

# 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?

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## Role of the school in PA promotion

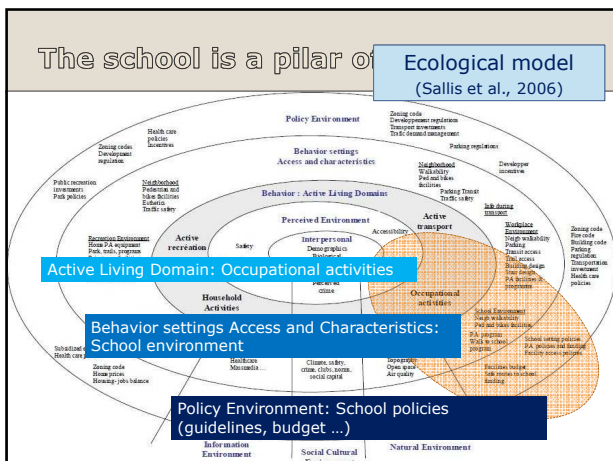
## The school is a pillar of the society

- 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)

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## The school is recognized as a partner in health promotion

- In the 90', WHO launched the European Health School Network
- Development of the 'Active School' concept → Several models

Nutbeam (1992)  
OMS Europe (1993)  
Cale (1997)  
Ontario Physical and Health Education Association (2006)

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### 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)
  - Welcome service
  - Extra-curricular activities
  - Other events
- In primary school
  - Classroom movement breaks

Guinhouya (2010)  
Bartholomew & Jowers (2011)  
Mahar et al. (2006)

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### There are several opportunities to be physically active at school

Guinhouya (2010)

Common opportunities (100% des élèves)				Specific opportunities (<100% des élèves)		
Cours d'éducation physique	Récréation du matin	Récréation de l'après-midi	Pause déjeuner	Service d'accueil	Activités extrascolaires	Autres événements
Classroom movement breaks						
45 min/j	15 min/j	15 min/j	120 min/j	60 min/j	60 min/j	2 h/m
≥ 75 min/j disponibles pour une activité physique				≥ 120 min/j disponibles pour une activité physique		

### 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)

**11% - PE**  
**16% - Recesses**  
**23% - Sports**  
**50% - Unstructured**

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- Secondary school
  - NED – 15,7y boys+girls
  - Physical activity energy expenditure (PAEE) for days with PE lesson

Slingerland et al. (2012)

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Wickel & Eisenmann (2007)  
Slingerland et al. (2012)

**2/3 of the school PA**

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### The evidence is not yet established

van Sluijs et al. (2007)

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

Variables	Children (33 studies)		Adolescents (26 studies)	
	No of studies	Level of evidence	No of studies	Level of evidence
Intervention type:				
Educational	19	No	17	No
Environmental or policy	4	Limited	1	Inconclusive
Multi-component	10	Inconclusive	6	Strong
Setting:				
School	13	Inconclusive	14	Inconclusive
School plus community or family	14	Inconclusive	6	Strong
Family	4	No	1	Inconclusive
Community	2	No	1	Inconclusive
Primary care	0	No	2	Inconclusive
Target group:				
One sex only	5	No	9	Inconclusive
Ethnic minority populations	10	No	0	No
Low SES populations	3	Limited	2	Inconclusive

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### The evidence is not yet established

Biddle et al. (2012)

- ECSS
- 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?

- School interventions (children): inconclusive evidence.
- School plus family or community environment interventions (children): inconclusive evidence.
- Family interventions (children): no evidence.
- Community interventions (children): no evidence.
- Primary care interventions (children): no studies.
- School interventions (adolescents): inconclusive evidence.
- School plus family or community environment interventions (adolescents): strong evidence of effectiveness, including two large high-quality trials.
- Family interventions (adolescents): inconclusive evidence.
- Community interventions (adolescents): inconclusive evidence.
- Primary care interventions (adolescents): inconclusive evidence.

### More encouraging findings

Cale et Harris (2006, p. 415)

- Specific school interventions

**Conclusion**


The evidence reviewed here has revealed that school-based physical activity interventions can be effective and achieve a range of positive outcomes, suggesting that teachers' 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.

