

Results from Canada's 2018 Report Card on Physical Activity for Children and Youth

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Introduction

The majority of children and youth in Canada are not meeting the physical activity recommendation (at least 60 minutes of moderate-to vigorous-intensity physical activity per day) within the Canadian 24-Hour Movement Guidelines for Children and Youth.¹ This relatively stable trend over the past decade is concerning given the negative health consequences linked to physical inactivity, particularly in adulthood.² To better understand this concern, several indicators of child and youth physical activity are measured periodically in Canada and compiled into Canada's Report Card on Physical Activity for Children and Youth. The purpose of this paper is to summarize the results of the 2018 Report Card (Figure 1).

Methods

The 2018 Report Card included the 10 core physical activity indicators that are common to the Global Matrix 3.0 (Overall Physical Activity, Organized Sport and Physical Activity Participation, Active Play, Active Transportation, Sedentary Behaviors, Physical Fitness, Family and Peers, School, Community and Environment, Government). Additional indicators included Physical Education, Physical Literacy, Sleep, and 24-Hour Movement Behaviours. Each of these 14 indicators belongs to 1 of 4 categories: Daily Behaviours (Overall Physical Activity, Active Play, Active Transportation, Organized Sport and Physical Activity Participation, Physical Education, Sedentary Behaviors, Sleep, 24-Hour Movement Behaviours), Individual Characteristics (Physical Literacy, Physical Fitness), Settings and Sources of Influence (Family and Peers, School, Community and Environment), and Strategies and Investments (Government).

The Report Card synthesized data from multiple sources to inform the 14 indicator grades. The data sources relied on most heavily were national surveys, which included the Canadian Health Measures Survey (2007-09, 2009-11, 2012-13 and 2014-15 CHMS, Statistics Canada), Canada's Physical Activity Levels Among Youth study (2014-16 CANPLAY, Canadian Fitness and Lifestyle Research Institute), the Canadian Health Behavior

in School-Aged Children survey (2013-14 HBSC, World Health Organization/Public Health Agency of Canada), the Opportunities for Physical Activity at School study (2015 OPASS, CFLRI), the Cohort Study for Obesity, Marijuana Use, Physical Activity, Alcohol Use, Smoking and Sedentary Behaviour (2016-17 COMPASS, University of Waterloo) and the Canadian Assessment of Physical Literacy (2014-17 CAPL, Healthy Active Living and Obesity Research Group, Ottawa, Canada). Other sources of data included peer-reviewed literature and gray literature (eg, government and non-government reports).

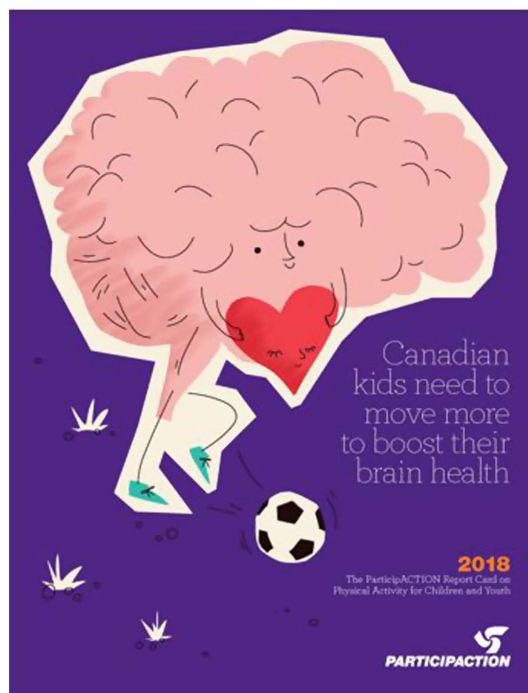


Figure 1 — Canada's 2018 Report Card cover.

