



Outdoor Play in Canada

2021 State of the Sector Report



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Executive Summary

Outdoor Play Canada (OPC) is a network of advocates, practitioners, researchers and organizations working together to promote, protect and preserve access to play in nature and the outdoors for all people living in Canada. OPC aims to develop, foster and support the Canadian outdoor play community by providing leadership and strategic direction, serving as a central portal of credible information, amplifying efforts and successes and convening and facilitating collaborations.

The Outdoor Play Working Group (an early iteration of the OPC Leadership Group), along with diverse partners, was responsible for the development and release of the *Position Statement on Active Outdoor Play*¹ in 2015. This statement and the systematic reviews that informed it^{2,3} highlighted the unequivocal benefits of outdoor play for children's growth and development – mentally, physically, emotionally, cognitively and socially. The Position Statement served as a galvanizing force, bringing together previously disconnected groups that each shared a passion for outdoor play. It led The Lawson Foundation to shift their strategic priorities towards outdoor play, committing ~\$4.5 million over five years to 18 projects that support Canadian communities in increasing children's opportunities for outdoor play.⁴ It informed a British Columbia Supreme Court decision related to a playground injury lawsuit.⁵ It spawned many research projects, play programs and interventions⁶ both in Canada and internationally, and led to the official launch of OPC in 2019.

*The Position Statement on Active Outdoor Play*¹ was a significant advancement in bringing the sector together, providing direction and a common purpose: the promotion of healthy growth and development of children in harmony with the outdoor environment. The purpose of OPC's *Outdoor Play in Canada: 2021 State of the Sector Report* is to continue the trajectory initiated six years ago and to propel the sector forward.

This *State of the Sector Report* serves as a chronology of what has happened within the outdoor play sector since the publication of the *Position Statement on Active Outdoor Play* in 2015; it also provides an account of where we are now, and a map of where we need to go from here. Its message is disseminated in various forms and formats, including a full-length research report, a public-facing strategic directions summary, an online library, a social media strategy, a succinct whiteboard video, and a more detailed slide deck and summary webinar. All components are available in English and French.

As part of the process of identifying our future direction, OPC hosted a series of online consultation meetings from October 2020 to April 2021 with 63 individuals across Canada from government, policy, education, research, and not-for-profit and for-profit organizations. Participants identified what they believed were the major priorities for the sector and what actions needed to be taken to move these priorities forward. Common priorities and actions were identified, refined and voted on. We then reached out to our wider networks for input on these priorities and actions, to ensure that this Report truly represented the sector. In total, 302 stakeholders provided input.

Through this process, we identified nine central priorities for the outdoor play sector, with several action items for each priority. Those priorities are as follows (not in order of importance; for detailed information about the rationale for and action items of each priority, please see the main body of this *State of the Sector Report*):

- **Promote the Health, Wellbeing and Developmental Benefits of Outdoor Play**
- **Promote, Protect, Preserve and Invest in Outdoor Play Environments**
- **Advocate for Equity, Diversity and Inclusion in Outdoor Play**
- **Ensure that Outdoor Play Initiatives are Land-Based and Represent the Diverse Cultures, Languages and Perspectives of Indigenous Peoples of North America**
- **Research and Support Data Collection on Outdoor Play**
- **Reframe Views on Safety and Outdoor Play**
- **Leverage Engagement Opportunities with the Outdoors During and After COVID-19**
- **Increase and Improve Professional Development Opportunities in Outdoor Play**
- **Expand and Enable Cross-Sectoral Connections/Collaborations**

We hope that this *State of the Sector Report* and the above priorities will serve to unify the many diverse, yet related, outdoor play-oriented groups in Canada, create a sense of community, and provide a common vision for the sector to thrive and succeed over the next five years. In doing so, we hope that the Report will help to guide our collective effort to promote, protect and preserve outdoor play in nature and the outdoors for all people living in Canada, now and for generations to come.



Purpose

The purpose of the *Outdoor Play in Canada: 2021 State of the Sector Report* is to serve as a chronology of where the outdoor play sector has been over the past six years, provide an account of where we are now, and strategize our future direction over the next five years. This *State of the Sector Report* aims to rejuvenate, amplify, power, guide and direct the movement to encourage all people living in Canada to get outside – and encourage them to play, learn, teach, grow and develop as healthy, caring and environmentally attentive stewards of each other, the Land*, water, plants and animals.

Process

The development, release and promotion of the *Outdoor Play in Canada: 2021 State of the Sector Report* included securing funding; conducting a scoping review and environmental scan; developing an online library of outdoor play programs, projects and services; establishing a national, cross-sectoral Consultation Group and a robust consultation process; distributing, analyzing and summarizing the results from a Stakeholder Survey of outdoor play priorities and actions; writing the report; implementing a knowledge translation and dissemination strategy, including the production of a public-facing summary, a succinct whiteboard video and a more detailed slide deck and webinar; translating all items into French; posting all materials on the OPC website and social media outlets (Twitter, Instagram and Facebook); and releasing the *State of the Sector Report* at the 2021 Breath of Fresh Air Outdoor Play Summit, with intentional discussion of how the identified priorities and actions may serve as a common vision for the sector.

This project was initiated by OPC, a network that resides within Dr. Mark Tremblay's research group at the Children's Hospital of Eastern Ontario (CHEO) Research Institute. OPC is led by a Leadership Group consisting of the following individuals: Dr. Mark Tremblay (OPC Chair, CHEO Research Institute), Dr. Mariana Brussoni (University of British Columbia), Heather Cowie (City of Fort Saskatchewan), Dr. Raktim Mitra (Ryerson University) and Dr. Frank Welsh (Canadian Public Health Association). Daily operations are managed by Dr. Louise de Lannoy (Outdoor Play Canada), Research Manager, and Lindsay MacDonald (Outdoor Play Canada), Research Assistant.

Funding and In-Kind Support

Funding for the *State of the Sector Report* was secured through a grant from an anonymous donor and The Lawson Foundation. Funding for the French translation of the Report and related materials was provided by a Social Sciences and Humanities Research Council Connection Grant (#611-2020-0292), with matching funds provided from the above two grants, as well as through in-kind support from the OPC Leadership Group. Translation of all materials on the OPC site and of the *State of the Sector Report* was provided by Maryse Froment-Lebeau and Christine

* Land is capitalized throughout this Report to acknowledge its importance and that it includes peoples, cultures, languages and knowledge. [55]

Laplanche with input from Sylvie Melsbach (Soutien au partenariat et aux aires de jeu Regroupement des centres de la petite enfance Montérégie; Quebec Institute for Safety in Playgrounds). The OPC Leadership Group and all other participating individuals and organizations provided in-kind support for the overall development, dissemination and promotion of the *State of the Sector Report*.

State of the Sector Consultation Process

A 15-person Consultation Group – comprised of representatives from education, policy, government, research, philanthropy, and not-for-profit and for-profit organizations – was initially convened in October 2020. This group met twice in the fall of 2020 to provide initial feedback and input on the parameters of the Report, as well as to identify individuals and organizations who should be invited to participate in a larger multi-sectoral Consultation Group. This larger 63-person group, which included the original 15 people that convened in October 2020, met virtually four times for a total of six hours over Zoom (Zoom Video Communications, Inc, San Jose, California) between January and April 2021 to identify, refine and vote on what they felt the main priorities and actions should be for the outdoor play sector over the next five years. The Consultation Group was also invited to contribute to an online document of projects, programs and services related to outdoor play in Canada, which was subsequently added to the OPC website as part of the *State of the Sector Report* Online Library. Note-takers and discussion facilitators guided and recorded discussions. The members of the Consultation Group (including the facilitators and note-takers) and their home organizations are presented in Table 1.

