



# Kids CAN PLAY!

ENCOURAGING CHILDREN TO BE ACTIVE AT HOME, AT SCHOOL, AND IN THEIR COMMUNITIES

## Achieving sufficient steps per day among children and youth, British Columbia

The Canadian Fitness and Lifestyle Research Institute examines the physical activity levels of children and youth through a study called CANPLAY (the Canadian Physical Activity Levels Among Youth Study). CANPLAY uses pedometers to measure daily steps. This bulletin generally represents data collected during the two year time period from 2014-2016, unless identified as trend information representing data collected in the study during the years 2005 to 2016. Bulletin 1 in this series shows that Canadian children, aged 5 to 19, take approximately 11,300 daily steps on average in 2014-2016. Children and youth residing in British Columbia take a higher number of steps when compared to the national average, at roughly 12,100 steps.

Researchers and policy makers have been concerned with the question about how many steps are sufficient to represent current physical activity guidelines. Several criteria have been explored based on larger Canadian surveys and these are examined in more detail in this bulletin.

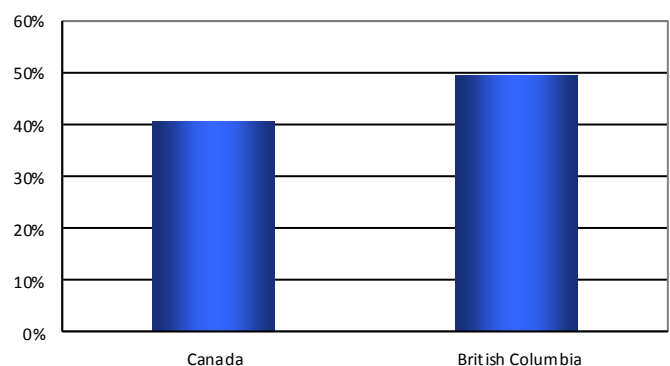
### Average 12,000 steps daily criterion

Statistics Canada's Canadian Health Measures Survey has examined the proportion of children and youth who meet the physical activity recommendation contained within the Canadian 24-Hour Movement Guidelines for Children and Youth which specify at least 60 minutes of moderate to vigorous intensity physical activity on a daily basis<sup>1</sup> and determined that 35%-36% of 5 to 17 year olds achieved this amount.<sup>2</sup> In this study, this percentage is measured objectively using accelerometers. In addition, Statistics Canada estimated that approximately at least 12,000 steps on average would be equivalent to achieving these guidelines. Although the 2014-2016 CANPLAY survey did not assess the intensity of the activity, this analysis has used 12,000 steps as an approximate estimate of achieving guidelines based on the number of steps and days of the week.<sup>3</sup> Using this specified number of steps as

reported by a pedometer, the 2014-2016 CANPLAY survey indicates that approximately 41% of Canadian children and youth aged 5 to 19 achieve at least 12,000 per day, on average. The proportion of children and youth living in British Columbia who achieve this number of steps on average is higher than the Canadian average, at 49%. When comparing between provinces, relatively more children and youth living in British Columbia meet this criterion compared to children living in Newfoundland and Labrador, Prince Edward Island, New Brunswick, Ontario, and Saskatchewan.

FIGURE 1

Percent of children and youth achieving at least 12,000 average daily steps, British Columbia and Canada



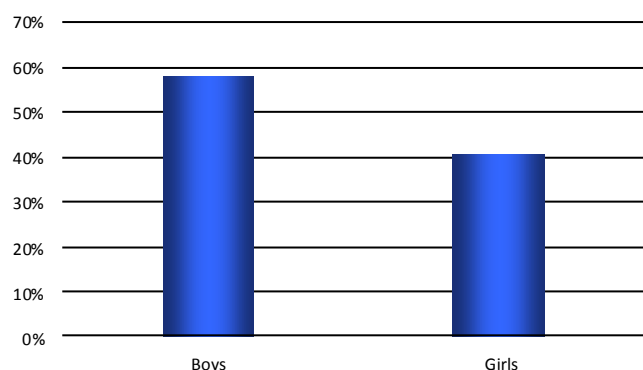
CANPLAY study, 2014-2016, CFLRI

### Child's age and gender

Using the 2014-2016 CANPLAY survey data, a higher percentage of boys living in British Columbia (58%) achieve this criterion compared to girls (41%). This relationship is similar to that found nationally. Nationally, the percentage of children who achieve the 12,000 steps, on average, decreases with increasing age. This relationship with age is also significant in British Columbia.