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### More encouraging findings

Demetriou & Höner (2012)

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



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### A real positive message

Heath et al. (2012)

**Physical Activity 3**

**Evidence-based intervention in physical activity: lessons from around the world**

Gregory W Heath, Diana C Parris, Olga L Sarriente, Lars Bo Andersen, Neville Owen, Shafiqo Gaenko, Felipe Montes, Ross C Brownson, for the Lancet Physical Activity Series Working Group\*

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

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PA promotion at school: The dimensions

### The main dimensions

Pate et al. (2006)

**Circulation** American Heart Association  
 JOURNAL OF THE AMERICAN HEART ASSOCIATION  
 Learn and Live.

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 Councils on Cardiovascular Disease in the Young and Cardiovascular Nursing

Russell R. Pate, Michael G. Davis, Thomas N. Robinson, Elaine J. Stone, Thomas L. McKenzie and Judith C. Young



Circulation 2006;114:1214-1224; originally published online Aug 14, 2006; DOI: 10.1161/CIRCULATIONAHA.106.177052

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### The main dimensions

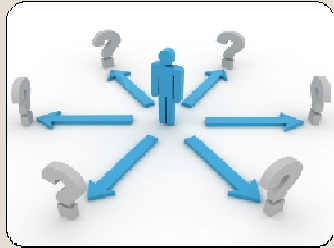
- Scientific Statement from the American Heart Association Council (Pate et al., 2006)
  - Physical education
  - Sport at school
  - Active transportation
  - Life environment (recesses, spaces)
  - Physical activity in the classroom

**Strong school policy!**

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### School policy for PA




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### 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

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### Physical education



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### From sport education to physical activity promotion

- Worldwide PE crisis
- (Physical) literacy
- Accountability



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### Worldwide crisis



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### Worldwide crisis

- Hardman (1998)
- Hardman & Marshall (2000)

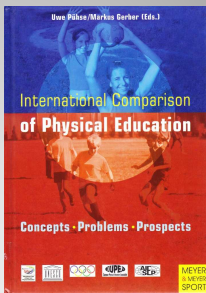


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### Worldwide crisis

- Hardman (1998)
- Hardman & Marshall (2000)
- Pühse & Gerber (2005)

35 countries



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### Worldwide crisis

- Hardman (1998)
- Hardman & Marshall (2000)
- Pühse & Gerber (2005)
- Klein & Hardman (2007; 2008)



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### Worldwide crisis

- 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


- McKenzie (2004)
  - ☞ « If exercise is medicine, physical education is the pill not taken »
- But ...
- Tappé & Burgeson (2004)
  - ☞ PE should be the corner stone of the promotion of physical activity
- And ...
- 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

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### PE and public health

- 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



SPARK  
CATCH  
TAAG  
LEAP

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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)

Research Quarterly for Exercise and Sport  
©2012 by the American Alliance for Health, Physical Education, Recreation and Dance  
Vol. 83, No. 2, pp. 125-135

**\*Health Optimizing PE**

#### Physical Education's Role in Public Health: Steps Forward and Backward Over 20 Years and HOPE<sup>®</sup> for the Future

James F. Sallis, Thomas L. McKenzie, Michael W. Beets, Aaron Beighle, Heather Erwin, and Sarah Lee

Mainly focused on ↗ MVPA

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### Development of (Physical) literacy

- PE for what?
- PE ≠ Sport preparation
- PE = Developing physically educated persons (NASPE, 2004)
  - ☞ Competency in motor skills
  - ☞ Understanding of movement concepts, principles
  - ☞ Regular participation
  - ☞ Health-enhancing level of physical fitness
  - ☞ Responsible personal and social behavior
  - ☞ Emphasis on health, enjoyment, challenge, self-expression, and/or social interaction

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### 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

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### Development of (Physical) literacy


- Finally, one can say that:
  - ☞ Physical literacy is linked to the acquisition by the youth of knowledge, skills and attitude that will make them **physically educated persons** for their whole life
  - ☞ It means that PE has a concrete mission to follow learning objectives that are useful and usable **outside the school walls**
  - ☞ A determining aspect is the meaning of the content taught

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### Development of accountability

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

Acquisition of a healthy lifestyle



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### Development of accountability

- 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

What is the long term influence of PE?

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### Development of accountability

- 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

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### Development of accountability

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

Schools (% of total agreement)	Desire to adopt an active lifestyle	Support to become physically active	Motivation to be physically active as an adult
Belgium (French)	1,6	3,9	2,3
England	6,7	22,2	8,9
Belgium (German)	2,0	0,0	2,0

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### Development of accountability


- 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)

**Need of QPE**

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### Quality PE

- Definitions
- Towards a dreamland



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### 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

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### How to define QPE?

