

REBOUNDING AFTER COVID-19: THE IMPACT OF THE PANDEMIC ON MOVEMENT, PLAY & SPORT AND OUR NEXT STEPS

Recreation Nova Scotia
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THURSDAY, OCTOBER 20, 2022

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Located in Mi'kma'ki, Unceded Territory of the Mi'maq People



PROJECT FUNDING DISCLOSURES





KEY MESSAGES

1. The COVID-19 pandemic and related restrictions changed the way engaged in recreation, leisure, and sport.
2. Children with disabilities and their families were even further disadvantaged by the COVID-19 pandemic compared with kids without disabilities.
3. Recreation, leisure, and sport are the vehicles to help us rebound movement and play in the era of COVID-19.

Let's recalibrate!

Canadian 24-Hour Movement Guidelines for Children and Youth (ages 5-17 years):

An Integration of Physical Activity,
Sedentary Behaviour and Sleep



POSITION STATEMENT ON ACTIVE OUTDOOR PLAY

Position



Access to active play in nature and outdoors—with its risks—is essential for healthy child development. We recommend increasing children's opportunities for self-directed play outdoors in all settings—at home, at school, in child care, the community and nature.

HOME > LOCAL NEWS

Update: Provincial and municipal parks closed, fines in place

The Nova Scotia government has closed all provincially-owned parks and beaches, effective immediately.

Mar 22, 2020 12:49 PM By: HalifaxToday Staff



STUDY AIMS

To assess changes in movement and outdoor play behaviours of Canadian children and youth in response COVID-19 and related restrictions

- Physical activity
- Sedentary behaviour
- Sleep



Impact of the COVID-19 virus outbreak on movement and play behaviours of Canadian children and youth: a national survey

Sarah A. Moore, Guy Faulkner, Ryan E. Rhodes, Mariana Brussoni, Tala Chulak-Bozzer, Leah I. Ferguson, Raktim Mitra, Norm O'Reilly, John C. Spence, Leigh M. Vanderloo & Mark S. Tremblay ✉

International Journal of Behavioral Nutrition and Physical Activity **17**, Article number: 85 (2020) | [View this article](#)

92k Accesses | 381 Citations | 842 Altmetric | [Metrics](#)

> *Int J Environ Res Public Health*. 2021 Dec 8;18(24):12950. doi: 10.3390/ijerph182412950.

Adverse Effects of the COVID-19 Pandemic on Movement and Play Behaviours of Children and Youth Living with Disabilities: Findings from the National Physical Activity Measurement (NPAM) Study

Sarah A Moore ^{1,2,3}, Ritu Sharma ⁴, Kathleen A Martin Ginis ^{5,6,7,8}, Kelly P Arbour-Nicitopoulos ⁴ **OPEN ACCESS** | [Research Article](#)

Affiliations + expand

PMID: 34948560 | PMCID: [PMC7141111](#)

Free PMC article
COVID-19 and Behaviours

by  Negin A. Riazi ¹ ✉ ,  Sarah A. Moore ³ ✉ 

Parent Support Is Related to Physical Activity among Children and Youth with Disabilities during the COVID-19 Pandemic: Findings from the National Physical Activity Measurement (NPAM) Study

by  Maeghan E. James ¹ ✉,  Nikoleta Odorico ¹ ✉,  Sarah A. Moore ² ✉ ,  Kathleen A. Martin Ginis ^{3,4,5} ✉,  Rebecca L. Bassett-Gunter ⁶ ✉  and  Kelly P. Arbour-Nicitopoulos ^{1,*} ✉ 

Editorial

Reimagining healthy movement in the era of the COVID-19 pandemic

Sarah A. Moore, PhD (1,2,3); Leigh M. Vanderloo, PhD (4,5); Catherine S. Birken, MD, MSc (6,7); Laurene A. Rehman, PhD (1)

on the impact of the COVID-19 outbreak on the outdoor play of Canadian children and youth during the COVID-19 outbreak

[Louise de Lannoy](#) ✉, [Ryan E. Rhodes](#), [Sarah A. Moore](#), [Guy Faulkner](#) & [Mark S. Tremblay](#)



Journal Section on COVID-19: Quantitative Research | [Published: 04 May 2022](#)

regional differences in movement behaviours of children and youth during the second wave of the COVID-19 pandemic in Canada: follow-up from a national study

