



Kids CAN PLAY!

Encouraging children to be active at home, at school, and in their communities

How active are children in Nova Scotia?

According to the Canadian Fitness and Lifestyle Research Institute's *Canadian Physical Activity Levels Among Youth* (CAN PLAY) Study, children and youth living in Nova Scotia (between the ages of 5 to 19) take an average of roughly 11,250 steps per day, as recorded by a pedometer. This amount is equivalent to the Canadian average of about 11,500 steps per day.

But how many daily steps are sufficient for the health of our children and youth? No definitive answer has yet been determined; however, several guidelines have been suggested.

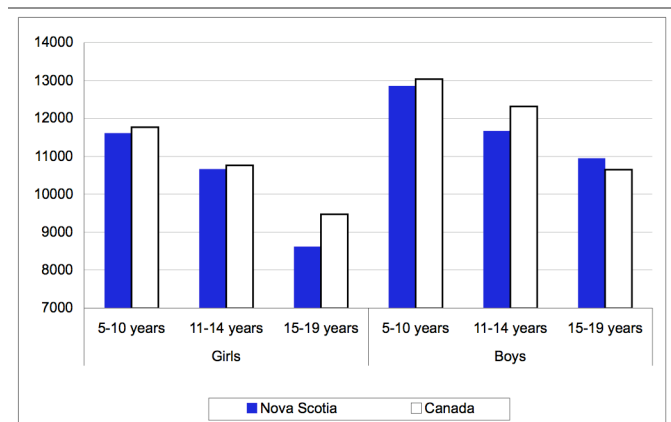
- One study suggests that accumulating 12,000 daily steps for girls and 15,000 steps for boys (aged 6 to 12 years) is associated with having a healthy body mass index (BMI).¹ Using these criteria, 73% of children aged 5 to 19 in Nova Scotia do not accumulate sufficient daily steps. This proportion is equivalent to the national average.
- Another study suggests that 120 to 150 minutes of daily activity is required for boys and girls alike; this amount is comparable to accumulating about 15,000 steps daily for both boys and girls.² Using this criterion, 86% of children and youth in Nova Scotia do not accumulate sufficient daily steps. The proportion who do not meet this criteria in Nova Scotia is equivalent to the Canadian average.
- Canada's Physical Activity Guide (CPAG) for children and youth set a goal that children add 90 minutes of moderate-to-vigorous activity to the incidental activities required by daily living. This amount is roughly equivalent to 16,500 steps daily. Using this criterion, 91% of children and youth in Nova Scotia do not accumulate

sufficient daily steps, which is equivalent to the Canadian average.

Age and sex of child Boys in the Atlantic region take a greater number of daily steps compared to girls. A similar pattern is seen in Nova Scotia. Looking at gender and age more specifically, Nova Scotian boys aged 5 to 10 and 15 to 19 take significantly more steps per day than girls in the same age groups. Regardless of gender, young children take more steps per day than do youth aged 15 to 19.

Girls in Nova Scotia are more likely than boys to meet the BMI-referenced standards. Those aged 15 to 19 are significantly more likely than those aged 5 to 10 *not* to meet the BMI referenced and 15,000 step criteria. Girls are more likely than boys to not meet the 15,000 steps and CPAG criteria.

MEAN NUMBER OF STEPS FOR CHILDREN AND YOUTH by child's age and gender

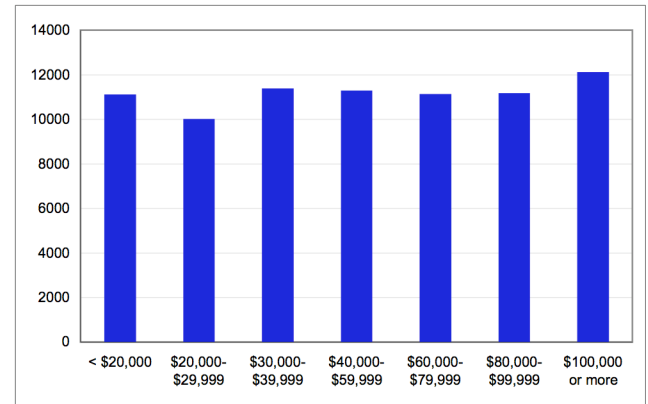


2005-2007 CANPLAY study, CFLRI

Province/Territory Children and youth that reside in Nova Scotia take fewer steps than those living in Saskatchewan, Alberta, British Columbia, and the Yukon.