- AIESEP Specialist Seminar in Jyväskylä (2013)

**Awards**

- IOC President Prize
- Best Posters Awards
- Young scholar
- Fellows

**Other**

- New publications
- AIESEP statements on PE-CPE
- AIESEP statement on Sport Pedagogy
- AIESEP Position Statement on Physical Education Teacher Education

**AIESEP General Assembly and Election of the Board (2014-2018)**

President: Prof. Marc CLOES (University of Liege, BEL)  
 Secretary General: Prof. Mary O'SULLIVAN (University of Limerick, IRL)  
 Treasurer: Prof. Uwe PÜHSE (University of Basel, SUI)  
 Board members: see 'Board of Directors' for more info

**Flash Newsletters (see the last info)**

n° 106 - Normal issue (April 21, 2014)

**2013 AIESEP Specialist Seminar in Jyväskylä**

[www.aiesep.ulg.ac.be/](http://www.aiesep.ulg.ac.be/)

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### Never again: Utopia?



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### 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 ones 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 !

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### The specific role of PE


- **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


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### The specific role of PE

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



Fahey et al. (2007)



Castelli (2013)

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### The specific role of PE

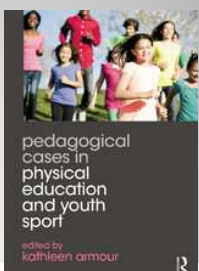
- **Newer role** of PE in the promotion of a healthy lifestyle (Cloes, 2010)
  - ☞ Nutrition (hydration, sport dietetics ...)
  - ☞ Sleep
  - ☞ Stress (relaxation in daily life situations ...)
  - ☞ Smoking, alcohol, drugs, medicine
  - ☞ Sex, risk behaviours (driving)
  - ☞ Hygiene

➔ **Health and Physical Education ??**

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### Teacher education

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



Pre and in-service teaching

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## Sports at school



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## Extra-curricular sports are under question

- 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

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## Active transportation



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## Walking, biking, skating, scootering should be promoted

- 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)



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## 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)



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## Life environment (recesses, spaces)



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### 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)



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### Physical activity in the classroom



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### 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 Nord-American and Asian contexts

Liu et al. (2007)



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Analysis of the school action on PA

### Tools to know where a school is

- Several instruments have been developed and tested

Hill & Turner (2007)



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*How many of these strategies do you use?*

### Tools to know where a school is

- Several instruments have been developed and tested

Rickwood et al. (2013)

2011, Vol. 3, No. 1

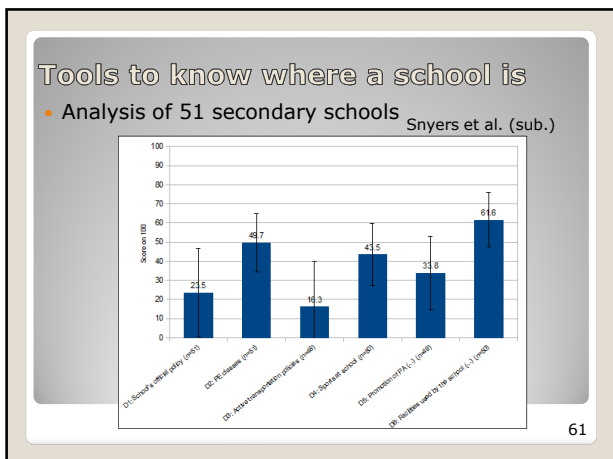


**PHENex Journal/Revue phénEPS**

The Validity and Reliability  
of a School-Based Physical Activity Opportunities Survey

*Validité et fiabilité d'un sondage sur les occasions de pratique d'activité physique en milieu scolaire*

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### Tools to know where a school is

- Analysis of 51 secondary schools Snyers et al. (sub.)

Dimensions	Variables	Scores on 100 ± σ
D1: School's official policy	Written importance of PA (n=51)	22.0 ± 25.4
	School staff awareness of the importance of PA (n=51)	25.1 ± 33.2
D2: PE classes	Impact of the course (n=51)	56.1 ± 17.0
	Philosophy of the course (n=51)	49.6 ± 23.3
	Status of the course (n=51)	52.2 ± 20.8
	Team of PE teachers (n=51)	52.4 ± 21.8
	Relationships between PE teachers and rest of school staff (n=51)	63.3 ± 16.5
	Length and number of lessons (n=51)	18.8 ± 30.6
D3: Active transportation policies	Transport policy (n=48)	16.3 ± 23.6
D4: Sports at school	Recess (n=50)	60.8 ± 24.6
	Before/After school (n=50)	17.2 ± 25.9
	Holiday trainings (n=50)	17.2 ± 25.3
	Interschool competitions (n=50)	38.8 ± 31.4
	Others (n=50)	66.0 ± 26.6
	D5: Promotion of PA as an inter-disciplinary process	Actions taken to promote an active lifestyle (n=49)
	School staff behavior towards PA (n=49)	44.9 ± 17.1
D6: Facilities used by the school for PE and sports	Qualitative analysis (n=51)	71.6 ± 6.6
	Qualitative opinion (n=50)	56.8 ± 23.3
	Quantitative analysis (n=51)	56.9 ± 24.1
	Green space (n=50)	56.4 ± 36.1
	Swimming pool (n=50)	38.0 ± 34.1

