

**Physical Activity within a
Comprehensive School Health Model**

**Best Practices Toolkit
2009**



This toolkit is part of a series of resources based on evidence, drawn from educators and researchers, as to the strategies most effective in addressing physical activity in schools. The *Physical Activity within a Comprehensive School Health Model* toolkit series provides an in-depth understanding of how Canadian schools can use a Comprehensive School Health approach to increase physical activity levels.

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The *Physical Activity within a Comprehensive School Health Model* series includes four toolkits:

Best Practices Toolkit

Decision Makers' Toolkit

Researchers' Toolkit

School Policy Makers' Toolkit

and four related fact sheets:

The Rationale for School as a Setting for Physical Activity

The Benefits of Physical Activity

Populations with Additional Barriers to Physical Activity

The School Community's Role in Physical Activity

Copies can be obtained from www.jcsh-cces.ca.

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INTRODUCTION

Increases in childhood overweight and obesity have become a major public health concern, with rates of obesity among Canadian children having more than doubled in past decades. Recent estimates indicate that about 30 percent of school-aged children in Canada are overweight or obese^{1,2}, some of whom are among the most obese in the world³. While physical inactivity and unhealthy eating habits are acknowledged as the primary risk factors for the increasing rates of childhood overweight and obesity, research suggests that physical inactivity may play the more important role^{4,5}.

The benefits of physical activity in children and youth are not limited to just decreasing the risk for chronic conditions such as obesity, type II diabetes and cardiovascular disease. Additional benefits include⁶:

- increased academic achievement
- decreased behavioural problems
- increased ability to focus
- increased self-esteem and positive mental health
- increased social connection

Because virtually all children, regardless of age, ability, gender, culture or socio-economic background can be reached in school, schools are positioned to play a key role in increasing children's physical activity levels. This *Physical Activity within a Comprehensive School Health Model Best Practices Toolkit* is part of a series that provides an in-depth understanding of how Canadian schools can use a Comprehensive School Health approach to increase physical activity levels.

Providing age and developmentally appropriate and culturally relevant physical education curricula, along with opportunities to be physically active both in and outside of the classroom is an ideal combination for preparing Canadian students for a physically active life.



WHAT IS COMPREHENSIVE SCHOOL HEALTH?

Comprehensive School Health is an internationally recognized framework for supporting improvements in students' educational outcomes while addressing school health in a planned, integrated and holistic way. It is not just about what happens in the classroom. Rather, it encompasses the whole school environment with actions addressing four distinct but inter-related pillars that provide a strong foundation for Comprehensive School Health:

- social and physical environment
- teaching and learning
- healthy school policy
- partnerships and services

When actions in all four pillars are harmonized, students are supported to realize their full potential as learners – and as healthy, productive members of society.



WHY DO WE NEED COMPREHENSIVE SCHOOL HEALTH?

Health and education are interdependent: healthy students are better learners, and better-educated individuals are healthier. Research has shown that Comprehensive School Health is an effective way to tap into that linkage, improving both health⁷ and educational outcomes⁸ and encouraging healthy behaviours that last a lifetime.

In the classroom, Comprehensive School Health facilitates improved academic achievement and can lead to fewer behavioural problems⁹. In the broader school environment, it helps students develop the skills they need to be physically and emotionally healthy for life.

PILLARS OF COMPREHENSIVE SCHOOL HEALTH

When We Say	We Mean
<i>Social and Physical Environment</i>	<p>The social environment is:</p> <ul style="list-style-type: none"> • the quality of the relationships among and between staff and students in the school • the emotional well-being of students • influenced by relationships with families and the wider community <p>The physical environment includes:</p> <ul style="list-style-type: none"> • the buildings, grounds, play space and equipment in and surrounding the school • basic amenities such as sanitation and air cleanliness
<i>Teaching and Learning</i>	<ul style="list-style-type: none"> • resources, activities and provincial/territorial curricula where students gain age-appropriate knowledge and experiences, helping to build the skills to improve their health and wellbeing
<i>Healthy School Policy</i>	<ul style="list-style-type: none"> • management practices, decision-making processes, rules, procedures and policies at all levels that promote health and wellbeing, and shape a respectful, welcoming and caring school environment
<i>Partnerships and Services</i>	<p>Partnerships are:</p> <ul style="list-style-type: none"> • the connections between the school and students' families • supportive working relationships within schools (staff and students), between schools, and between schools and other community organizations and representative groups • health, education and other sectors working together to advance school health <p>Services are:</p> <ul style="list-style-type: none"> • community and school-based services that support and promote student and staff health and wellbeing