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Table 1 Grades and rationales for Canada's 2018 Report Card

Indicator	Grade	Rational
Overall Physical Activity	D+	35% of 5- to 17-year-olds accumulate at least 60 minutes of moderate- to vigorous-intensity physical activity (MVPA) per day on average (2014-15 CHMS; custom analysis).
Organized Sport and Physical Activity Participation	B+	77% of 5- to 19-year-olds participate in organized physical activity or sport, according to their parents (2014-16 CANPLAY, CFLRI). ³ 76% of 11- to 15-year-olds currently participate in organized sports, based on self-report data (2013-14 HBSC; custom analysis).
Active Play	D	20% of 5- to 11-year-olds spend several hours a day (> 2 hours) in unorganized physical activity, according to their parents (2014-15 CHMS; custom analysis). 37% of 11- to 15-year-olds in Canada report playing outdoors for several hours a day (> 2 hours) outside of school hours (2013-14 HBSC; custom analysis).
Active Transportation	D-	Based on parent- and self-report data, 21% of 5- to 19-year-olds typically use active modes of transportation (e.g., walk, bike), 63% use inactive modes (e.g., car, bus) and 16% use a combination of active and inactive modes of transportation to travel to and from school (2014-16 CANPLAY). ⁴
Sedentary Behaviours	D+	64% of 5- to 9-year-olds meet the screen time recommendation (≤ 2 hours of recreational screen time per day on average) within the Canadian 24-Hour Movement Behaviour Guidelines for Children and Youth (2014-15 CHMS; custom analysis). 8% of 10- to 17-year-olds meet the screen time recommendation (2013-14 HBSC). ⁵ 22% of 12- to 17-year-olds meet the screen time recommendation (2014-15 CHMS; custom analysis).
Physical Fitness	D	9- to 12-year-olds in are at the 28th percentile on average for cardiorespiratory fitness (shuttle run in 20-metre laps) based on age- and sex-specific international normative data ⁶ (2014-17 CAPL; custom analysis).
Family and Peers	C+	92% of students in grades 9 to 12 in Alberta, British Columbia, Nunavut, Ontario and Quebec report having parents/step-parents/guardians who support them in being physically active (2016-17 COMPASS; custom analysis). 32% of 18- to 39-year-olds and 18% of 40- to 59-year-olds in Canada meet the Canadian Physical Activity Guidelines for Adults, which recommend at least 150 minutes of weekly MVPA (2012-13 CHMS). ⁷ 36% of parents in Canada with 5- to 17-year-olds report playing active games with them (based on a subsample of the 2014-15 Physical Activity Monitor; custom analysis).
School	B-	46% of school administrators in Canada report having a fully implemented policy to provide mandated Daily Physical Activity to all students (2015 OPASS, CFLRI). ⁸ School administrators in Canada report that a number of amenities are available on-site at school including equipment for physical activity (97%), gymnasiums (94%), playing fields (88%), other green spaces or play areas (88%), paved areas used for active games (80%), outdoor basketball hoops (78%) and areas with playground equipment (71%) (2015 OPASS). ⁹
Community and Environment	B+	Among municipalities in Canada with at least 1,000 residents, the majority report the presence of facilities that support community physical activity and sport; however, approximately half of these municipalities report important infrastructure needs (2015 Survey of Physical Activity Opportunities in Canadian Communities). ^{10,11}
Government	C+	Although there are observable efforts from the federal government to increase physical activity support (e.g., the federal budget announced \$30 million over three years to support data and research and innovative practices to promote women's and girls' participation in sport, and \$47.5 million over five years as well as \$9.5 million per year ongoing to expand the use of sport for social development in more than 300 Indigenous communities ¹²), there is little evidence that this support will impact child and youth physical activity directly.

Results and Discussion

A complete list of the grades and their rationale is provided in Table 1. The grades for the behavioural indicators and for the new Physical Fitness indicator are generally poor (D's) with the exception of Organized Sport and Physical Activity Participation (B+) where the high participation rate (77%) has been relatively stable since 2005.¹³ By contrast, the grades for the other 4 indicators – which represent physical activity support in the form of infrastructure, investment, policy and programming – are generally favourable (B's and C's). However, some of these favourable grades (School, Community and Environment, Government) have declined slightly compared to the previous (2016) Report Card. For example, the Community and Environment grade has dropped from an A- to a B+. Although most municipalities in Canada report the presence of facilities that support community physical activity and sport,¹⁰ new data show that many municipalities have important infrastructure needs (eg, maintenance, repair,

improvements).¹¹ The Government grade has dropped from a B- to a C+ despite considerable investment from the federal government owing to doubt around whether the investment will have a direct impact on child and youth physical activity.