Prior to the first meeting in January 2021, Consultation Group members were each asked to identify three priorities for the outdoor play sector, which were then presented at one of four break-out groups in the meeting (the composition of the four groups was selected randomly by Zoom), with one note-taker and one facilitator assigned to each group. After the January meeting, the most common priorities (those identified by five or more different participants) were consolidated as a working list of top priorities and shared with the Consultation Group.

At the second meeting, in February 2021, Consultation Group members were organized into four break-out groups according to sector affiliation: Community and Community Outreach (17), Education (18), Policy and Government (13), and Research (15). At this meeting, participants were asked to review the top priorities, identify those most relevant to their sector, and provide suggestions and edits to, as well as action items for, those priorities. At the third meeting, in March 2021, participants were again organized into break-out groups according to sector and were asked to review changes to the priorities and actions since the previous meeting and to vote on which of the suggested priorities and actions should be included in the final list. However, some Consultation Group members were not in attendance at that March 2021 meeting, and therefore did not have the opportunity to review and vote on the priorities and actions. Therefore, ahead of the final meeting in April 2021, an online survey was distributed to all Consultation Group members, asking respondents for their anonymous input on their level of agreement with each priority; respondents were also given an opportunity to provide feedback on each of the priorities.

The results of that survey then guided the April 2021 meeting, in which the Consultation Group met as one full group, reviewed the results and feedback, and provided final input on the priorities and actions. Priorities were included as the final working list of priorities for this Report if >75% agreement (defined *a priori*) had been achieved in the survey. We did not achieve consensus on the wording of one priority related to liability and safety in outdoor play; therefore, two options were provided in the Stakeholder Survey, distributed in May 2021 (see detailed discussion of the Stakeholder Survey below), and respondents were asked to either select their preferred wording

or offer up another suggestion. We again did not achieve consensus on the wording of this priority through the Stakeholder Survey and so returned to the Consultation Group in June 2021 with four suggestions (two had been originally suggested in the Stakeholder Survey, and two were suggested by survey respondents). The final wording for this priority was determined following this final poll with the Consultation Group.

Stakeholder Survey

Following the final Consultation Group meeting in April 2021, an online Stakeholder Survey was developed, in both English and French, to solicit review and comment from the larger outdoor play network on the nine outdoor play priorities and associated actions. (Appendix A contains the complete English and French versions of this survey.) French translations were verified by Consultation Group member Dr. Richard Larouche (University of Lethbridge). The CHEO Research Ethics Board reviewed and approved the administration of the survey and the use of a passive consent process.

The survey was disseminated through the larger outdoor play network including the various networks of the Consultation Group and followed a snowball sampling methodology (recognizing the inherent risk of bias) to maximize reach and input. It was live from May 14–27, 2021. Survey participants were asked for basic demographic information, but their survey responses were anonymous. Participants were asked to provide their level of agreement with each priority and action item on a five-point Likert scale ranging from “strongly disagree” to “strongly agree.” There was one exception to this question format: Since the Consultation Group had not yet reached consensus on the wording of the priority related to liability and safety in outdoor play, we asked respondents to indicate their preference for either of two suggested priority titles, or to offer up another suggestion. Additionally, participants could provide open-ended comments on any of the priorities and actions. We asked respondents if they wished to publicly disclose their support for the final *State of the Sector Report*, pending their review of the final draft. To facilitate this, interested respondents were asked to provide an email address where the final draft of the *State of the Sector Report* could be sent. Respondents then had the opportunity to review the *State of the Sector Report* and, if they desired, give their permission to publicly display their support/endorsement. The names of supporters are listed on the OPC website.

After the survey closed, responses were tabulated and analyzed, and written comments were consolidated into themes. Any additional actions that had been suggested by survey participants were either integrated into existing actions if there was overlap or added as new actions if they had been suggested by more than one respondent (e.g., five respondents recommended an action be added on outdoor play and ecological preservation, and so this was combined into one new action). The OPC Leadership Group reviewed the summarized survey results as well as the changes to the action items and provided input on the final nine priorities and actions for inclusion in the *State of the Sector Report*. The revised priorities and actions were circulated to the Consultation Group for final comment before being translated into French.

Environmental Scans and Scoping Review

An environmental scan was conducted from October 2020 to March 2021 to identify Canadian outdoor play-related programs, services and activities that have emerged since the publication of the *Position Statement on Active Outdoor Play*. Items were identified through social media postings (Twitter, Facebook and Instagram) and the OPC Leadership Group network, as well as through direct input from members of the Consultation Group.

Efforts were made to identify any items that referenced the *Position Statement on Active Outdoor Play*. All relevant items were uploaded to the OPC website.

A second environmental scan was conducted from March to May 2021 to identify reports in the scientific and grey literature of Canadian programs, services and activities aimed at supporting children's and youth's outdoor play during the COVID-19 pandemic. A survey was distributed to the program, service and activity providers that were identified in this scan, as well as to the OPC network, to identify the successes and challenges they had seen in supporting children and youth in getting outdoors and into play during the COVID-19 pandemic. The list of items found in this environmental scan is available in Appendix B. For more detail on the findings of this scan, see 'Outdoor Play Sector Response to COVID-19', below.

A scoping review of existing scholarly literature was conducted from March to May 2021 to quantify the volume of Canadian research conducted on outdoor play, including adult outdoor recreation and leisure, since the publication of the *Position Statement on Active Outdoor Play* in 2015, and identify themes within this existing literature. The list of publications included in the scoping review is available in Appendix C. For more detail on the findings of this review, see 'Scoping Review of Outdoor Play in Canada: 2015-2021', below.

Full Report

A final draft of the *State of the Sector Report* was circulated for review to the Consultation Group, survey respondents who expressed interest in providing public endorsement, and 12 key international outdoor play colleagues (Table 2), as well as to The Lawson Foundation and the anonymous donor who provided funding for the *State of the Sector Report*.

Knowledge Translation and Dissemination

A comprehensive knowledge translation and dissemination plan was developed to maximize the impact and reach of the *State of the Sector Report*. This communications plan was led by OPC in association with Fuse Consulting (Calgary, Alberta) and Dr. Sarah Moore (Dalhousie University, Halifax, Nova Scotia). A public launch date of October 6, 2021, was established, preceded by a national press release and social media toolkit (Twitter, Instagram, Facebook) distributed to those involved in the development of the *State of the Sector Report* with key messages to customize and use to spread awareness of the national release in a coordinated fashion. Public-facing documents were released in October both on the OPC website and through social media outlets, including social media graphics, building up to the official release of the full *State of the Sector Report* and affiliated whiteboard video, public-facing summary, in-depth webinar and slide deck, at the 2021 Breath of Fresh Air Outdoor Play Summit on October 6-7, 2021.

Evaluation

Evaluation measures of the *State of the Sector Report* (e.g., satisfaction, utilization, impact, media uptake) will include surveys of the Consultation Group and OPC members, as well as website analytics, media coverage summaries and impact assessment analyses in the six months following the release of the Report.