COMPREHENSIVE SCHOOL HEALTH:

- recognizes that healthy children learn better and achieve more
- understands that schools can directly influence children's health and behaviours
- promotes the health and wellbeing of students
- integrates health into all aspects of school and learning
- links health and education issues and systems
- involves families and the community at large

Effective, sustainable progress in Comprehensive School Health depends on a common vision, shared responsibilities and harmonized actions among educators, health professionals and others. The challenge is to coordinate these efforts so that partners pool resources and develop action plans together with, and in support of schools.

PHYSICAL ACTIVITY WITHIN A COMPREHENSIVE SCHOOL HEALTH APPROACH

In Comprehensive School Health's holistic approach, physical activity is broadly defined and includes not only physical education classes but also daily physical activity programs, intramural programs/clubs, interscholastic sports, walk-to-school programs, ride-your-bike-to-school programs, classroom walking programs and other programs or activities that get students and staff moving.

Physical activity: *any body movement of skeletal muscles (i.e., muscles that attach to bones) that uses energy.* Public Health Agency of Canada

A review of the literature¹⁰ over the last 25 years on initiatives promoting health in schools suggests that:

- physical activity initiatives in schools are most effective if they adopt a comprehensive approach (e.g., they develop skills, establish and maintain suitable physical environments and resources, uphold supportive policies to enable all students to participate);
- there is a strong direct correlation between being physically active at school and undertaking physical activity in adulthood;
- students gain more benefit from physical activity if they have opportunities to be active at regular times during the school day;
- students are more willing to participate in physical activity if they have the opportunity to collaborate with school staff in deciding the type of physical activity to be undertaken, which could include other activities not viewed as sport, like dance; and
- initiatives are more successful if they take into account student diversity including ethnicity, physical ability, gender and age.

"Our teachers reported a strong bond was developed with students during a daily cross-country run and students reported feeling better about themselves when they ran."

Teacher, BC Healthy Schools Network case study

"I have seen additional benefits of being active because I can climb longer than I could before."

Student, BC Healthy Schools Network case study

WHY ARE WE CONCERNED ABOUT PHYSICAL ACTIVITY?

In 1997 the World Health Organization stated: “regular physical activity provides people of all ages with substantial health gains that are physical, mental and social and contribute significantly to increased quality of life.”

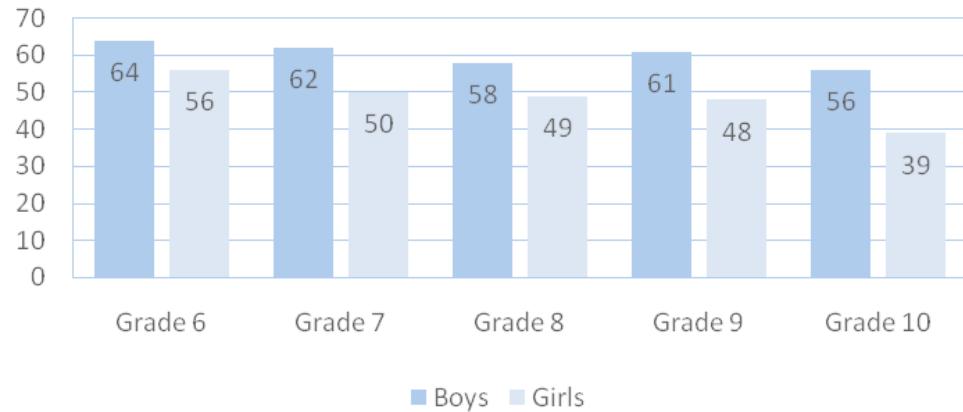
Despite that, recent research shows that a large percentage of Canadian youth between the ages of 12 and 17 are not active enough for optimal growth and development¹¹. Between 56 and 64 percent of boys and 39 to 56 percent of girls report being physically active for 60 minutes a day at least five days per week. For both boys and girls, levels of activity tend to decline as they reach higher grades¹². Moreover, data from the 2005/06 CANPLAY study that assessed children’s total number of steps per day using pedometers shows that 96 percent of Canadian youth between the ages of 15 and 19 are not meeting Canadian guidelines on being healthy and developing lifelong physical activity habits¹³. Active Healthy Kids Canada’s 2009 Report Card once again gave Canadian children and youth a failing “F grade” for physical activity levels¹⁴.