[A.T. Caldwell](#), [Guy Faulkner](#), [Mark S. Tremblay](#), [Ryan E. Rhodes](#), [Louise de Lannoy](#), [Sara F.L. Kirsh](#), [Laurene A. Rehman](#) & [Sarah A. Moore](#) ✉

Canadian Journal of Public Health (2022) | [Cite this article](#)

388 Accesses | 10 Altmetric | [Metrics](#)

24-HOUR MOVEMENT GUIDELINES

behaviours

Outdoor Play
Indoor Play
Outdoor PA/Sport
Indoor PA/Sport
Walking

Physical Activities

AT ALL TIME PERIODS, <5% OF CHILDREN & YOUTH WERE MEETING THE 24-HOUR MOVEMENT GUIDELINES

24-HOUR MOVEMENT GUIDELINES

Sleep Quality
Healthy Movement Behaviours
Time Spent Outdoors
Family Time in Physical Activity
Family Time in Sedentary Behaviours

Deep

Overall

1 2 3 4 5
a lot less ----- a lot more

Moore et al. Int J Behav Nutr Phys Act 2020, 17, 85.

Moore et al. Appl Physiol Nutr Metab. 2021 Oct;46(10):1225-1240

British Columbia

School sports can occur if physical distancing can be maintained between members of different learning groups (Province of British Columbia, 2021a)

Walking outdoors encouraged provided it does not turn into a group of people meeting outside. Outdoor public skating permitted (Province of British Columbia, 2021b)

Ontario

Ontario's New Framework permits team and individual sports in green to orange zones with modifications to avoid physical contact. Outdoor recreational amenities open with restrictions in all zones (Nov 7, 2020) (Government of Ontario, 2021)

Team sports in Toronto, Ottawa, Peel, York closed (Oct 10, 2020) (Government of Ontario, 2021)

Manitoba

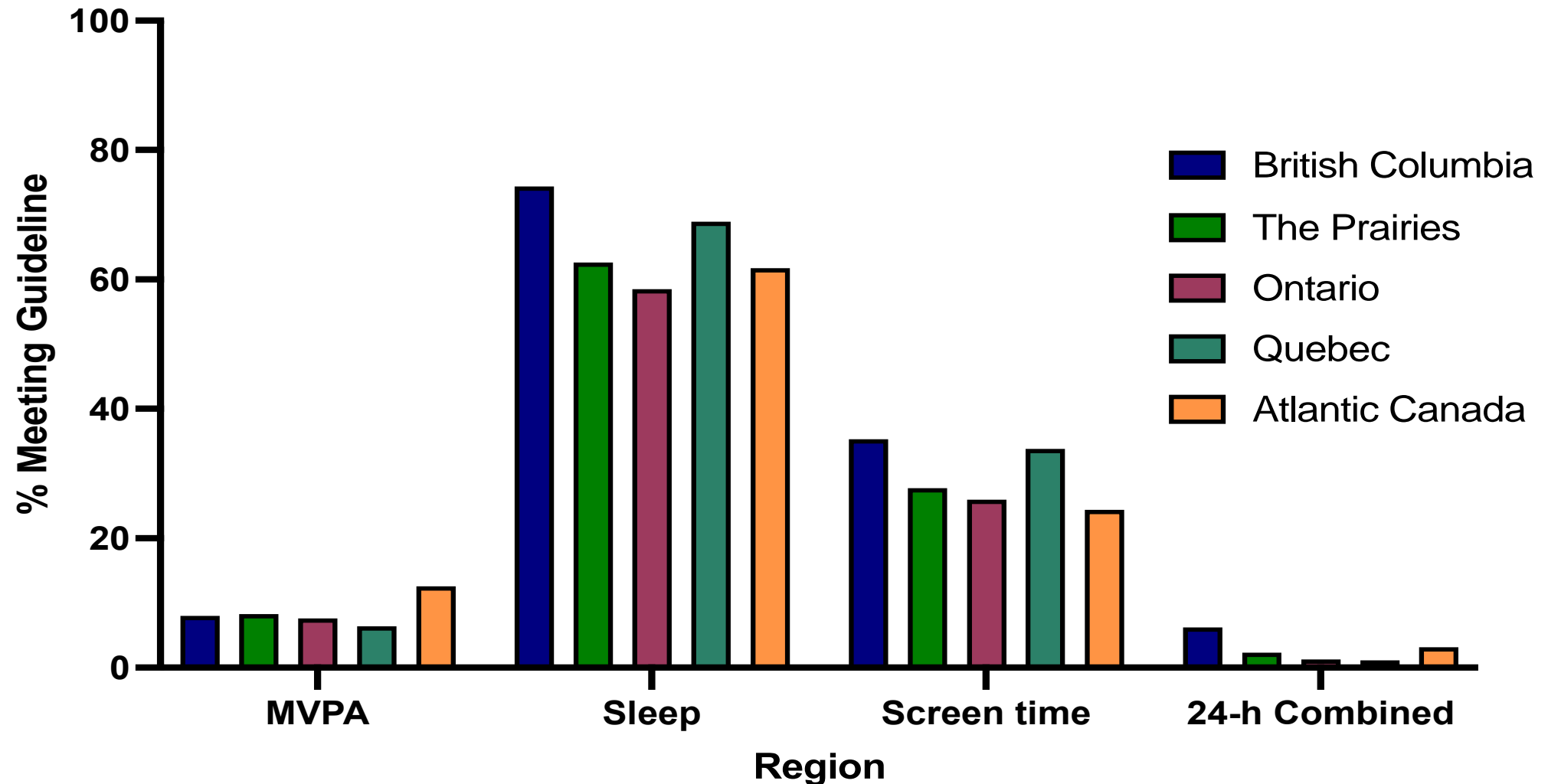
All indoor and outdoor facilities closed in Manitoba Red level regions as of September 28th, 2020 (CBC News, 2020b)