Table 1. Outdoor Play in Canada: 2021 State of the Sector Report Consultation Group

Name	Affiliation/Home Organization	Sector
Cindy Andrew	Healthy Schools Consultant	Education, Healthy Communities
Mike Arthur	Government of Nova Scotia (retired)	Policy and Planning
Micki Bry	Peel-Halton Nature Collaborative EarlyON	Community Support/Engagement, Education
Hilary Caldwell	Dalhousie University	Public Health, Research
Lynn Campanella	Playocracy Incorporated	Community Engagement, Education–Early Years and Elementary, Industry
Dawn Carr	Canadian Parks Council	Environment (Parks and Protected Areas), Government, Policy
David Chorney	University of Alberta	Post-secondary and Teacher Education, Research
Cameron Collyer	Evergreen	Not-for-Profit
Bekah Craik	West Hants Regional Municipality	Government
Beverlie Dietze	Okanagan College	Education
Enid Elliot	Camosun College	Education
Petra Eperjesi	Child and Nature Alliance of Canada	Education, Not-for-Profit
Margaret Fraser	Le lion et la souris (The Lion and The Mouse)	Advocacy, Community-based Practice, Not-for-Profit
Amanda Froehlich Chow	University of Saskatchewan	Public Health, Research
Katherine Frohlich	Université de Montréal Centre de Recherche en Santé Publique	Research
Josh Fullan	Maximum City	Education, Engagement, Research
Katrina Galas	In Common Consulting	Industry
Paula Gallo	Recreate Place (Consulting)	Child-Friendly Participatory Approaches for Communities, Education
Casey Gray	Public Health Agency of Canada	Research
Jillian Griffin	Communities, Culture and Heritage; Province of Nova Scotia	Government
Tanya Halsall	The Royal's Institute of Mental Health Research University of Ottawa	Research
Susan Herrington	University of British Columbia	Research
Laura Hilliard	Earthscape Play	Industry
Kim Hiscott	Andrew Fleck Children's Services	Direct Service Delivery, Not-for-Profit

Charles Hopkins	York University United Nations Educational, Scientific and Cultural Organization (UNESCO)	Education, Research
Ian Janssen	Queen's University	Research
Ness Kenalty	The Walton's Trust	Early Childhood Education, Philanthropy
Katalin Koller	Three Nations Education Group Inc.	Education, First Nations Community Development, Research
James Lamouche	Indigenous Knowledge and Wisdom Centre	Innovation and Research
Richard Larouche	University of Lethbridge	Education, Research
Ellen Long	Physical and Health Education Canada	Education, Not-for-Profit
Laura Beth MacPherson	Nova Scotia Department of Justice (formerly Sport and Recreation Division)	Government, Policy
Sylvie Melsbach	Soutien au partenariat et aux aires de jeu Regroupement des centres de la petite enfance Montérégie (RCPEM) Quebec Institute for Safety in Playgrounds (IQSAJ)	Education, Not-for-Profit
Sarah Moore	Dalhousie University	Education, Research
Linda Naccarato	Outdoor Play and Learning (OPAL)	Education
Lily Patzer	Aboriginal Head Start Association of British Columbia	First Nations Education
Michelle Perry	Healthy Transportation Coalition	Healthy Transportation, Municipal Advocacy
William Pickett	Brock University	Research
Nancy Pynch-Worthylake	Canadian School Boards Association	Education
Shelagh Pyper	Fuse Consulting Ltd.	Public Education, Schools, Science Communication
Andrea Redmond	Communities, Culture and Heritage; Province of Nova Scotia	Government
Hailey Renaud	Sea Smart School Society	Education, Not-for-Profit
Rob Ridley	Peel District School Board	Education
Stephen D. Ritchie	Laurentian University Canadian Outdoor Summit	Education, Research
Stephanie Rivera	Ecosource/The Peel-Halton Nature Collaborative	Education, Not-for-Profit
Alison Ronson	Canadian Parks and Wilderness Society (CPAWS)	Environment
Lynn Short	Humber College	Education, Research

Alex Smith	International Play Association – Canada PlayGroundology	Education, Not-for-Profit, Research
Valerie Smith	Parachute Canada	Not-for-Profit
Stephanie Spilchak	Elk Island Catholic Schools	Education
Paul St. Arnaud	International Play Association – Canada ProjectsWork Formerly with Municipal Government	Child Friendly Cities, Not-for-Profit, Parks, Recreation & Culture (Municipalities), Play Advocacy, Urban & Rural Parks and Recreation Planning
Daniel Stevens	Dalhousie University	Research
Sue Stevenson	Canadian School Boards Association	Comprehensive School Health, Education
Kelly Stone	Families Canada	Family Support, Not-for-Profit
Michelle Stone	Dalhousie University	Education, Research
Son Truong	Dalhousie University Western Sydney University	Research, Teacher Education and Early Childhood Education
Trish Tucker	University of Western Ontario	Education, Research
Leigh Vanderloo	ParticipACTION	Health, Not-for-Profit, Research, Social Marketing
Jill White	Waterplay Solutions Corporation	Industry
Heather Wilson	Child and Nature Alliance of Canada	Education, Not-for-Profit
Trevor Zahara	Peak Play Consulting Corporation	Play Environment Design Consultancy, Playground Safety, Risky Play Advocate
Megan Zeni	British Columbia Public School System Room to Play University of British Columbia	Education, Research
Louise Zimanyi	Humber College	Education, Research
Facilitators		
Mariana Brussoni*	University of British Columbia British Columbia Children's Hospital Research Institute Outdoor Play Canada	Research
Heather Cowie*	City of Fort Saskatchewan Outdoor Play Canada	Community Development, Government
Louise de Lannoy	Outdoor Play Canada CHEO Research Institute	Not-for-Profit, Research
Raktim Mitra*	Ryerson University Outdoor Play Canada	Research, Urban and Regional Planning

Mark Tremblay*	CHEO Research Institute Outdoor Play Canada	Health, Not-for-Profit, Research
Frank Welsh*	Canadian Public Health Association Outdoor Play Canada	Not-for-Profit, Policy Development
Note-Takers		
Breann Corcoran	University of British Columbia	Health, Research
Emily Gemmell	University of British Columbia	Health, Research
Ali Kabir	CHEO Research Institute University of Ottawa	Health, Research
Negin Riaz	Brock University	Health, Research
Nicholas Seguin	CHEO Research Institute University of Ottawa	Health, Research

*All asterisked names are members of the OPC Leadership Group.

Table 2. Outdoor Play in Canada: 2021 State of the Sector Report International Reviewers

Name	Affiliation/Home Organization	Country
Salomé Aubert	Active Healthy Kids Global Alliance France	France, Canada
Peter Bentsen	Bispebjerg and Frederiksberg Hospital	Denmark
Maria Isabel Amando de Barros	Instituto Alana	Brazil
Tim Gill	Rethinking Childhood	United Kingdom
Susanna Ho	Singapore University of Social Sciences	Singapore
Taru Manyanga	University of Northern British Columbia	Zimbabwe, Canada
Shawnda Morrison	University of Primorska	Slovenia
Laerke Mygind Grønfeldt	Deakin University	Australia, Denmark
Ylva Jannok Nutti	Sámi University of Applied Sciences	Norway
Alessandra Pioreschi	University of the Witwatersrand	South Africa
Ellen Beate Hansen Sandseter	Queen Maud University College	Norway
Po-Yu (Eric) Wang	National Taiwan University of Sport	Taiwan

Where We Have Been – A Timeline of Outdoor Play in Canada

On December 13, 1991, Canada ratified Article 31 of the United Nations (UN) Convention on the Rights of the Child,⁷ officially recognizing ‘the right of the child to rest and leisure, to engage in play and recreational activities appropriate to the age of the child’ and acknowledging Canada’s responsibility to provide children with ‘appropriate and equal opportunities for cultural, artistic, recreational, and leisure activity.’ Two decades later, the *Active Healthy Kids Canada 2011 Report Card on Physical Activity for Children and Youth* added ‘nature and the outdoors’ as a physical activity indicator,⁸ highlighting the emerging evidence and the need for Canada-specific data on the importance of outdoor physical activity for children and youth’s health and wellbeing. A year later, active play was the focus of the 2012 Report Card,⁹ recognizing it as an important contributor to overall physical activity levels of children and youth. That same report expressed concern over a decline in active play, which it attributed in part to reports of children and youth spending less time playing outdoors after school. This concern over declining opportunities for outdoor play was echoed at a global level when the UN published a six-part document (General Comment No. 17¹⁰) in 2013 as an addendum to Article 31 on the Rights of the Child⁷ and the need for governments to respect this right.