Canada’s Physical Activity Guides for Children and Youth! recommends that children and youth (ages 6–14) be physically active for at least 90 minutes per day.

Less active children and youth should:

- gradually increase the amount of time they spend being physically active, starting with at least 30 minutes more per day (combining moderate and vigorous physical activity) until they achieve the recommended levels;
- gradually decrease the time they spend on TV, playing computer games and surfing the Internet by starting with at least 30 minutes.

Students Physically Active 5 or more Days per Typical Week for at Least 60 minutes per Day



Adapted from *Healthy Settings for Young People*¹²

PARTICULAR POPULATIONS OF CONCERN

Physical inactivity is an issue for all Canadian children. However there are a number of sub-populations where there are additional barriers and concerns.

ABORIGINAL YOUTH

Physical activity levels of Aboriginals have traditionally been very high. However, over the years these levels have decreased significantly¹⁵ and the majority of Aboriginal youth do not meet the recommended guidelines for physical activity¹⁶.

Aboriginal youth who are physically active and whose diets are nutritious are less likely to have suicidal thoughts¹⁷.

FEMALE ADOLESCENTS

Despite the many benefits associated with physical activity, the rate of participation by female youth remains low and decreases with age¹⁸. There is a dramatic drop off between grades 6 and 10. Females who are inactive as children and adolescents are less likely to be physically active as adults¹⁹.

If a female does not participate in sport by the time she is 10 years old, there is only a 10 percent chance she will be physically active when she is 25²⁰.

A British Columbia study found that once physical education classes become optional, only 10 percent of female high school students enrol²¹.

NEW CANADIANS

Youth who have recently immigrated to Canada are less likely to participate in organized sport compared with youth born in Canada – particularly if English is a secnd language²². Challenges related to participation identified by Canadian ESL students include language difficulties, unfamiliarity with activities and other commitments²³.

The 2001 census indicated that the percentage of foreign-born Canadians was at its highest (18 percent) for 70 years. Since 1996, one-third of new Canadians have been younger than 25.

EVIDENCED-BASED SCHOOL INITIATIVES

A number of evidenced-based programs have been implemented in schools with the aim of increasing physical activity and overall health and well being of students within a Comprehensive School Health approach.

An evidence-based program is one in which a formal evaluation has been designed, executed and the results have been published.

ELEMENTS OF SUCCESSFUL SCHOOL INITIATIVES

- Ensure that a program is comprehensive. A comprehensive program is one that develops skills, establishes and maintains suitable physical environments and resources and upholds supportive policies to enable all students to participate.
- Ensure that the program integrates program activities both in and outside of the classroom (e.g., classroom-based activities, outside of physical education class, and out-of-class activities such as active assemblies or active lunches).
- Provide adequate training and support for teachers, administrators and/or additional individuals responsible for implementing activities to ensure that programs are implemented effectively.
- Shift the focus of physical education classes from specific skills development to a balanced focus on skills development in a variety of activities and exercise to increase the amount of time students engage in physical activity during class.
- Hire physical education specialists to lead physical education classes and curricula as this has been shown to increase students' levels of moderate to vigorous physical activity in class.
- Encourage and support all staff members to engage students in daily physical activity throughout the school day.

Following is a selection of evidence-based programs from both Canada and the United States.

CANADA

Action Schools! BC

Action Schools! BC utilizes a 'whole school model' to support schools (kindergarten to grade 7) in creating individualized action plans to promote healthy living, including physical activity and healthy eating. The initiative supports schools in making healthy choices the easy choices for students, teachers, school administrators and other members of the school community by targeting six action zones:

- school environment (including school policies)
- scheduled physical education
- classroom action
- family and community
- extra-curricular
- school spirit

Registered schools identify their strengths and areas for improvement in the six different zones using inventories provided by *Action Schools! BC*. A school action plan is submitted identifying goals set in each of the zones – the plans are reviewed and updated annually. Schools receive a classroom action workshop and teachers are provided with an action bin for their classroom containing equipment and resources.

