



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, Ontario

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 Ontario take a similar number of steps (roughly 11,300 on average) when compared to the national average.

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.

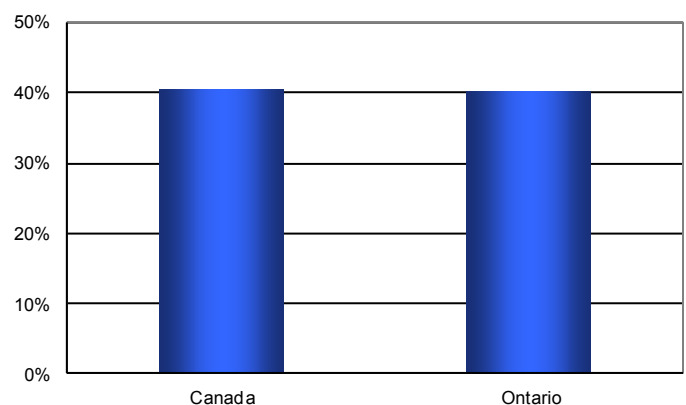
Average 12,000 steps daily criterion

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 basis¹ and determined that 35%-36% of 5 to 17 year olds achieved this amount.² In this study, this percentage is measured objectively using accelerometers. In addition, Statistics Canada estimated that approximately 12,000 or more 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.³ 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 Ontario who achieve this number of steps on average is statistically similar to the Canadian average, at 40%. Relatively fewer children and youth living in Ontario meet this criterion compared to children living in British Columbia and Yukon, yet a relatively higher percentage of children and youth living in Ontario achieve this criterion compared to those living in Newfoundland and Labrador.

FIGURE 1

Percent of children and youth achieving at least 12,000 average daily steps, Ontario 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 Ontario (46%) achieve this criterion compared to girls in the province (34%). This relationship is similar to that found nationally. Nationally, the percentage of children who achieve 12,000 steps, on average, decreases with increasing age. This pattern is generally similar in Ontario as well.



FIGURE 2

Percent of children and youth achieving at least 12,000 average daily steps by child's gender, Ontario



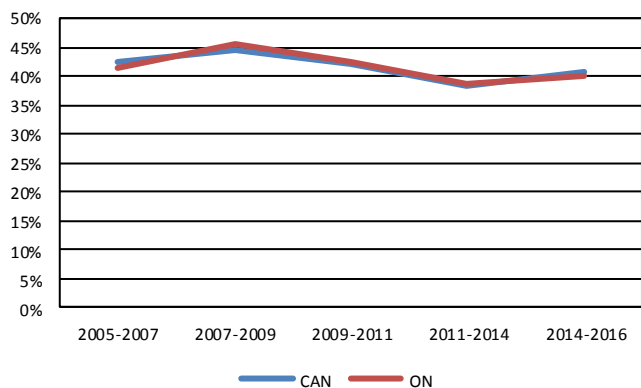
CANPLAY study, 2014-2016, CFLRI

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 Ontario, the proportion of children and youth who achieve at least 12,000 steps on average is lower in 2011-2014 when compared to the 2007-2009 study year. In Ontario, the proportion of children and youth who achieve at least 12,000 steps on average has not varied significantly from the national average over time.

FIGURE 3

Percent of children and youth achieving at least 12,000 average daily steps, trends over time, Ontario 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

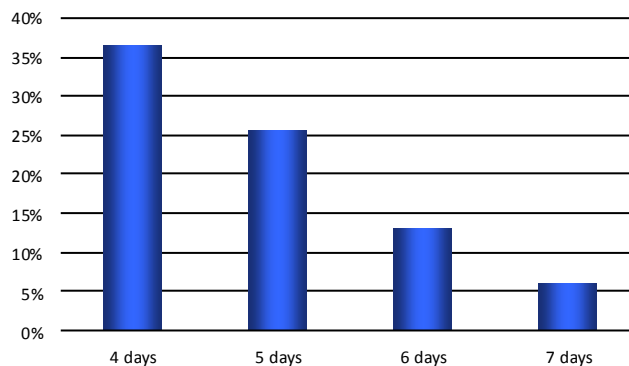
12,000 steps per day as measured by a pedometer, the 2014-2016 CANPLAY survey indicates that there is an inverse relationship between achieving 12,000 steps by increased number of days nationally. Approximately:

- 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 statistically similar proportion of children and youth living in Ontario achieve at least 12,000 steps on at least 4 days of the week compared to the national estimate. When comparing provincial estimates, a higher proportion of children and youth living in Ontario achieve at least 12,000 steps on at least 4 days of the week compared to those living in Newfoundland and Labrador, whereas a lower proportion achieve at least 12,000 on at least 4 days compared to children living in British Columbia and the Yukon.

FIGURE 4

Percent of children and youth achieving at least 12,000 steps on most days of a week, Ontario



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 Ontario.

Trends over time

Nationally, the percentage of children and youth in Canada achieving at least 12,000 daily steps 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 Ontario, 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 study year. In all study periods, the percentage of children achieving this criterion in Ontario has been similar to the national average. Nationally and in Ontario, 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.

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).
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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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