented PE programmes which involved lengthening the time of existing PE lessons or adding new or additional lessons
- Non-augmented or standard PE programmes which were incorporated into existing PE time (increasing the amount of PA during lessons by changing the activities taught or modifying the rules of games)
- Classroom-based programmes which were based on theoretical instruction and the provision of information
Implementing the project on the same time in primary and secondary levels
Focusing the projects on target pupils/students (inactive, girls, special needs populations and ethnic minorities)
Proposing programme design and content that address the target group's specific needs, interests and preferences
Proposing realistic objectives, focused on reachable modifications

Adopting an ecological approach (multi-component)
Proposing a broad range of activities including non-competitive, more individually oriented and unstructured
Involving students in decision making
Implementing programmes for sufficient time
Evaluating the effectiveness of programmes in pre and post-periods
Conducting periodic follow-up evaluations annually

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Corbin (2002): What every PE educator should know about promoting lifelong PA
Hodges Kulinna et al. (2012): Changing school physical activity
Erwin et al. (2013): Comprehensive school-based PA promotion. A review

As a researcher in sports sciences
As a specialist of physical activity
As a parent or member of the community

*Take home message*
Never doubt that a small group of thoughtful, committed citizens can change the world; indeed, it’s the only thing that ever has

Margaret Mead

Just find these persons!

References


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