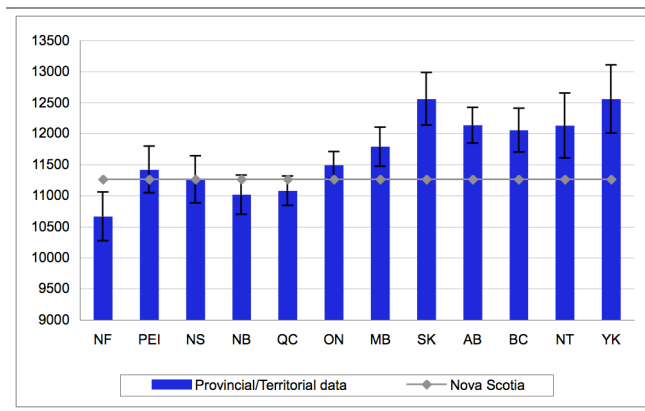
Similarly, children and youth living in Nova Scotia are less likely to meet BMI-referenced criterion than those living in Saskatchewan, Alberta, British Columbia and the Yukon. Children residing in Nova Scotia are less likely than those residing in Saskatchewan, Alberta, British Columbia, the Yukon, and the Northwest Territories to meet the 15,000 step criterion. Nova Scotia children are less likely than those living in Saskatchewan to meet the 16,500 step criterion.

MEAN NUMBER OF STEPS FOR CHILDREN AND YOUTH IN NOVA SCOTIA by household income level



2005-2007 CANPLAY study, CFLRI

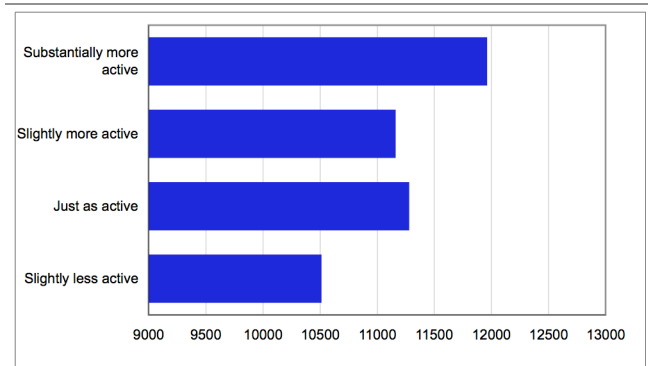
MEAN NUMBER OF STEPS FOR CHILDREN AND YOUTH by province and territory



2005-2007 CANPLAY study, CFLRI

Parent’s Activity Level For Nova Scotia children, there are no significant step count differences in terms of the activity level of their parents. Further, parent activity level does not appear to have an impact on children meeting any suggested step-count criteria.

MEAN NUMBER OF STEPS FOR CHILDREN AND YOUTH IN NOVA SCOTIA by parent’s activity level



2005-2007 CANPLAY study, CFLRI

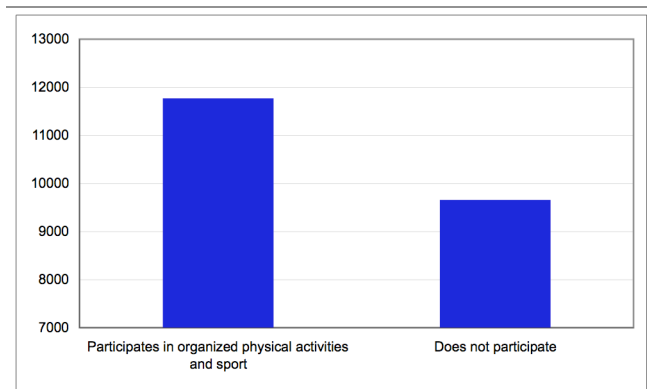
Socio-economic and demographic factors

There are no significant step-count differences in terms of community size and education level. Although there are differences by income, the pattern is not clear.

In examining all socio-economic and demographic factors, Nova Scotia children show no significant differences in meeting any of the referenced step count guidelines in terms of household income, education level, or community size.

Child's participation in organized sport and physical activity Nova Scotia children and youth who participate in organized physical activity and sport accumulate roughly 2,100 more steps per day than those who do not participate in such activities. In addition, children and youth who participate in organized physical activity and sport are more likely than non-participants to meet the BMI criteria.