Playgrounds and winter recreation areas in Manitoba Provincial Parks closed (Nov 10, 2020)

Nova Scotia

Up to 50 people can gather for organized sports, without physical distancing, in Nova Scotia (October 1, 2020) (Government of Nova Scotia, 2020)

WHAT ABOUT OTHER MOVEMENT BEHAVIOURS?



STUDY AIMS

To explore how parents experienced the pandemic-related restrictions and how they impacted their children's movement and outdoor play behaviours



“WE WERE HIT HARD”

**“YOU CAN’T GO TO
THE PARK”**

**“KIDS ARE VERY
PROGRAMMED”**

**“IT’S A NECESSARY EVIL
AT THIS POINT”**





"IT'S A VIRTUAL REALITY"

**RESTRICTIONS LIMITED
COMMUNITY ENGAGEMENT**

**FACILITATED AND/OR
FORCED ADAPTABILITY**

**"THE ENVIRONMENT IS
ESSENTIAL FOR PLAY"**



WHAT ABOUT CHILDREN WITH DISABILITIES?



NATIONAL PHYSICAL ACTIVITY MEASUREMENT (NPAM) STUDY – 2.0

Kelly P. Arbour-Nicitopoulos, Sarah A. Moore, Hana Alazem, Rebecca L. Bassett-Gunter, Krista L. Best, Amy L. Latimer-Cheung, Jennifer Leo, Anna McCormick, François Routhier, Christine Voss & Kathleen A. Martin Ginis



CHEO

Queen's University



YORK U



UNIVERSITY OF
TORONTO



STUDY AIMS

To assess parent-perceived changes in physical activity (including outdoor play), sedentary behaviour (including screen time), and sleep quality and quantity, due to COVID-19 and related restrictions, in a national cohort of Canadian CYWD



ement Behaviours of
g with Disabilities
-19 Pandemic

Outdoor Play
Indoor Play
Outdoor PA/Sport
Indoor PA/Sport
Walking / Wheeling
Chores

Physical Activities



1.3% OF CHILDREN & YOUTH WITH DISABILITIES WERE MEETING THE 24-HOUR MOVEMENT GUIDELINES

Ch
Ch

Sleep Quality

Healthy Movement Behaviours
Family Time in Physical Activity
Family Time in Sedentary Behaviours

Overall

a lot less ----- no change ----- a lot more





SHIFTING OF ROUTINES

PARENT CAPACITY

**REDUCED PHYSIOTHERAPY
OPPORTUNITIES**

UNOCCUPIED TIME

Arbour-Nicitopoulos et al. Paediatr Child Health. 2022 Apr 23;27(Suppl 1):S66-S71

MOVEMENT BEHAVIOURS AND HEALTH OF CHILDREN AND YOUTH WITH DISABILITIES: IMPACT OF THE 2020 COVID-19 OUTBREAK

Arbour-Nicitopoulos KP, James ME, Moore SA, Sharma R & Martin Ginis KA
Paediatrics & Child Health