Action Schools! BC addresses all four pillars of comprehensive school health

- social and physical environment
- teaching and learning
- healthy school policy
- partnerships and services

Action Schools! BC uses a comprehensive evidenced-based health outcome evaluation^{24, 25}. The initiative is evaluated on a continuous basis and on a variety of levels to determine its positive impact on its participants. Findings from both the process and outcome evaluations to date include the following:

- teachers were highly satisfied with the model and believed it to be feasible in the school setting;
- a key determinant of success was the provision of resources for teachers and training and support from *Action Schools! BC* facilitators;
- teachers within the schools who participated in the pilot program delivered approximately 10 minutes a day of additional physical activity compared to schools who did not participate in the initiative;
- students in participating schools had higher levels of physical activity compared to students in non-participating schools (59 percent of the students accumulated at least one hour a day of physical activity);
- students demonstrated significantly greater improvements in cardiovascular fitness and bone strength compared to students in schools who did not participate in the initiative; and
- there was no negative impact on academic performance.

EVER ACTIVE SCHOOLS

Ever Active Schools is available to all Alberta elementary and middle schools. The goal of *Ever Active Schools* is to contribute to the healthy development of children and youth by fostering social and physical environments that support active living. The *Ever Active Schools* program provides a framework for school communities to identify strategies in four areas:

- education
- everywhere
- everyone
- environment

An *Ever Active School* develops an individualized game plan for its school utilizing three main components in order to provide a Comprehensive School Health program:

- Provision of clear, consistent, healthy messages delivered at school, in the home and in the community. These healthy messages include information such as the benefits of physical activity, healthy eating and mental health.
- Physical education and health curriculum – every student has equal access to opportunities to experience and learn about the importance of health and active living. The curriculum focuses on developing students physical activity skills through a variety of developmentally appropriate activities such as dance, aquatics, gymnastics, games and outdoor activities.
- Recognition that education related to physical activity and health is shared between students, parents, teachers, the school and the community.

Ever Active Schools addresses all four pillars of comprehensive school health:

- social and physical environment
- teaching and learning
- healthy school policy
- partnerships and services

An external evaluation of *Ever Active Schools* in 2005 identified the following outcomes²⁶:

- resources and ideas, professional development opportunities and on-going support were cited as some of the most valuable aspects of the program (manuals, the website, Promising Practices documents, the EAS bulletin and the registration package);
- program support from an administrative level (e.g., school division, superintendent, principal) as well as support from teachers and school staff were important;
- lack of staff time and resources were reported as the most significant barrier to membership. Schools that had registered intent also reported that the length and complexity of the membership application was a barrier; and

- areas of improvement identified included resources (e.g., providing and updating resources), communication (e.g., improved consistent communication between the program and schools), feedback and support (e.g., increased feedback related to developing Game Plans and preparing growth reports), processes (e.g., simplification of membership application), recognition (e.g., improved recognition for EAS schools) and awareness and coordination (e.g., increasing program awareness in schools and the community).

LIVING SCHOOL

The *Living School* initiative aims to bring together students, parents, teachers, administrators, boards of education, public health, sport and recreation organizations, community coalitions, local businesses and municipal governments to enhance active living for youth. *Living School* has developed a four phase process:

- community consultation
- declaration and commitment
- school community action planning, implementation and evaluation
- celebration

Living Schools addresses all four pillars of comprehensive school health:

- social and physical environment
- teaching and learning
- healthy school policy
- partnerships and services

Living School has identified four different action areas to plan and implement activities:

- effective health policies or guidelines
- quality health and physical education
- health and supportive community environments
- health promoting school community program and services

Examples of the types of activities implemented include:

- “Fit for Life” coupons for parents to indicate that their children participated in vigorous activity throughout the week;
- “Walking Wheeling Wednesday” which challenges staff and students to ride their bikes or walk to school at least once each week;
- “Live It Up Challenge” which involves engaging everyone in at least 20 minutes of physical activity followed by a healthy snack.