MEAN NUMBER OF STEPS FOR CHILDREN AND YOUTH IN NOVA SCOTIA by children's participation in sport



2005-2007 CANPLAY study, CFLRI

Methodology The 2005-07 *Canadian Physical Activity Levels Among Youth* (CANPLAY) study collected pedometer data on the number of daily steps taken by children and youth aged 5 to 19 and parental reports of factors influencing participation. CANPLAY is funded by the Public Health Agency of Canada and the provincial and territorial government departments concerned with fitness, active living, leisure, sport, and recreation through the auspices of the Interprovincial Sport and Recreation Council.

Pedometers were chosen to objectively measure the physical activity of children and youth as they are relatively inexpensive compared to other objective measures, and the data are well-correlated to data collected by accelerometers, observation, and direct measures of energy expenditure.³ The pedometer employed in CANPLAY (Yamax NL-2000 and now SW-200) is highly accurate in recording step counts.⁴ Research has shown that reactivity (i.e., change in behaviour when participants know that they are being “monitored”) is not an issue among children wearing pedometers

during studies with either sealed⁵ or unsealed pedometers⁶. Another advantage is that CANPLAY data represent a measure of overall total physical activity and do not restrict to measures of single-domain activity. The disadvantage of pedometers is that they may underestimate activities such as skating and bicycling. All told, the choice to use pedometers to measure physical activity levels has a number of advantages with minimal limitations.

Approximately 23,000 Canadian children and youth, aged 5 to 19 years (including oversamples purchased by provinces and territories), were randomly selected and recruited into the study between April 1, 2005 and April 30, 2007. The sample was selected using a random digit dialing method conducted by the Institute for Social Research, York University in Toronto, Ontario.⁷ During the telephone recruitment interview, Canadian parents aged 20 years and older were asked about their children's patterns and preferences for physical activity, and then were informed about the pedometer portion of the study and its procedures. If parents verbally agreed to their children's participation in the pedometer portion of the study, the family was sent a study package in the mail. Children were asked to wear the pedometer for seven consecutive days and to log each day's steps onto a chart. A follow-up letter was sent to prompt return when necessary. Data were entered and verified for accuracy. In Nunavut, children were recruited through the school system and data collectors recorded the step data at the completion of the study. The overall recruitment rate in the 2005-07 study was 81%.

In Nova Scotia, 1,536 children and youth agreed to participate in the CANPLAY study between April 1, 2005 and April 30, 2007. Of these children, 847 returned valid data that could be included in these analyses and within the national bulletin. This represents an overall 55% compliance rate in Nova Scotia, which is only very slightly lower than the national rate of 57% in year two of data collection.

Recommendations for Action The startlingly high proportion (91%) of Nova Scotia's young people (and 90% of Canadian children) who do not accumulate enough daily steps to meet the Canadian physical activity guidelines reaffirms the urgent need for policy-makers to address this issue. Given the relationship between a lifetime of physical inactivity and the development of chronic diseases and the escalating rates of obesity among Canada's young people, this is a great public health concern.

To address this, physical activity needs to be incorporated into all aspects of children's lives:

✂ **Provide opportunities for organized sport and physical activity** Physical education and community and school sports are associated with greater levels of physical activity.^{8,9}

Providing opportunities for organized sport and physical activity through these agencies is particularly important for low-income children, as easy access to these types of opportunities may be limited elsewhere.

✂ **Increase time spent in unstructured and unorganized play** Children who prefer unorganized activities take 1,400 more steps daily than those who prefer neither organized nor unorganized activity.¹⁰ Encouraging children to play outside after school through activity-friendly bylaws (e.g., reduced traffic speeds, parks and green spaces, etc.) is one such strategy. Pedometer-based interventions with associated feedback are effective, particularly for inactive girls.^{11,12}

✂ **Provide active time during recess and lunch** Supervision and access to equipment and play areas at school promotes active play. CIRA Ontario has provided ideas on how to successfully implement a year-round program [www.mohawkcollege.ca/external/cira/template/RecessRevival.pdf].

✂ **Promote active commuting** A 15-minute walk to and from school has the potential to add 15,000 steps to children's activity over a typical week. Go for Green has a number of initiatives to promote active and safe routes to school [www.goforgreen.ca/asrts].

✂ **Decrease screen time** Canada's physical activity guidelines for children and youth recommend decreasing screen and sedentary time. Consistent with research,¹³ programs have been developed to reduce TV time allowing more time for active pursuits [www.tvturnoff.org, www.lin.ca/resource/html/ac950.pdf].

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