In response to the above observations and growing concerns, an outdoor play movement began to take shape in Canada. In 2013, an Active Play Action Group was formed at a national roundtable meeting in New Brunswick.¹¹ In the same year, risky play was discussed at the Canadian Injury Prevention & Safety Promotion Conference in Montreal and a follow-up manuscript was published,¹² calling on the injury prevention field to recognize risky play as distinct from hazardous play, and essential to healthy child development. In 2014, the Canadian Parks Council released their report *Connecting Canadians with Nature*,¹³ in which they recognized outdoor play as important not just for children’s health and wellbeing, but also for promoting a connection to nature and fostering the next generation of environmental stewards. This was later supported by the *Framework for Recreation in Canada: Pathways to Wellbeing*,¹⁴ which in turn gained endorsement from Provincial and Territorial Ministers.¹⁵

At around the same time, in the spring of 2014, two systematic reviews^{2,3} were initiated to gather evidence on the importance of active outdoor play for children’s health. Several months later, the Outdoor Play Working Group was formed to create the *Position Statement on Active Outdoor Play*,¹ which was officially released in June 2015, and was featured as the main story in the 2015 *ParticipACTION Report Card on Physical Activity for Children and Youth*¹⁶ (formerly the *Active Healthy Kids Canada Report Card on Physical Activity for Children and Youth*).

The Position Statement on Active Outdoor Play served as a major galvanizing force in the emerging outdoor play sector in Canada. Shortly after its publication, it was used to inform a British Columbia Supreme Court decision against a playground injury lawsuit.⁵ It also led The Lawson Foundation to shift their strategic priorities towards outdoor play, committing ~\$4.5 million over five years to 18 projects that support Canadian communities in increasing children’s opportunities for outdoor play.⁴ The Lawson Foundation hosted the Outdoor Play and Early

Learning Policy Research Symposium¹⁷ in October 2018 to discuss strategies for advancing outdoor play across policy, practice and research, acknowledging the cross-sectoral nature of outdoor play and the need to bring different voices together. The Position Statement also helped inform a new report on *Obesity in Canada* (led by the Standing Senate Committee on Social Affairs, Science and Technology¹⁸), which was endorsed by the Council of Chief Medical Officers of Health in their own statement on outdoor play,¹⁹ and spawned many research projects and outdoor play programs and interventions, both in Canada and internationally.⁶

To maintain this impactful trajectory, the Outdoor Play Working Group continued to meet after the release of the Position Statement, working to identify stakeholder gaps and dissemination strategies, and collaborating with other organizations to keep outdoor play front of mind. They contributed to the development of the *Parks for All Action Plan*,²⁰ a collaboration between the Canadian Parks and Recreation Association (CPRA) and the Canadian Parks Council (CPC), in which the Working Group ensured that outdoor play was highlighted as integral to fostering children's connection with nature, and was embedded into the strategic action items of this work.

With funding from the Ontario Trillium Foundation, the Working Group began to develop an Outdoor Play Strategic Impact Plan, which eventually led to the formation of OPC, an expanding network of multi-sectoral leaders working together to grow the outdoor play movement in Canada. The Working Group and the larger outdoor play network began contributing to outdoor play-oriented conferences, including the first-ever Canadian Parks Conference,²¹ the Child and Nature Network International Conference,²² the Children's Health and the Environment Workshop²³ and the International Play Association Triennial World Conference,²⁴ all of which were hosted in Canada in 2017. The outdoor play network also began contributing to new initiatives, both in Canada and internationally, to bring people of all ages into nature.^{15,25–28}

Despite this growing enthusiasm and engagement, the participants at an outdoor play roundtable meeting in Vancouver in 2018 recognized that Canada lacked a central, authoritative voice to address emerging issues related to outdoor play. Thus, in 2019, at the first Breath of Fresh Air Outdoor Play Summit,²⁹ OPC was officially launched.³⁰ At that same meeting, the first biennial OPC awards were established and awarded,³¹ recognizing exceptional commitment and leadership in the promotion of outdoor play in Canada.

Where We Are Now

OPC was officially launched in 2019 at the first Breath of Fresh Air Outdoor Play Summit,²⁹ to serve as a central authoritative voice on outdoor play in Canada. At that summit we clarified our vision – outdoor play is a valued part of daily life for all people living in Canada – and mission:

Outdoor Play Canada is a network of advocates, practitioners, researchers and organizations working together to promote, protect and preserve access to play in nature and the outdoors for all people living in Canada. Outdoor Play Canada provides leadership to galvanize the outdoor play movement across Canada to promote the health and wellness of Canadians and the environments in which we live.

In 2020, The Lawson Foundation announced Phase Two of their Outdoor Play Strategy, and their plan to fund eight projects focused on building capacity to implement and support outdoor play in early childhood.³² OPC was a successful applicant, along with projects focused on post-secondary and continuing education on Land-based and outdoor-focused early childhood education, parent- and child-focused interventions to promote time spent in quality outdoor play, as well as a pilot program surrounding the licensing of Forest and Nature Schools.³² As part of the process of developing our application for Phase Two of the Foundation's Outdoor Play Strategy, we underwent a rigorous strategic priorities process, and identified the following priorities for OPC: 1) provide leadership and strategic direction for the outdoor play sector; 2) serve as a central portal of credible information on the outdoor play sector in Canada; 3) amplify efforts and successes related to outdoor play; and 4) convene and facilitate collaborations among members of the outdoor play movement.

Through this process, we identified several initiatives that OPC was well-positioned to lead and would help us meet our defined priorities. These initiatives included the development of the Play Learn and Teach Outdoors Network (PLaTO-Net),³³ a source of leadership and direction within the outdoor play research and practice fields; the creation of the OPC website (www.outdoorplaycanada.ca), a central portal of information and connection; and the *Outdoor Play in Canada: 2021 State of the Sector Report*, a vital contribution to all of the above priorities and a guiding body of work that will allow OPC and the larger outdoor play sector in Canada to thrive and succeed over the next five years.

Online Library of Outdoor Play Projects, Programs, Services and Initiatives in Canada: 2015–present

With funding secured for OPC, we began developing the *Outdoor Play in Canada: 2021 State of the Sector Report*. Early on in our brainstorming, we recognized the need to create a library of outdoor play projects, programs, services and initiatives in Canada. This would serve to amplify the efforts of the outdoor play sector in Canada and would help establish a centralized portal of information. We began collecting and documenting Canadian outdoor play-related programs, projects, services, research and activities that have emerged in Canada since the publication of the *Position Statement on Active Outdoor Play*. We identified items informally through our social media accounts (Twitter, Facebook and Instagram) and through the networks of the OPC Leadership Group. As part of the State of the Sector Consultation Process, we invited our Consultation Group to send us information about outdoor play initiatives (see 'Process,' above). All their suggested items were added to our online living library on the OPC website.