A pilot evaluation of the *Living School* initiative identified the following²⁷:

- increased levels of physical activity within the student population and trends toward healthier eating;
- increased sense of belonging and community;
- students in participating schools reported feeling better about themselves and others, and learning to think more independently about health and what influences it;
- increased student attentiveness and alertness, student attendance and a reduction in behavioural issues;
- teachers who participated showed positive changes in their belief in the ability of the school to influence student health behaviour and attitudes, maintained their beliefs related to the learning power of physical activity and sound nutrition and tended to become more vigorously active over the course of the year; and
- all *Living School* pilot sites reported implementing daily physical activity over and above scheduled health and physical education classes. *Living Schools* were able to implement daily physical activity into their curriculum more effectively and more quickly than non-*Living Schools*.

Further evaluation of the *Living School* initiative revealed that students who were exposed to the *Living School* initiative scored better on EQAO tests (reading, writing, mathematics) compared to students from schools that had not implemented the *Living School* initiative²⁸. In addition, it appears that there is an accumulative effect – schools that were exposed to the *Living School* initiative for two years improved their EQAO scores significantly more than schools that were exposed for one year.

UNITED STATES

CATCH

The Coordinated Approach to Child Health (*CATCH*) program was developed to create healthy school environments for third to fifth grade students. The program has four major components:

- Go For Health Classroom Curriculum
- *CATCH* Physical Education Classes
- Eat Smart School Nutrition Guide
- Family Home Team Activities

The implementation of *CATCH* is a structured four step process including:

- education on program benefits
- implementation training
- logistical support before and during implementation
- tools and networks to enhance sustainability

CATCH addresses three pillars of Comprehensive School Health:

- social and physical environment
- teaching and learning
- partnerships and services

CATCH is currently being implemented in over 7000 schools across the United States. The *CATCH* program has been evaluated extensively and was the largest school-based health promotion study ever funded in the United States (through the National Heart, Lung and Blood Institute). There have been studies evaluating *CATCH* published in over 80 scientific peer-reviewed publications. A summary of key results indicates that:

- students are more physically active during physical education classes
- students participated in more physical activity outside of school

PATHWAYS

Pathways aims to prevent obesity among American Indian children by promoting increased physical activity and healthful eating behaviours. The initiative focuses on:

- physical activity
- nutrition
- classroom curriculum
- family involvement

Pathways addresses two pillars of Comprehensive School Health:

- teaching and learning
- partnerships and services

The physical activity component includes;

- *SPARK* physical education (PE) curriculum;
- the Exercise Break box which incorporates exercise breaks into daily class activities;
- American Indian games to help students learn traditional games including the origin of the game, its significance and how it is traditionally played; and
- ideas for increasing recess.

A number of studies have evaluated the impact of *Pathways* and the following results have been identified:

- Students in the interventions schools were more active compared to control schools;

- Knowledge of nutrition and physical activity messages increased for students in schools that received the program compared to schools that did not receive the program;
- Self-efficacy to be physically active increased among female students who received the program compared to female students who did not receive the program; and
- Students in Pathways schools reported increases in intentions to engage in physical activity as compared to students who did not receive the program.

SPARK

The focus of *SPARK* (Sport, Play and Active Recreation for Kids) is the development of healthy lifestyles, motor skills and movement knowledge, and social and personal skills. The overall goals of *SPARK* are to help youth:

- enjoy and seek out physical activity;
- develop and maintain acceptable levels of physical fitness;
- develop a variety of basic movement and manipulative skills so they will experience success and feel comfortable during present and future physical activity pursuits; and
- develop the ability to get along with others in movement environments (e.g., share space and equipment, demonstrate cooperative behaviour).

SPARK addresses two pillars of comprehensive school health:

- teaching and learning
- partnerships and services

SPARK physical education classes are designed to promote high levels of physical activity, teach movement skills and be enjoyable. Features of the *SPARK* program include:

- *SPARK* certified physical education specialists;
- 30 minute lessons divided into health-fitness activities and skill-fitness activities;
- ten health-related activity units where progression within the units is achieved by modifying the intensity, duration and complexity of the activities;
- self-management program taught through weekly 30 minute classroom sessions – students are taught behaviour change skills to help them transfer the physical activity skills they have learned outside of school (e.g., self-monitoring, goal setting, stimulus control, self-reinforcement, self-instruction and problem solving); and
- enhancement of parent-child interaction and support for physical activity through homework and monthly newsletters.

