

Physical Activity within a Comprehensive School Health Model

Researchers' 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

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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 Researchers' 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>	The social environment is: <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
	The physical environment includes: <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>	Partnerships are: <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
	Services are: <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.

"As a result of our walking program, we now regularly see parents, younger siblings and the family dog accompanying children walking to school."

Teacher, BC Healthy Schools Network case study

"I think the benefits are that being active makes you strong and healthy and you can have fun."

Student, BC Healthy Schools Network case study

WHY ARE WE CONCERNED ABOUT PHYSICAL ACTIVITY?

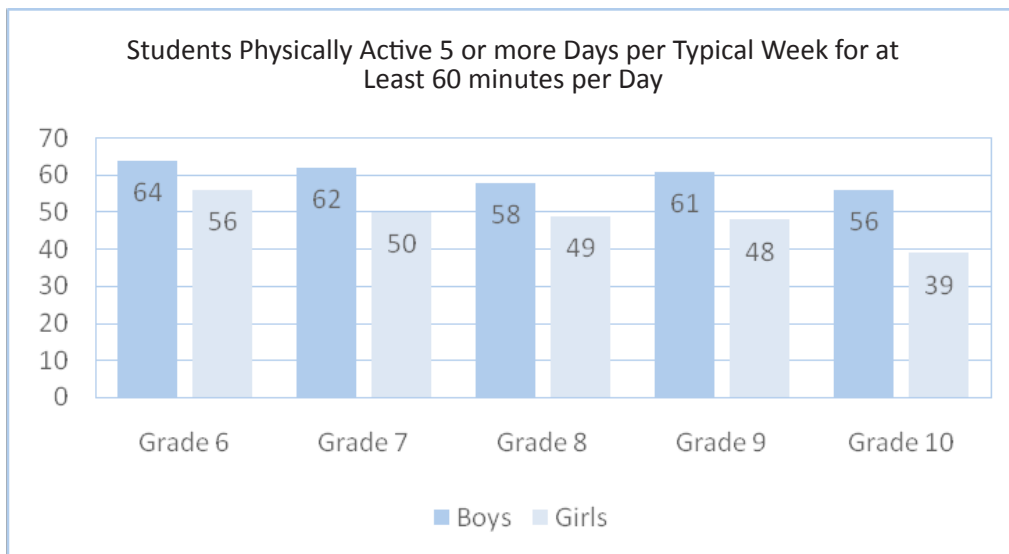
In 1997 the World Health Organization stated: “regular physical activity provides people of all ages with substantial health gains that are physical, mental and social and contribute significantly to increased quality of life.”

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.



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 diet is 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 second 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.

WHAT DIFFERENCE CAN SCHOOLS MAKE?

Overall, the school setting appears to have a positive association with most youth health behaviours and outcomes. Students who engage in healthy living behaviours such as being active, eating well and refraining from risky behaviours have a greater likelihood of attaining high academic achievement, have better emotional health and report feeling more connected to school.

A literature review of relevant research in relation to physical activity in Canadian schools within the context of a Comprehensive School Health approach revealed the following key findings in terms of the benefits of physical activity for health, disease prevention and academic achievement:

- learning increased more rapidly in schools where larger proportions of classroom time were allocated to physical activity²⁴;
- academic performance does not decline with increased physical activity²⁵;
- there is a positive association between physical activity and academic performance^{26, 27, 28};
- physical activity participation is positively related to youths' perceptions of health and that self-perceived health is a reliable and valid indicator of both physical and mental functioning^{29, 30};
- physical activity programming is among the most common intervention for increasing overall self-esteem³¹; and
- youth who engage in physical activity demonstrate lower rates of anxiety and depression and that as levels of depression in youth decrease, physical activity levels increase³².

Although there are many recognized benefits of physical activity, current research indicates that physical activity levels of Canadian youth are below the recommended guidelines set forth in *Canada's Physical Activity Guide for Children and Youth*, and that these levels are even lower for new Canadians and Aboriginal adolescents. In addition, certain groups are more at-risk for a decline in physical activity participation over time. For example, adolescents, particularly females, are dropping out of physical activity at higher rates compared to other segments in the population.

KNOWLEDGE GAPS

After examining the literature on physical activity within a Comprehensive School Health model, numerous knowledge gaps were identified. An over-arching theme in all of the knowledge gaps is the scarcity of Canadian data. It is important that Canadian policy and decision makers have Canadian data on which to base their decisions, and are not left to infer from studies conducted in other countries. In terms of general research practices, there is an urgent need for:

- a detailed monitoring and evaluation procedure that schools can follow to determine short and long-term effects of physical activity initiatives within a Comprehensive School Health model;
- direction on whether future research should concentrate on single focus work or a more comprehensive approach; and
- a more feasible way to safely collect data from students attending schools so that the needs of all parties are carefully considered and detailed data is collected rather than estimated reports from one spokesperson in the school.

Specific topics that need to be explored through future research should determine:

- physical activity initiatives and student activity rates in schools located in Aboriginal communities;
- physical activity practices during school hours (including physical activity initiatives and physical education classes) of Canadians who live with disabilities;
- a widely accepted definition of a “successful” school-based physical activity program or initiative;
- the most effective means for monitoring and evaluating (both short- and long-term) school-based physical activity initiatives;
- the implications of school and/or board-level champions for physical activity;
- short- and long-term implications of mandated physical activity in lieu of, as well as in addition to, physical education classes; and
- what constitutes adequate training in physical activity and/or physical education, and who is best suited to offer this training.

IMPLEMENTING AND EVALUATING PHYSICAL ACTIVITY IN SCHOOLS

Program evaluation, documenting both process and outcome level indicators, provides an opportunity to assess the impact of a program and provides direction for modification and improvement. An evaluation also provides stakeholders, particularly funders, with information useful in decision making (i.e., was the money well spent?).

Evaluation guidelines for an active school developed in the UK suggest that the following should be evaluated³³:

- behaviour changes should be measured both in the short-term and the long-term
- the curriculum
- the school environment
- community links
- school policies
- active travel

When programs to improve and increase opportunities for physical activity in schools are implemented, an evaluation plan should also be implemented that determines what students are expected to gain. Specifically, pre-assessment, formative assessment, summative assessment and long-term evaluation should occur using methodologically sound research designs.

When initiatives and programs to promote physical activity within a Comprehensive School Health approach are evaluated, results are often shared without an understanding of how the evaluation was conducted. However, this information is important for others in order to improve current evaluation procedures. In particular, it is important to report methods utilized at all levels – school level, board level, provincial and territorial levels.

SUMMARY

A need for Canadian data related to physical activity in schools has been identified as a key gap in the current literature. It is through such research that we will be able to develop a better understanding of:

- the long-term impact of school-based programs on student behaviours;
- the best methods for implementing and evaluating school-based physical activity programs and initiatives within a Comprehensive School Health approach;
- what is occurring in schools in terms of physical activity, particularly among targeted populations such as Aboriginal communities;

- what policies are in place for children who live with disabilities in terms of physical activity in schools across Canada;
- what the implications are of school and/or board-level champions for physical activity;
- what the implications are for offering mandated physical activity in lieu of mandated physical education; and
- how to develop and implement specific interventions for those Canadians who are most at risk for physical inactivity.

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