MEETING GUIDELINES MAY 2020



NO CHILD OR YOUTH MET ALL THREE GUIDELINES COMBINED AT EITHER TIME POINT

MEETING GUIDELINES NOVEMBER 2020



IDENTIFIED THEMES IMPACTING FAMILIES DURING COVID-19



Ways we can revitalize healthy movement for kids with disabilities during COVID-19 recovery:





"THE COVID PIVOT"

**"IT'S A BIT CLOUDY BUT
WE'RE STAYING POSITIVE"**

"CHANGING RESOURCES"

**"DIFFERENT RESTRICTIONS,
ONE ORGANIZATION"**



Journal of Sport and Health Science



Available online 6 July 2021

In Press, Corrected Proof ?



Review

Exploring the impact of COVID-19 on the movement behaviors of children and youth: A scoping review of evidence after the first year

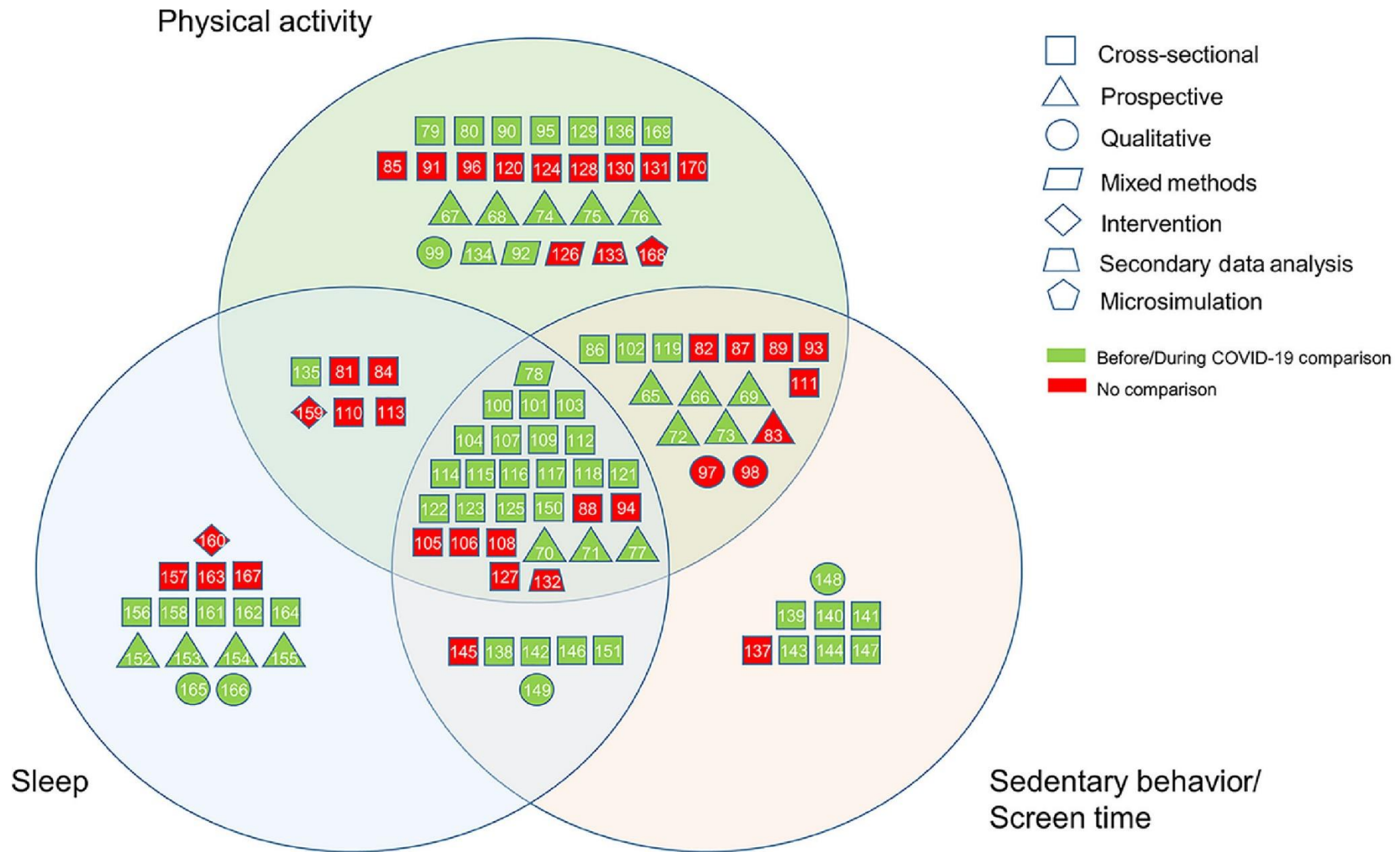
Derek C. Paterson ^a, Katelynn Ramage ^b, Sarah A. Moore ^b, Negin Riazzi ^a, Mark S. Tremblay ^{c, d}, Guy Faulkner ^a  