An evaluation of *SPARK* identified that²⁹

- students who were led by a *SPARK* specialist spent significantly more minutes per week being physically active compared to teacher-led physical education classes and both were greater than control classes;
- specialist-led students participated in twice as much moderate to vigorous physical activity and expended twice as many calories during physical education each week compared to students in the control schools.

PROMISING SCHOOL INITIATIVES

The following promising practices are examples of programs and initiatives being implemented in schools across the country where the impact has not been evaluated or is in the process of being evaluated. The promising practice programs were selected if the initiatives were situated within a Comprehensive School Health model and the primary focus of the program was to increase physical activity levels of students within school.

activ8

activ8 was developed by Active Healthy Kids Canada and is designed to increase motivation for youth to be physically active and to recognize each youth's personal development and individual achievements. The program is made up of eight lessons for each grade from kindergarten through eighth grade. The lessons in the program align with each provinces' and territories' curriculum.

ACTIVE SCHOOLS ST. JOHN'S AND ACTIVE SCHOOLS NOVA CENTRAL

The *Active Schools St. John's* initiative aims to provide support, resources, equipment and training to teachers and schools to assist them in facilitating students to become increasingly physically active. The goal of this program is to have an integrated approach where the school and community resources collaborate for a common vision of active school communities.

Teachers are required to incorporate 20 minutes of physical activity into each school day, in addition to any scheduled physical education classes. This physical activity is designed to take place primarily in the classroom, however, outdoor and playground activities are also encouraged.

The City of St. John's Department of Recreation Eastern School District and other partners such as Eastern Health and Dr. Antony Card with the Memorial University, School of Human Kinetics and Recreation acted as resources to help provide more active opportunities for students, teachers and families.

Active Schools Nova Central is a collaborative effort of the School District, the Central Region Active Living Committee and Central Health which targets kindergarten to grade 6 students. The goal of this initiative is for participating schools to provide daily physical activity for 20 minutes per day to students outside of physical education classes. Registered active schools receive teacher training in providing daily physical activity and resources for engaging in different types of activities.

HEALTHY SCHOOLS MANITOBA

Healthy Schools Manitoba is Manitoba's provincial school health initiative and is designed to promote the health and wellness of students, their families, school staff and school communities. *Healthy Schools Manitoba* focuses on six specific important health issues:

- physical activity
- healthy eating
- safety and injury prevention
- substance abuse and addictions
- sexual health and mental health

Healthy Schools Manitoba has partnered with *Manitoba in motion* to address physical activity. *Healthy Schools in motion* promotes the benefits of physical activity and ensures that it is a priority in daily school life. Schools can be *in motion* by achieving a goal of 30 minutes of physical activity every day for every student. The 30 minutes of physical activity can be achieved with any combination of physical education, activity breaks, physical activity programs, intramurals and special events.

SCHOOLS COME ALIVE!

Schools Come Alive! is a program designed for teachers and administrators. Its mission is to provide leadership and expertise to support the development and implementation of quality health and physical education programs and wellness initiatives in Alberta school communities. In particular, the program develops and implements professional development workshops and provides web-based resources for teachers and administrators.

Preliminary evaluation has shown that participants rated the overall quality of the *Schools Come Alive* workshops as 3.42 on a four-point scale. Participants remarked that the workshops and resources provided by the program positively impacted their ability and confidence to deliver quality health and physical education programs, daily physical activity and create/sustain healthy active school communities.