Similar to previous Report Cards in Canada, research gaps remain that, if addressed, would better inform the grades. For example, the data used to grade the Active Transportation indicator are based on parent- or self-report, focused generally on trips to and from school with little information about other destinations (eg, park, friend's house), and do not provide a measure of the amount of time spent in active transportation. Several indicators also stand to gain from more evidence-informed benchmarks including Active Play and Physical Fitness.

Conclusion

Results from Canada's 2018 Report Card on Physical Activity for Children and Youth reveal that behavioural indicator grades are

generally poor despite the presence of more favourable grades in the support and investment indicators. Physical activity promotion efforts that directly target these behavioural indicators may be needed before any detectable improvements will be achieved.

References

1. Roberts KC, Yao X, Carson V, Chaput JP, Janssen I, Tremblay MS. Meeting the Canadian 24-hour movement guidelines for children and youth. *Health Rep.* 2017;28(10):3–7.
2. World Health Organization. *Global Strategy on Diet, Physical Activity and Health.* Geneva, Switzerland: World Health Organization; 2018. www.who.int/dietphysicalactivity/pa/en. Accessed June 13, 2018.
3. Canadian Fitness and Lifestyle Research Institute. *Bulletin 02: Participation in Organized Physical Activity and Sport.* Ottawa, Canada: Canadian Fitness and Lifestyle Research Institute. 2016. www.cfri.ca/document/bulletin-02-participation-organized-physical-activity-and-sport. Accessed June 13, 2018.
4. Canadian Fitness and Lifestyle Research Institute. *Bulletin 5: Active Transportation Among Children and Youth.* Ottawa, Canada: Canadian Fitness and Lifestyle Research Institute. 2018. www.cfri.ca/document/bulletin-5-active-transportation-among-children-and-youth. Accessed June 13, 2018.
5. Janssen I, Roberts KC, Thompson W. Adherence to the 24-hour movement guidelines among 10- to 17-year-old Canadians. *Health Promot Chronic Dis Prev Can.* 2017;37(11):369–375.
6. Tomkinson GR, Lang JJ, Tremblay MS, et al. International normative 20 m shuttle run values from 1 142 026 children and youth representing 50 countries. *Br J Sports Med.* 2017;51(21):1545–1554.
7. Statistics Canada. *Directly Measured Physical Activity of Adults, 2012 and 2013.* Ottawa, Canada: Statistics Canada. 2015. www150.statcan.gc.ca/n1/pub/82-625-x/2015001/article/14135-eng.htm. Accessed June 13, 2018.
8. Canadian Fitness and Lifestyle Research Institute. *Bulletin 01: School Policies Supporting Physical Activity and Sport.* Ottawa, Canada: Canadian Fitness and Lifestyle Research Institute. 2016. www.cfri.ca/document/bulletin-01-school-policies-supporting-physical-activity-and-sport. Accessed June 13, 2018.
9. Canadian Fitness and Lifestyle Research Institute. *Bulletin 02: On-site School Facilities Supporting Physical Activity and Sport.* Ottawa, Canada: Canadian Fitness and Lifestyle Research Institute. 2016. www.cfri.ca/document/bulletin-02-site-school-facilities-supporting-physical-activity-and-sport. Accessed June 13, 2018.
10. Canadian Fitness and Lifestyle Research Institute. *Bulletin 09: Availability of Facilities Supporting Community Physical Activity and Sport.* Ottawa, Canada: Canadian Fitness and Lifestyle Research Institute. 2017. www.cfri.ca/document/bulletin-09-availability-facilities-supporting-community-physical-activity-and-sport. Accessed June 13, 2018.
11. Canadian Fitness and Lifestyle Research Institute. *Bulletin 11: Perceived Infrastructure Barriers and Needs.* Ottawa, Canada: Canadian Fitness and Lifestyle Research Institute. 2017. www.cfri.ca/document/bulletin-11-perceived-infrastructure-barriers-and-needs. Accessed June 13, 2018.
12. Government of Canada. *Budget 2018: Table of Contents.* Ottawa, Canada: Government of Canada. 2018. www.budget.gc.ca/2018/docs/plan/toc-tdm-en.html. Accessed June 13, 2018.
13. Canadian Fitness and Lifestyle Research Institute. *Bulletin 02: Participation in Organized Physical Activity and Sport.* Ottawa, Canada: Canadian Fitness and Lifestyle Research Institute. 2016. www.cfri.ca/document/bulletin-02-participation-organized-physical-activity-and-sport. Accessed June 13, 2018.