STUDY AIMS

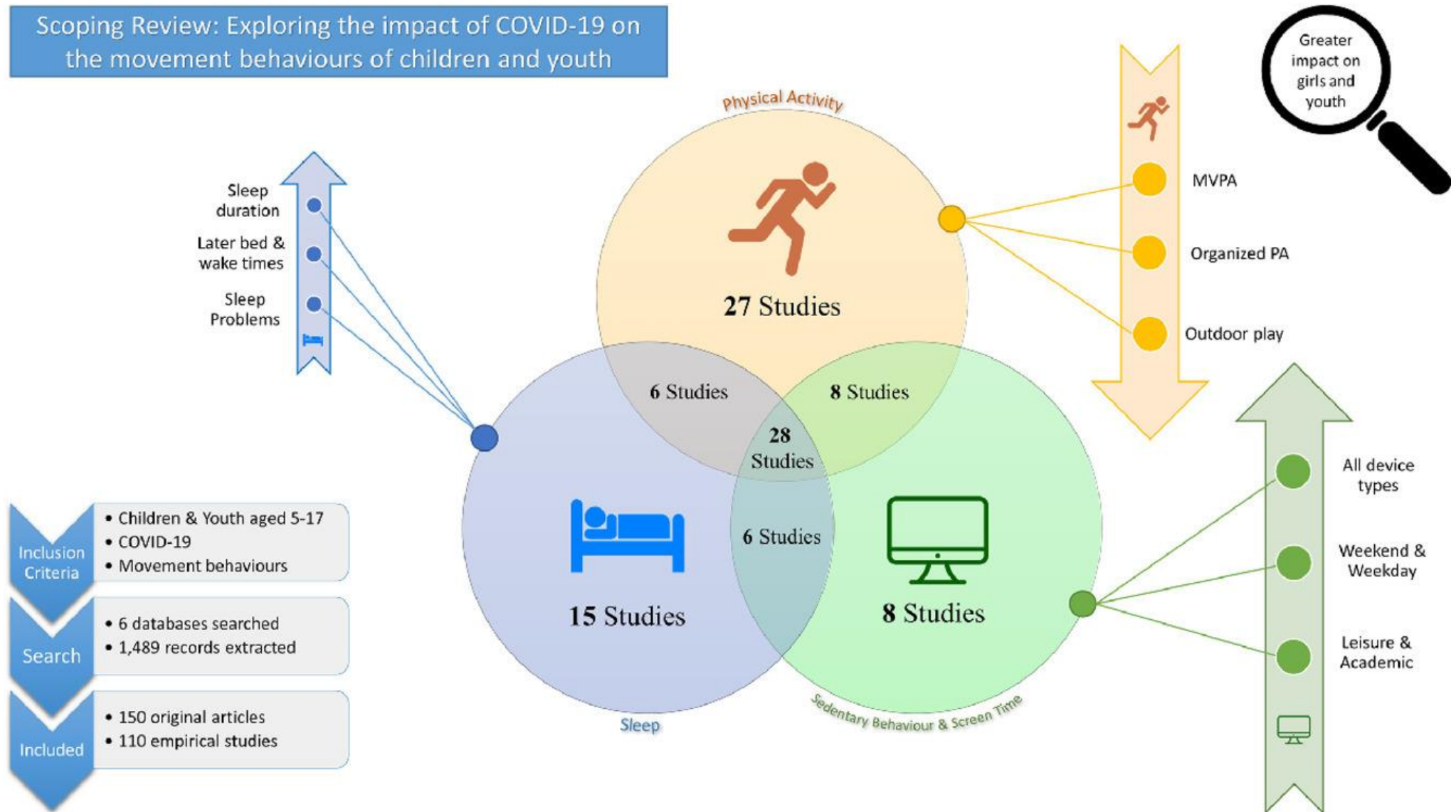
To summarize systematically the available literature investigating the relationships between the COVID-19 pandemic and movement behaviors of school-aged children and youth.