Collectively, we identified 364 items related to outdoor play in Canada. These items are included within our *State of the Sector Report* Online Library. All items were categorized according to the nine main priorities for the outdoor play sector (many of the items applied to multiple priorities and were categorized as such). The number of items included within each category is shown in Table 3. In addition, we identified 26 items that specifically referenced the *Position Statement on Active Outdoor Play*.

Table 3. Categories within the OPC Online Library and the Number of Items Included Within Each Category (as of June 30, 2021)

Online Library Categories (Central priorities as identified by the <i>State of the Sector Report</i>)	Number of Items Included Within Each Category
Promote the Health, Wellbeing and Developmental Benefits of Outdoor Play	191
Promote, Protect, Preserve and Invest in Outdoor Play Environments	108
Advocate for Equity, Diversity and Inclusion in Outdoor Play	61
Ensure that Outdoor Play Initiatives are Land-Based and Represent the Diverse Cultures, Languages and Perspectives of Indigenous Peoples of North America	16
Research and Support Data Collection on Outdoor Play	68
Reframe Views on Safety and Outdoor Play	35
Leverage Engagement Opportunities with the Outdoors During and After COVID-19	107
Increase and Improve Professional Development Opportunities in Outdoor Play	161
Expand and Enable Cross-Sectoral Connections/Collaborations	44

By far the most populated priority in our online library is the one promoting the health, wellbeing and developmental benefits of outdoor play; the smallest section is the one ensuring that outdoor play initiatives are Land-based and represent the diverse cultures, languages and perspectives of Indigenous Peoples of North America. This indicates both the sector-wide recognition of the benefits of outdoor play, and highlights where more effort is required. This online library is intended to be a living resource, and we plan to continually add items as we learn about them. We acknowledge that there are items we may not have included and invite the outdoor play sector to share their efforts with us, so that we may update this library and continue our effort to serve as a central portal of information on outdoor play in Canada, avoid duplication of efforts, and help groups with similar interests to connect.

Outdoor Play Sector Response to COVID-19

When we started planning this Report in earnest in August 2020, Canada was six months into the COVID-19 pandemic. A survey on change in the movement behaviours of children and youth in Canada during the pandemic, conducted by the CHEO Research Institute in collaboration with ParticipACTION and several universities across Canada, showed that in the early months of the pandemic, time spent outdoors and in outdoor play had decreased among children and youth across all regions in Canada, and that these decreases corresponded with public health restrictions placed on access to outdoor spaces.³⁴ Follow-up studies from the same group showed that this trend continued, despite a general loosening of restrictions on access to outdoor spaces across the country.³⁵ Furthermore, heavy restrictions and long-term closure of indoor spaces such as restaurants and gyms meant that Canadians of all ages were turning to the outdoors as a source of stress relief, a safe place to gather (in small groups) and to get active, and more generally as ‘something to do.’³⁶ It was clear that the pandemic was having a lasting impact on outdoor play.

Simultaneously, real efforts were being made at both grassroots and organizational levels^{37–40} to make outdoor play available in communities, given the myriad health benefits of being outdoors¹ as well as the lower risk of viral transmission outdoors compared with indoors.⁴¹ Some programs began exploring how to bring their traditionally indoor activities outside, as these efforts allowed them to continue their operations while adhering to public health restrictions.⁴² To better understand the nature and extent of these adaptations, we conducted an environmental scan of Canadian outdoor programs, projects, services and activities during the COVID-19 pandemic.⁴² We identified 79 initiatives from across the country and distributed a survey seeking input from outdoor play providers on their experiences adapting during the pandemic, challenges they faced, and best practices they had realized. Briefly, we found that most initiatives were national in scope, were aimed for the most part at supporting parents in getting children and youth outdoors, and were largely recreation- and health-oriented, and that the most common form of adaptation was in moving or compiling material online. What we heard from outdoor play providers was that there were major challenges in adapting to COVID-19 restrictions and the new and ever-changing safety protocols, but also that outdoor programming was naturally suited to minimizing health risk and adhering to those protocols. More importantly, the greatest learning echoed by outdoor play providers was that children and youth thrive when outdoors, which is an important message as we look to support children and youth in recovery from the current pandemic, and as we develop preparedness plans in the face of future health challenges. The full list of outdoor play programs, projects and activities found in this environmental scan is available in Appendix B.

Scoping Review of Outdoor Play in Canada: 2015–2021

To continue our efforts to identify resources and amplify the outdoor play sector in Canada, we also endeavoured to assess the state of scholarly outdoor play publications that had been written by Canadian authors since the publication of our Position Statement in 2015. When that Position Statement¹ was published, it was informed by two systematic reviews^{2,3} that collectively identified 49 publications related to outdoor play, not exclusive to Canadian authors. This was a large increase since the 2011 *Active Healthy Kids Canada Report Card on Physical Activity for Children and Youth*,⁸ which cited just one publication related to nature, the outdoors and health (written by a group from the United Kingdom).⁴³

The Position Statement served as a galvanizing force, leading to the publication of numerous studies both in Canada and internationally, and we aimed to quantify exactly how robust this research area had become. Accordingly, we conducted a scoping review of outdoor play–related research published by Canadian authors between the fall of 2015 and the spring of 2021. To be included, studies could be of any age group but had to be written in English or French. We identified a total of 418 publications related to outdoor play in Canada; this is a staggering increase in publications since the release of the Position Statement in 2015.

While a review of these publications is beyond the scope of this Report, we are in the process of identifying common themes across identified publications and will publish our findings as a research-grade report in the months following the release of the *State of the Sector Report*. Specific efforts will be made to highlight publications that cite the Position Statement, to measure its impact on the outdoor play research sector in Canada. The full list of publications included in this scoping review is available in Appendix C.

Where We Need to Go From Here

A central goal of this Report was to develop a common vision that would allow the outdoor play sector to thrive and succeed over the next five years, and to develop priorities for action. The following are the priorities, and actions to implement those priorities, identified for the outdoor play sector in Canada, as determined with input from more than 300 stakeholders (Consultation Group, Leadership Group and survey respondents). When implementing these actions, stakeholders may benefit from accessing the Online Library of Outdoor Play Projects, Programs, Services and Initiatives in Canada for background research and/or support. Note that these priorities are not listed in rank order, given the diversity of interests and sectors these priorities encompass.

Priorities and Actions for the Outdoor Play Sector in Canada



Promote the Health, Wellbeing and Developmental Benefits of Outdoor Play

Outdoor play is important for the physical, mental, emotional and social development of children, and the health and wellbeing of people of all ages. Outdoor play may also help children deal with climate change-related anxiety.⁴⁴ This priority is intended to recognize all of these benefits, with specific actions suggested for how this information may be promoted across sectors. Inclusion of this priority is in direct agreement with the UN's Sustainable Development Goal (SDG) #3: Good Health and Well-Being,⁴⁵ as well as the Bangkok Declaration on Physical Activity for Global Health and Sustainable Development,⁴⁶ the Global Action Plan on Physical Activity 2018–2030,⁴⁷ and the International Society for Physical Activity and Health (ISPAH)'s Eight Investments That Work for Physical Activity,⁴⁸ which collectively emphasize the benefits of active play for health and development and the need for play-oriented policies in order to achieve the UN's SDGs.

Actions

- Promote an understanding of the value and benefit of play for all ages and normalize outdoor play as a default behaviour for all Canadians.
- Prioritize outdoor play as an ongoing support for Canadians during, and in the eventual recovery from, the COVID-19 pandemic.