REFERENCES

- 1 Dietz, W. H. (2004). Overweight in childhood and adolescence. *New England Journal of Medicine*, 350, 855-857.
- 2 Tremblay, M. S., Katzmarzyk, P. T., & Willms, J. D. (2002). Temporal trends in overweight and obesity in Canada, 1981-96. *International Journal of Obesity and Related Metabolic Disorders*, 26(4), 538-43.
- 3 Janssen, I., Katzmarzyk, P. T., Boyce, W. F., Vereecken, C., Mulvihill, C., Roberts, C., Curie, C., & Pickett, W. (2005). Comparison of overweight and obesity prevalence in school-aged youth from 34 countries and their relationships with physical activity and dietary patterns. *Obesity Reviews*, 6, 123-132.
- 4 Moran, R. (1999). Evaluation and treatment of childhood obesity. *American Family Physician*, 59, 861-868.
- 5 Nicklas, T. A., Webber, L. S., Srinivasan, S. R., & Berenson, G. S. (1993). Secular trends in dietary intakes and cardiovascular risk factors of 10-y-old children: The Bogalusa Heart Study (1973-1988). *American Journal of Clinical Nutrition*, 57, 930-937.
- 6 Joint Consortium for School Health. (2009). *Physical activity within a Comprehensive School Health model: the benefits*.
- 7 Stewart-Brown, S. (2006). *What is the evidence on school health promotion in improving health or preventing disease and, specifically, what is the effectiveness of the health promoting schools approach?* Health Evidence Network report. Copenhagen. WHO Regional Office for Europe.
- 8 Murray, N.D., Low, B.J., Hollis, C., Cross, A., & Davis, S. (2007). Coordinated school health programs and academic achievement: a systematic review of the literature. *Journal of School Health*, 77(9), 589-599.
- 9 Ibid.
- 10 International Union for Health Promotion and Education. (2009). *Promoting health in Schools: from evidence to action*. Draft.
- 11 Canadian Fitness and Lifestyle Research Institute. (2006). *Opportunities for physical activity in Canadian schools: trends from 2001-2006*. Physical Activity and Sport Monitor.
- 12 Boyce, W. (ed.) (2008). *Healthy settings for young people in Canada*. Public Health Agency of Canada.
- 13 Canadian Fitness and Lifestyle Research Institute. (2007). Kids CAN PLAY Bulletin #1.
- 14 Active Healthy Kids Report Card. (2009).
- 15 Hay, J., & Shepherd, R.J. (1998). Perceptions and patterns of physical activity: a comparison of Mohawk/Cayuga and Non-Native Adolescents. *American Journal of Human Biology*, 10, 629-635.
- 16 National Aboriginal Health Organization. (2006). *First Nations Regional Longitudinal Health Survey (RHS) 2002/3: results for adults, youth and children living in First Nation communities*.

- 17 National Aboriginal Health Organization. (2006). *First Nations Regional Longitudinal Health Survey (RHS) 2002/3: results for adults, youth and children living in First Nation communities.*
- 18 Health behaviour in school-aged children. (2006). Retrieved January 12, 2009 from www.hbsc.org.
- 19 Shephard, R.J., & Trudeau, F. (2000). The legacy of physical education: influences on adult lifestyle. *Pediatric Exercise Science*, 12, 34-50.
- 20 Gibbons, S.L., Wharf Higgins J., Gaul, C., & Van Gyn, G.H. (1999). Listening to female students in high school physical education. *Avante*, 5(2), 1-20.
- 21 Canadian Association for the Advancement of Women and Sport and Physical Activity. (2004). *On the move: increasing participation of girls and women in recreational sport and physical activity.*
- 22 Cragg, S., Cameron, C., Craig, C., & Russell, S. (1999). *Canada's children and youth: a physical activity profile*. Canadian Fitness and Lifestyle Research Institute.
- 23 Taylor, T., & Doherty, A. (2005). Adolescent sport, recreation and physical education: experiences of recent arrivals to Canada. *Sport, Education and Society*, 10, 211-238.
- 24 Ahamed, Y., MacDonald, H., Reed, K., Naylor, P.J., Liu-Ambrose, T., & McKay H. (2007). School-based physical activity does not compromise children's academic performance. *Medicine & Science in Sports and Exercise*, 39, 371-376.
- 25 Naylor, P.J., Macdonald, H.M., Reed, K.E., & McKay, H. (2006). Action Schools! BC: A socio-ecological approach to modifying chronic disease risk factors in elementary school children. *Public Health Research, Practice & Policy*, 3, 1-8.
- 26 Ever Active Schools Program Evaluation. Retrieved January 12, 2009 from www.everactive.org/EASevaluation.html
- 27 Living School Initiative. Retrieved January 12, 2009 from www.livingschool.ca
- 28 Guertin, M. (2007). *An examination of the effect of a comprehensive school health model on academic achievement: The effect of Living School on EQAO test scores*. Unpublished results.
- 29 SPARK. Retrieved January 12, 2009 from www.sparkpe.org.

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