- Physical Activity
- Sedentary Behaviours
- Sleep





Scoping Review: Exploring the impact of COVID-19 on the movement behaviours of children and youth



Editorial

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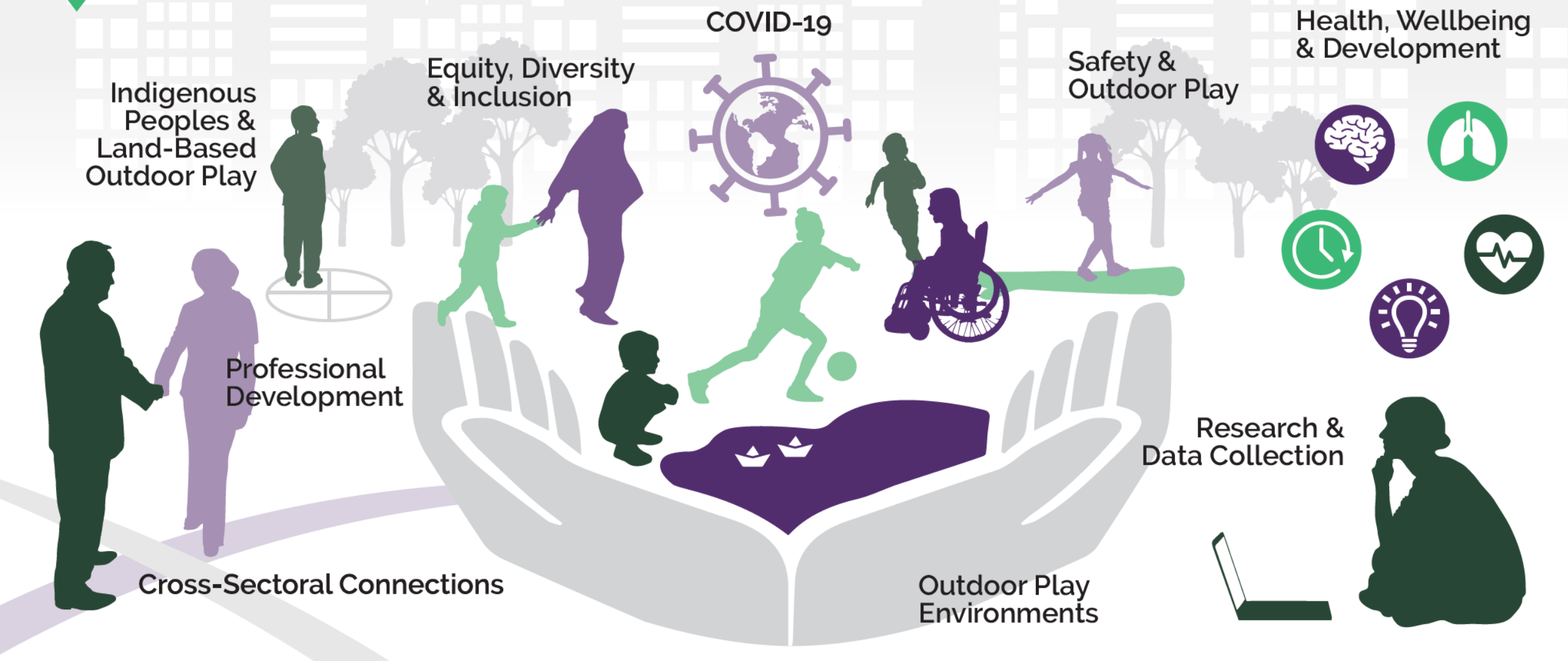
Éditorial

Repenser un rythme favorable à la santé à l'ère de la pandémie de COVID-19

Sarah A. Moore, Ph. D. (1,2,3); Leigh M. Vanderloo, Ph. D. (4,5); Catherine S. Birken, M.D., M. Sc. (6,7); Laurene A. Rehman, Ph. D. (1)

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Priorities for Outdoor Play in Canada, 2021




International Journal of Behavioral Nutrition and Physical Activity

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Review | [Open Access](#) | [Published: 15 June 2022](#)

Play, Learn, and Teach Outdoors—Network (PLaTO-Net): terminology, taxonomy, and ontology