- Disseminate, mobilize and communicate the benefits of outdoor play to multiple audiences including parents, care-providers, insurers, schools, healthcare professionals, built environment professionals, recreation staff, municipalities and communities across Canada.
- Engage in cross-sectoral connections and collaborations to promote the benefits of outdoor play.
- Identify champions at community, municipal, regional and national levels, and identify funding to support these champions.
- Support, promote and build on existing campaigns that focus on the benefits of outdoor play such as Take Me Outside Day;⁴⁹ the Canadian Parks and Recreation Association (CPRA) ReImagine RREC – Renew, Retool, Engage, Contribute Report;⁵⁰ ISPAH's Eight Investments That Work for Physical Activity;⁴⁸ and the World Health Organization (WHO)'s Global Action Plan on Physical Activity 2018–2030.⁴⁷
- Recognize inequities in the quality of experiences when discussing the benefits of outdoor play; for example, outdoor play in concrete spaces, near highways, is not the same as in parks with trees.

Promote, Protect, Preserve and Invest in Outdoor Play Environments

This priority is intended to be inclusive of all outdoor spaces in which outdoor play may occur: both built environments (e.g., playgrounds, streets) and natural spaces that already exist and do not need to be built. The many factors associated with outdoor spaces (geographical, cultural, social, political, ecological), as well as differences between urban and rural, or built cities and natural environments, are important considerations for this priority and its associated actions. This priority also highlights synchronicities between outdoor play and sustainability efforts, where outdoor play environments may serve to support development of sustainable cities and communities. Accordingly, this priority is in line with the UN's SDG #11: Sustainable Cities and Communities, SDG #13: Climate Action, and SDG #15: Life on Land;⁴⁵ ISPAH's Eight Investments That Work for Physical Activity,⁴⁸ which calls for investment in active transport and active urban design; as well as a recent joint statement by the WHO, the United Nations International Children's Emergency Fund (UNICEF) and the *Lancet*,⁵¹ which highlights the importance of child-friendly city design, where neighborhoods are protected from traffic and have green spaces to promote play and outdoor physical activity across all ages.



Actions

- Promote play declarations (e.g., the Calgary Play Charter⁵²) to raise awareness of the need for policies and strategies that provide more access to, and social support for, quality play in local neighbourhoods.
- Establish policies that ensure access to natural/play areas close to where people live, and that conserve safe, active transportation routes that have come about during COVID-19. Resilient cities have built environments that make it easy to access outdoor play. Make a connection between active transportation and outdoor play within national, provincial and local active transportation strategies currently being developed.
- Promote spatial justice – the fair and equitable distribution of, and access to, safe and ethical^{53,54} outdoor space for all ages. This is particularly important in urban areas with high levels of densification, and when considering ways to support a respectful coming together of Indigenous and Western worldviews.
- Share resources and work together with regulatory and land-use planning bodies to promote and advocate for policies and licensing regulations that support quality outdoor play spaces.
- Conduct research on the effects of traffic speed, safety and risk reduction on outdoor play, and disseminate these findings to policy makers and municipal planners.
- Adopt a broader view on play environments (e.g., street play, forest play, yard play, and play spaces for all ages and abilities) to fuel research that will differentiate outdoor play patterns to create unique measurement tools and resources. Disseminate research findings to policy makers and municipal planners.
- Focus on Land-based⁵⁵ outdoor play.
- Focus on healthy communities and outdoor play; this has been recognized as a research funding priority within the Canadian Institutes of Health Research.⁵⁶
- Promote the connection of the outdoor environment with food security, home and community gardens, and protection of native plant species.
- Promote the inclusion of a diversity of plants (e.g., trees, shrubs, grasses, wildflowers) in environmental and ecological enhancement planning to enhance the health and wellness outcomes of any outdoor play space.
- Advocate for and support outdoor play actions that limit and reduce the impact of climate change and pollution on the air, water and Land.
- Promote efforts to minimize adverse impacts on habitats, ecosystems and wildlife when people are playing on the Land. Outdoor play must include an appreciation for ecosystem function, wildlife preservation and environmental sustainability.
- Accept a shared responsibility for connection and access to the Land.⁵⁴
- Identify champions (including at the community level) and catalysts to promote this priority and achieve these actions. Identify funding to support these champions.
- Include all voices in decision-making (e.g., children, youth, families, communities, leaders, advocates), while respecting principles of equity, diversity and inclusion.

Advocate for Equity, Diversity and Inclusion (EDI) in Outdoor Play

This priority is grounded in and builds upon the UN Convention on the Rights of the Child, which recognizes ‘the right of the child to rest and leisure, to engage in play and recreational activities appropriate to the age of the child and to participate freely in cultural life and the arts.’⁷ This is both a stand-alone priority and one that is embedded throughout all other priorities. It also aligns with the UN’s SDG #5: Gender Equality, and SDG #10: Reduced Inequalities,⁴⁵ as outlined in the WHO’s Global Action Plan on Physical Activity 2018–2030.⁴⁷

This priority is also in alignment with CPRA’s ReImagine RREC Report,⁵⁰ in which equity, inclusion and access are highlighted as pillars for action for the parks, recreation and community sport sector.



Actions

- Apply an EDI lens and a continuous improvement approach to every priority.
- Ensure that diverse groups are at outdoor play leadership tables, including Indigenous people, and children and youth. Include all layers of accessibility when considering this priority, including physical, visual, sensory and intellectual disabilities, and accessibility among marginalized communities.
- Assess, evaluate, preserve and improve access to sufficient, safe and high-quality outdoor play spaces, and advocate for equitable access for all. Community-building activities that aim to rehabilitate public outdoor spaces in low-income neighborhoods may be one strategy.⁵⁷
- Consider the role of the built environment in promoting EDI.
- Adopt the broadest definition of EDI, incorporating the highest level of inclusion possible in terms of gender, culture, and geographical, social, physical and spiritual factors. Have further discussions to identify other subgroups that may fall under this priority and that may feel excluded or marginalized.
- Develop inclusive Play Declarations across multiple levels of government in Canada. Ensure that governments promote and acknowledge that outdoor play is a right in all communities. Use the UN Convention on the Rights of the Child⁷ as a tool to hold our governments accountable, similar to what was done in Sweden, which adopted Right to Play into law in 2020.⁵⁸
- Consider newcomer experiences and perspectives on play to inform this priority.
- Identify champions (including at the community level) and catalysts to promote this priority and achieve these actions.
- Identify funding to support access to outdoor play environments in all weather (e.g., transportation, cold, rainy-weather gear), for all ages.

Ensure that Outdoor Play Initiatives are Land-Based and Represent the Diverse Cultures, Languages and Perspectives of Indigenous Peoples of North America



From time immemorial, Indigenous people have lived, worked and played in connection with the Land we now call Canada. Land is capitalized throughout this Report to acknowledge its importance and that it includes peoples, cultures, languages and knowledge.⁵⁵ Supporting, learning about and engaging in Indigenous-led Land-based outdoor play provides an opportunity to build trusting and respectful relationships between Indigenous and non-Indigenous peoples, move towards reconciliation, and raise the next generation of environmental stewards. This is both a stand-alone priority and one that is embedded throughout all the priorities listed in this Report. The phrasing of this priority was agreed upon by members of the *State of the Sector Report* Consultation Group who identify as Indigenous, and was based on language used in the Truth and Reconciliation Commission Report Calls to Action.⁵⁹

Actions

- Reflect on how internal practices and policies may make outdoor play organizations spaces that Indigenous Peoples want to engage with.
- Prioritize building relationships and trust with local Indigenous Peoples. Give this process time in order to nurture relationships, and ensure this is done openly, thoughtfully and without presumptions.
- Focus on creating ethical and safe spaces^{53,54} to support Indigenous and Western worldviews coming together respectfully and in a balanced way. Find ways to support these respectful partnerships.
- Engage with Indigenous communities to understand Indigenous systems and research, and what that can look like in relation to Land-based outdoor play.
- Involve Indigenous knowledge holders in guiding Land-based outdoor play.
- Strengthen the connection between outdoor play, the K-12 curriculum and First Peoples' Principles.⁶⁰
- Promote learning about Indigenous history within settler outdoor play communities, and support baseline training on cultural safety. Promote an understanding of why it is important to engage with Indigenous Peoples when talking about outdoor play on the Land.