**FIGURE 2**  
Percent of children and youth achieving at least 12,000 average daily steps by child's gender, British Columbia

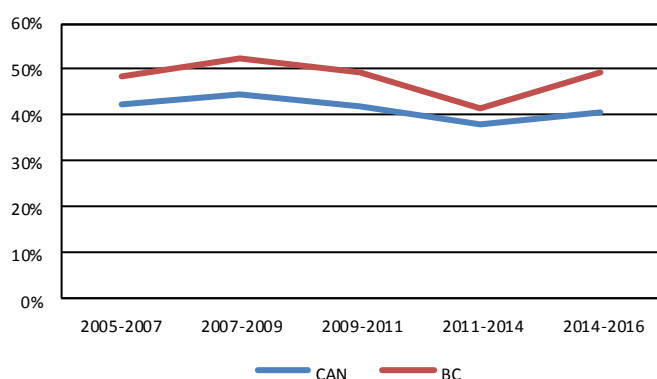


CANPLAY study, 2014-2016, CFLRI

**Trends over time**

Nationally, the percentage of children and youth in Canada achieving at least 12,000 daily steps on average has stayed relatively stable since 2005, with one exception; the percentage in 2011 to 2014 is slightly lower than the rate of previous years. In British Columbia, the proportion of children and youth who achieve an average of 12,000 daily steps is lower in 2011-2014 compared to 2007-2009. When compared to the national estimates, the proportion of children and youth who achieve at least 12,000 steps on average in British Columbia is higher in all study years except one (not significantly different in 2011-2014).

**FIGURE 3**  
Percent of children and youth achieving at least 12,000 average daily steps, trends over time, British Columbia and Canada



CANPLAY study, 2014-2016, CFLRI

**Achieving 12,000 steps on most to all days of the week criterion**

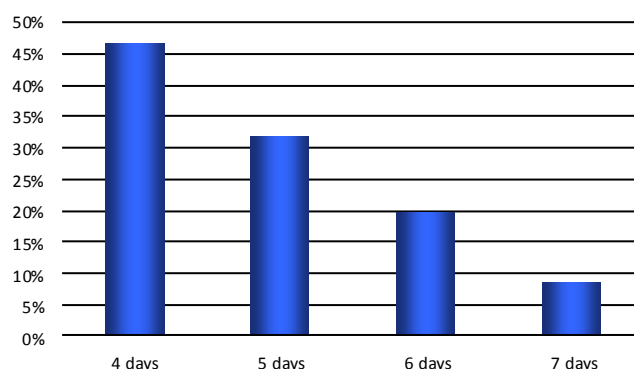
The 12,000 steps criterion was also examined in relation to the number of days of the week in which at least 12,000 steps was achieved, given the suggestion of the guidelines that physical activity should be done on a regular, daily basis.

Using this specified number of days that a child or youth achieves at least 12,000 steps per day as measured by a pedometer, the 2014-2016 CANPLAY survey indicates that there is an inverse relationship between achieving 12,000 steps by increased number of days nationally. Approximately:

- 78% achieve at least 12,000 steps on 1 day of the week
- 63% meet this criterion 2 days of the week
- 49% meet this criterion 3 days of the week
- 37% achieve this 4 days per week
- 25% meet this criterion 5 days per week
- 14% achieve this 6 days of the week
- 6% meet this 7 days per week.

A higher proportion of children and youth living in British Columbia achieve at least 12,000 steps on most days of the week (4 or more days) compared to the national estimate. The proportion of children and youth living in British Columbia achieving at least 12,000 steps on most days of the week is higher than the proportion in all the Atlantic provinces and Ontario.

**FIGURE 4**  
Percent of children and youth achieving at least 12,000 steps on most days of a week, British Columbia



CANPLAY study, 2014-2016, CFLRI

**Child's age and gender**

In Canada, a higher percentage of boys achieve at least 12,000 steps on at least 4 days of the week compared to girls. The percentage of Canadian children and youth who achieve at least 12,000 steps on most days of the week (4 days or more) generally decreases with increasing age. These differences are also significant in British Columbia.

**Trends over time**

Nationally, the percentage of children and youth in Canada achieving at least 12,000 daily steps on most days of the week (4 or more) has fluctuated since 2005. For example, the proportion achieving 12,000 daily steps on at least 4 days per week is higher in:

- 2005-2009 compared to 2011-2014
- 2007-2009 than that found in 2009-2016.

In British Columbia, the proportion of children and youth who achieve at least 12,000 steps on at least 4 days per week is lower in 2011-2014 compared to the 2007-2009. Compared to national estimates, the proportion of children and youth who achieve 12,000 steps on at least 4 days of the week is higher in British Columbia in all study periods but one, that is, 2011-2014. Nationally, gender- and age-related differences (whereby a higher percentage of boys than girls achieve at least 12,000 steps on at least 4 days per week and the proportion declines with increasing age) are significant in all study periods. In British Columbia, a gender difference whereby a higher percentage of boys than girls achieve at least 12,000 steps on at least 4 days per week is significant in only two study periods. In British Columbia, the age-related difference (whereby the proportion decreases with age) in achieving 12,000 steps on at least 4 days per week is significant in all study periods.

## References

1. Canadian Society for Exercise Physiology. Canadian 24-hour Movement Guidelines for Children and Youth (ages 5-17 years). 2017. Available from: <https://csepguidelines.ca/children-and-youth-5-17/> (Accessed on Dec. 7, 2018).
2. ParticipAction. The ParticipAction Report Card on Physical Activity for Children and Youth. 2018. Available from: <https://www.participaction.com/en-ca/resources/report-card> (Accessed on Dec. 7, 2018).
3. Colley RC, Janssen I, Tremblay M. Daily step target to measure adherence to physical activity guidelines in children. *Med Sci Sports Exerc.* 2012; 44(5):977-82.

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