[Eun-Young Lee](#), [Louise de Lannoy](#), [Lucy Li](#), [Maria Isabel Amando de Barros](#), [Peter Bentsen](#), [Mariana Brussoni](#), [Tove Anita Fiskum](#), [Michelle Guerrero](#), [Björg Oddrun Hallås](#), [Susanna Ho](#), [Catherine Jordan](#), [Mark Leather](#), [Greg Mannion](#), [Sarah A. Moore](#), [Ellen Beate Hansen Sandseter](#), [Nancy L. I. Spencer](#), [Susan Waite](#), [Po-Yu Wang](#), [Mark S. Tremblay](#)  & [participating PLaTO-Net members](#)

Education experts call for increase in outdoor learning spaces during pandemic



Toronto used 'forest school' approach

CBC Radio - Posted: Jul 29, 2020 1:30 PM



Students work at the outdoor classroom in Stockholm, Sask. (Macdonald School/Submitted to CBC)

Outdoor Learning Spaces

Information for Elementary School Principals

As announced on April 8th and communicated previously, the government of Nova Scotia and the federal government have created a \$7 million outdoor learning fund for all public elementary schools in the province. The fund will allow schools to improve existing outdoor spaces for learning or create new ones.

With outdoor learning and the teachings of Nature inherent to Mi'kmaw perspectives, outdoor learning spaces present a timely opportunity to honour our commitments to Treaty Education and Reconciliation. This space can be one that fosters well-being by celebrating the diverse cultures of Nova Scotia, including promoting African Nova Scotian heritage and the "interconnection of all things," which is a cornerstone of Africentric perspectives. In addition to nurturing intercultural understanding and empathy, outdoor learning spaces can further support inclusive education by helping all students build capacity for self-care, and respect for self, others, and Nature.

Further, the outdoors can play a critical role in the overall healthy development of children. There is strong evidence that when children and youth are outside or engaged with the natural environment, they are more likely to be physically active. Being physically active, and being outdoors as part of a daily routine, supports physical and mental health, maintenance of a healthy body weight, and motor skill development. Outdoor learning and physical activities also provide a sense of school connectedness and community and a sense of safety and belonging that is fundamental to inclusive education, while supporting academic achievement and student success.

Learning for

Performance



Pandemic offers 'huge potential' for shift to walking, biking to school



Advocates looking to encourage lifelong active transportation habits

[Laura Glowacki](#) · CBC News · Posted: Sep 11, 2020 4:00 AM ET | Last Updated: September 11



<https://www.cbc.ca/news/canada/ottawa/pandemic-school-transportation-alternatives-1.5719400>

[Travel Canada](#) / [Toronto & GTA](#) / [Ontario Travel](#) / [Ontario](#)

COVID triggers more spending on outdoor recreation

Jenny Yuen

Sep 30, 2020 • Last Updated 16 days ago • 1 minute read



Demand for outdoor sports gear waning after pandemic boom



Water sports equipment now back in stock, but supply chain woes will continue to hamper bike sales



Alexander Behne · CBC News · Posted: Jul 07, 2022 4:00 AM ET | Last Updated: July 7