Research and Support Data Collection on Outdoor Play

This priority focuses on gaps in knowledge related to outdoor play, and the research and data collection efforts that are needed to address those gaps. It was recognized that research and knowledge on outdoor play needs to be made accessible to governments, policy makers, educators, community organizations and the private sector; to address this, we have woven knowledge translation and mobilization efforts into the action items here, and into other priorities where relevant. This is in alignment with the mandate of the Canadian Institutes of Health Research, which focuses on ‘the creation of new knowledge and its translation into improved health for Canadians,’⁶¹ as well as action item 4.2 of the WHO’s Global Action Plan on Physical Activity 2018–2030, which focuses on enhancing population-level physical activity data collection systems.⁴⁷



Actions

- Create valid and reliable outdoor play measurement tools and resources, and promote the use of these tools to achieve greater consistency and reproducibility across research groups. Use these tools to study the characteristics of outdoor play across different outdoor spaces and population groups.
- Promote surveillance data on outdoor play that adopts an EDI lens.
- Improve the robustness of outdoor play research, with attention to detection and selection bias, transparent reporting (e.g., TIDieR Checklist for intervention descriptions, STROBE for reporting on observational studies) and pre-registration of studies.^{62,63} Review the literature on best practices for facilitating and promoting outdoor play.
- Include early childhood education (including infant and toddler care), and K-12 school-based populations in research efforts. Allow school boards, municipalities and other interested agencies to have ongoing access to this information.
- Translate research into practice. Focus on knowledge translation, dissemination, mobilization, communication and advocacy of findings.
- Consider ways to package data and develop messages and materials for multiple audiences (e.g., parents, care-providers, insurers, schools, municipalities, healthcare professionals, built environment professionals, recreation staff).
- Develop strategies to acquire resources and funding for outdoor play research.
- Support and promote research on the role of outdoor play (in all its forms) in preserving mental, social and physical health during, and in the recovery from, the COVID-19 pandemic.
- Connect researchers working on different aspects of outdoor play.
- Identify champions (including at the community level) and catalysts to promote this priority and achieve these actions.

Reframe Views on Safety and Outdoor Play

While liability and safety in outdoor play is already a prevalent topic, a priority moving forward is the reframing of the way in which liability and safety are applied to outdoor play opportunities. In other words, the way in which we provide outdoor play needs to be recalibrated so that there is a better balance between protecting against injury and promoting beneficial play opportunities. This is in alignment with the Canadian Public Health Association's Position Statement on Children's Unstructured Play, in which they recommend 'the use of risk-benefit assessment processes to mitigate play-associated liability concerns' in childcare, school and municipal settings.⁶⁴

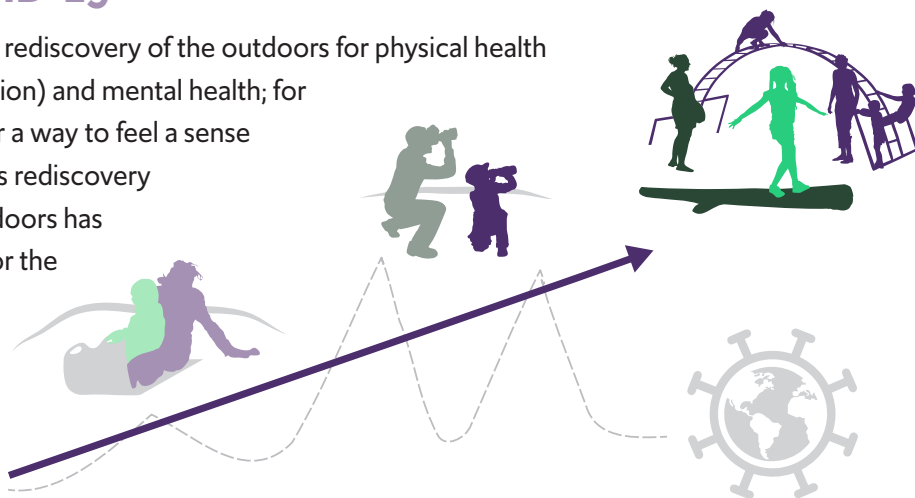


Actions

- Collaborate more with insurance agencies, the Canadian Standards Association, licensing officers, municipal leaders and outdoor play space designers, and provide education on the value of outdoor play opportunities for children as well as the cost of not having play opportunities (i.e., provide cost/benefit analyses).
- Challenge unjustifiably restrictive policies, industry standards, guidelines and practices.
- Take an assets-based approach; base decisions surrounding outdoor play on assets rather than on liabilities.⁵⁴
- Promote/develop knowledge mobilization around success items/stories that may set a precedent; demonstrate/highlight successful past practices of managing risk. For example, the National Outdoor Leadership School⁶⁵ has a rich history regarding risk management.
- Increase advocacy and awareness on the benefits of risky play. Ensure that it is common knowledge that risk is healthy and children need risk.
- Develop strategies oriented towards individual behaviour settings; for example, families may require different reframing strategies than early childhood educators and schools.
- Increase skills and knowledge in risk management. Ensure that the benefit-risk assessment process is user-friendly.
- Help ensure 'benefit' does not get lost in a risk-centric assessment orientation.
- Develop and implement strategies to address the effect of climate change on access to outdoor play; for example, air quality and hot weather may affect the assessment of benefits and risks of outdoor play over time, as well as how, where and when outdoor play may best be provided.
- Identify champions (including at the community level) and catalysts to promote this priority and achieve these actions. Identify funding to support these champions.

Leverage Engagement Opportunities with the Outdoors During and After COVID-19

The COVID-19 pandemic has led to a rediscovery of the outdoors for physical health (including lower risk of viral transmission) and mental health; for enjoyment, fun and relaxation; and for a way to feel a sense of normalcy in this strange time.³⁶ This rediscovery and renewed appreciation of the outdoors has great potential to be an accelerator for the outdoor play priorities provided here. Therefore, while this is a stand-alone priority, considerations related to COVID-19 are found in the action lists of other priorities.



Actions

- Make outdoor play a core health promotion recovery strategy for Canadians.
- Leverage the current opportunity of the pandemic to push the importance of outdoor play and recognize the advantages it can bring (such as funding opportunities). Preserve neighbourhood changes that have encouraged and facilitated spontaneous outdoor play (e.g., open streets, use of empty green space).
- Drive engagement across all age groups by connecting/collaborating with local organizations.
- Consider how the pandemic lens can inform the outdoor play strategy moving forward.
- Promote more neighbourhood planning that will support communities in the event of future health crises.
- Identify champions (including at the community level) and catalysts to promote this priority and achieve these actions.