### 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

**TOOLS AND MEASURES**  
Physical Activity School Score (PASS)

April, 2014  
Author: Monica A.F. Lounsbury, PhD, University of Nevada, Las Vegas & Thomas L. McKenzie, PhD, San Diego State University  
Topic: Schools, School Policies, Physical Education, Recess, Healthy Schools  
Population Served: School-age Youth (K-12)  
Location by State: National

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

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### Guidelines to implement PA promotion at school

CDC (1997)

- One of the first document:

National Center for Chronic Disease Prevention and Health Promotion, Centers for Disease Control and Prevention  
*The Journal of School Health*; Aug 1997; 67, 6; Academic Research Library  
pg. 202

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#### Articles

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**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

### Guidelines to implement PA promotion at school

Cale et Harris (2006, 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

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**Specific recommendations for PA promotion at school** Cale et Harris (2006, p. 415)

- 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

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**Specific recommendations for PA promotion at school** Cale et Harris (2006, p. 415)

- 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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<http://letsmoveschools.org/>

WHAT IS AN ACTIVE SCHOOL? RESOURCES & GRANTS SUCCESS STORIES

**Active Kids Do Better**

Help this generation get moving so they can reach their greatest potential.

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<http://www.actionschoolsbc.ca/>

**Action Schools! BC** ...provides more opportunities for more children and youth to make healthy choices more often

FOR TRAINERS

THE MODEL PROFESSIONAL DEVELOPMENT RESOURCES + EQUIPMENT STUDENT LEADERSHIP SCHOOLS IN ACTION HOW TO ORDER

**Action Schools! BC**  
Action Schools! BC is a best practices whole-school model designed to assist elementary and middle schools in creating and implementing individualized action plans to promote healthy living while achieving academic outcomes and supporting comprehensive school health.

Action Schools! BC contributes to the overall health and physical literacy of children and youth by integrating daily physical activity, physical education and healthy eating practices into the school community, with a goal of providing a foundation for life-long healthy living.

The Action Schools! BC whole-school framework for action focuses on **Six Action Zones**.

**Success Stories**

**DONCASTER ELEMENTARY**  
Doncaster is providing healthy living opportunities for their students every day with the resources and support from Action Schools! BC.

**ELIZA ARCHIE MEMORIAL SCHOOL**  
Fostering healthy living initiatives with the Action Schools! BC six Action Zones as a guiding force at Eliza Archie Memorial School.

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Office fédéral du sport OFSPD

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<http://www.schulebewegt.ch/>

**«l'école bouge»**  
Activité physique quotidienne pour les classes d'école et les structures d'accueil de jour

Liens importants  
► Créer un profil  
► Login (Commande)  
► Visites d'écoles

Vous cherchez des idées d'activités physiques?  
► Consultez nos conseils hebdomadaires  
Newsletter  
► S'abonner

**Actions**

- Promotion all around the world  
"We Need More Physical Education" (4:35)

<http://bit.ly/WeNeedMorePE>

(Lounsbury & McKenzie, 2012)

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### Actions

- <http://www.designedtomove.org/>

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### Actions

- <http://www.designedtomove.org/>

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### Actions

- <http://www.designedtomove.org/>

#### ASK 1

CREATE EARLY POSITIVE EXPERIENCES FOR CHILDREN

If kids are playing hard and having fun, they'll come back for more. One day, they'll have hard-playing kids of their own, and the negative cycle will be broken.

#### ASK 2

INTEGRATE PHYSICAL ACTIVITY INTO EVERYDAY LIFE

Our world doesn't make physical activity very easy. Everything around us is designed for sedentary convenience. It's time to shake things up.

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### And for those who want to read more

- 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

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\*Take home message

### Become PA promoter at school

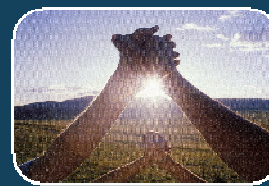
- As a researcher in sports sciences
- As a specialist of physical activity
- As a parent or member of the community

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*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!



Many thanks for your interest

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