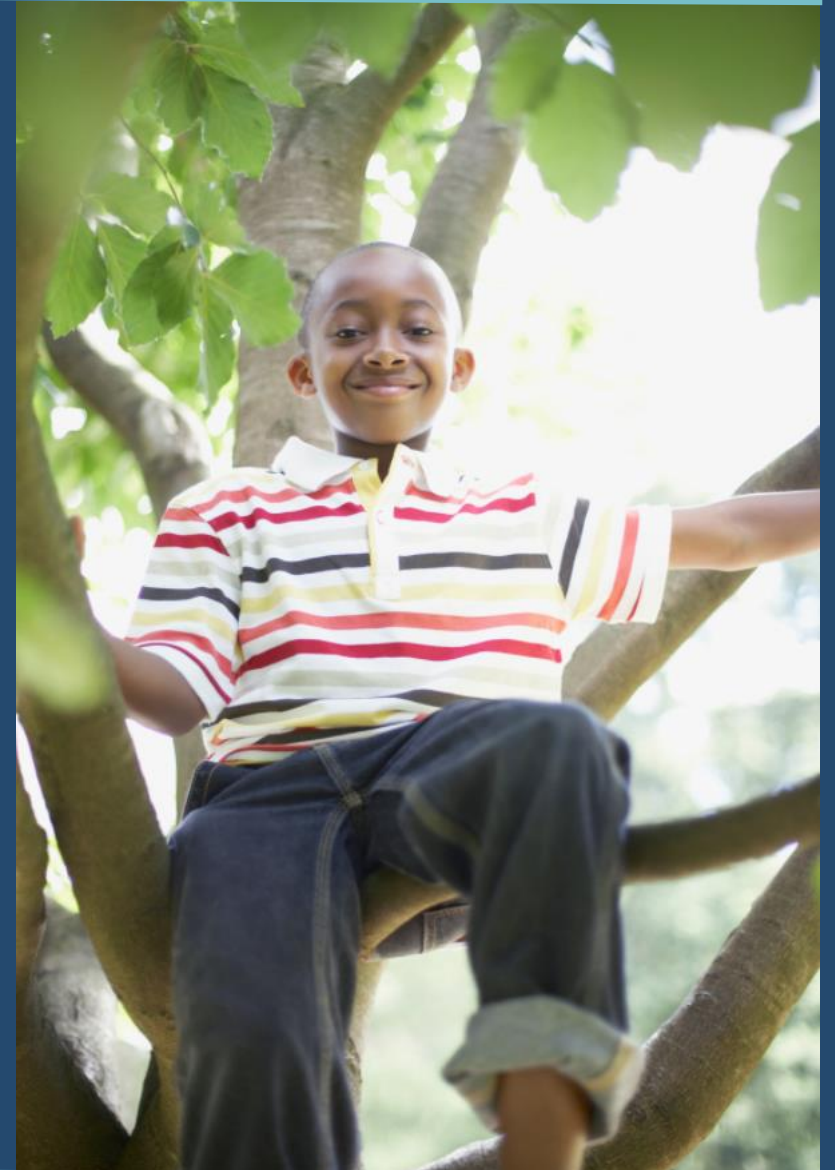
CHILDREN'S RIGHTS ARE IN DANGER

COVID-19 is not only a global health crisis — it's a child rights crisis. Over the past two years, children have sacrificed so much of their childhoods to keep everyone safe from COVID-19.

They missed out on seeing family and friends and lost access to critical services that keep them healthy, happy and safe. In fact, more than [1.6 billion](#) students were out of school during mandatory lockdowns. And in many low- and middle-income countries, learning losses resulted in [70%](#) of 10-year-olds being unable to read or understand a simple text.

KEY MESSAGES

1. The COVID-19 pandemic and related restrictions changed the way engaged in recreation, leisure, and sport.
2. Children with disabilities and their families were even further disadvantaged by the COVID-19 pandemic compared with kids without disabilities.
3. Recreation, leisure, and sport are the vehicles to help us rebound movement and play in the era of COVID-19.





CATEGORY

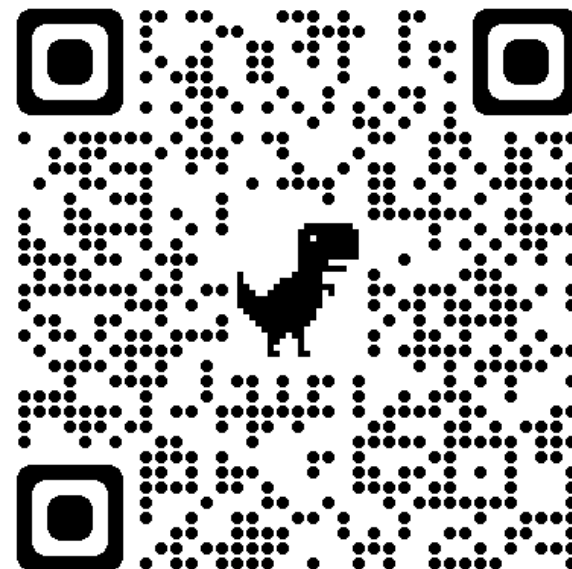
COVID-19, Parents, Research

ABOUT THIS PROJECT

Dr. Sarah Moore from the Healthy Populations Institute, Dalhousie University, is featured among a series of five whiteboard animation videos focused on 'Staying Healthy During a Pandemic.' In her video, Dr. Moore describes the impact of COVID-19 on the movement behaviours of children, where in Spring 2020, less than 3% of Canadian children and youth met the movement behaviour guidelines, due to a decrease in physical activity and an increase in screen time.

Watch Dr. Moore's whiteboard video [here](#).

Watch all videos in the series [here](#).





THANK YOU

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