Increase and Improve Professional Development Opportunities in Outdoor Play

There is a recognized need to increase and improve professional development opportunities in outdoor play. This includes educators (e.g., early childhood educators, elementary and secondary school educators) but also across all sectors involved in outdoor play (parents, coaches, health professionals, built environment professionals, students). Professional development opportunities are needed to help shift mindsets and provide the tools to advocate for and promote outdoor play. This priority is intended

to encapsulate the broad need for training across sectors and is in line with the UN's SDG #4: Quality Education,⁴⁵ which outlines the need to promote lifelong learning opportunities for all, as well as ISPAH's Eight Investments That Work for Physical Activity,⁴⁸ which directly references play as part of the need to invest in whole-of-school programs.

Actions

- Invest in long-term programming for practitioners that moves beyond one-time webinar/learning to a long-term learning process. This could include immersive (i.e., outdoor) full-term courses and certifications in outdoor play pedagogy, child-friendly planning and design (all of which should be accessible across a range of outdoor literacy levels), and ongoing peer mentorship opportunities.
- Make resources available, in both English and French, for educators to help them advocate for and talk about outdoor play/risk.
- Promote ethical space in Land-based outdoor play professional development initiatives, to help learners develop an understanding of the connections between Indigenous and non-Indigenous ways of knowing.⁵⁴
- Work with colleges and universities to ensure training on outdoor play is available in early childhood education programs. Several colleges across Canada have begun introducing nature- and environmental sustainability-based pedagogy into their early learning programs,⁶⁶ and more should follow suit.
- Make outdoor play professional development opportunities available to parents, volunteer coaches, municipal leaders, health professionals, built environment professionals, and students.
- Build outdoor play into the K-12 curriculum, including how to apply and extend learning outside.
- Develop a parent awareness campaign and youth engagement campaign to promote outdoor play education within communities.
- Promote coordination/collaboration among organizations, school boards, municipalities, planning and design practices, and childcare centres to achieve actual change.
- Work with staff on-site at schools, early childhood education centres, community organizations, municipalities, and planning and design practices to elevate authentic voices. For example, look to practitioners who have a background in outdoor play pedagogy or child-friendly planning and design, and who are already doing the work, as sources of information on how to bring play/teaching outdoors.
- Work with college and university educators to support them in going to early childhood education centres to work with children outdoors.
- Include children's and youth's voices in designing outdoor play spaces and pedagogy as well as child-friendly neighbourhoods, in line with the Sustainable Development Goals for Children,⁶⁷ which emphasize the importance of including children's voices when developing plans to meet these goals.
- Create child-friendly measurement tools (both qualitative and quantitative) and resources to document how children and youth learn, play and move around outdoors.

- Provide a means for stakeholders to support further research, which may then in turn influence education, planning and design (i.e., promote knowledge translation of measurement tools). Ensure that children's and youth's voices are included in this process.
- Develop mentorship positions at the school district level to coordinate information coming from the province and pass it on to teachers.
- Identify champions (including at the community level) and catalysts to promote this priority and achieve these actions. Identify funding to support these champions.

Expand and Enable Cross-Sectoral Connections/Collaborations

Outdoor play initiatives, programs and projects are found across many sectors. In order to move the above outdoor play priorities forward, we need to promote connections and collaborations across sectors so that we work together, learn from each other and amplify each other's work. As highlighted in the WHO's Global Action Plan on Physical Activity 2018–2030,⁴⁷ promoting opportunities for play may help achieve at least 13 of the UN's Sustainable Development Goals,⁴⁵ emphasizing the cross-sectoral nature and benefit of play. In fact, the importance of cross-sectoral connections is addressed directly in the 17th and final UN SDG: Partnerships for the Goals,⁴⁵ reinforcing the importance of sharing knowledge, expertise and resources to help create a healthier future for all.



Actions

- Promote connections/collaborations across sectors, levels of government, communities and countries.
- Coordinate gatherings and working groups to bring key influencers and stakeholders together to advance programmatic and built environment work.
- Develop cross-sectoral connections and identify other stakeholders that will help fuel the creation of measurement tools, and help identify resources as well as barriers and enablers of distribution and development.
- Engage champions at different levels – on the ground and in higher-up leadership positions – and identify and invite those not already at the table. Identify funding to support these champions.
- Provide peer mentorship across all sectors, so that practitioners see other people engaged in outdoor play who 'look like me,' and can receive ongoing support.

- Promote, highlight and recognize individuals who do great work in outdoor play! Celebrate them, promote their social media links, make it EASY to learn how to be an outdoor play advocate! Let others who are already doing it, help to motivate others!

Next Steps

Next Steps: Outdoor Play Champions

An important next step in moving these priorities and actions forward will be to identify champions. However, several respondents to our Stakeholder Survey commented that it was not enough to have a single champion for each priority; that *'this work cannot rest on the shoulders of a few.'* It is for this reason we emphasize the importance of engaging champions and catalysts across multiple levels so that we may collectively shift these priorities forward. Existing champion programs such as the 'inTO the Ravine Champions'⁶⁸ program by the Park People, and the soon-to-be-released International Play Association (IPA) Canada Play Champions program, are two ways in which our priority actions may be quickly realized.

Another consideration when promoting champion programs is the need to do so with EDI front of mind. The pandemic and related restrictions have shed a light on existing inequities across Canada. For example, a recent national survey conducted during the COVID-19 pandemic showed that equity-seeking groups were more likely to experience barriers to park use.⁶⁹ There is a need to support the development of leadership skills among equity-seeking groups and co-develop a path forward with EDI leaders so that, collectively, this priority becomes part of who we – OPC and the broader outdoor play sector – are.

Moreover, among our Consultation Group members who identify as Indigenous, there was concern about whether a champions program was an appropriate action when considering Land-based outdoor play that represents the diverse cultures of Indigenous Peoples. Several survey respondents added that in lieu of focusing on champions, emphasis needs to be placed on building relationships and fostering ethical spaces where Western and Indigenous worldviews can be brought together respectfully and in a balanced way. Given that elements of this priority are woven throughout all other priorities, successful relationship building with Indigenous communities and creating ethical spaces will be instrumental to the success of all priorities.

Next Steps: Promoting Reciprocity with the Land

An unexpected silver lining of the COVID-19 pandemic was that more Canadians took to the outdoors than ever before. A survey conducted by the Parks People showed that 94% of Canadian cities reported an increased use of parks during the pandemic, and 82% of people using the parks expected their current use to continue or increase.⁶⁹ Similarly, a survey conducted by Sonnet Insurance and ParticipACTION³⁶ showed that getting outdoors was the top way in which Canadians were coping through the pandemic, and being active outdoors was among the top three things Canadians placed more importance on as a result of the pandemic. This is encouraging, as it is in direct alignment with our vision that *'outdoor play is a valued part of daily life for all people living in Canada.'*

However, there is also growing concern that this re-engagement may lead to (and is already resulting in) overuse of, and damage to, natural spaces. As one respondent mentioned, and as echoed by several others: *‘We need to start talking about [health and wellbeing] in terms of reciprocity. How is being aware of and benefiting from nature also benefiting nature itself?’* As we continue to promote play outdoors and in nature for all those living in Canada, we have a responsibility to also promote reciprocity with the Land. Promoting outdoor and on-the-Land learning, at any age, will be a crucial step towards building this sense of reciprocity, as has been echoed by many.^{54,70,71} Recently, the Nova Scotia provincial government and the federal government announced a decision to set aside \$7 million to allow all public elementary schools in Nova Scotia to create new outdoor learning spaces or enhance existing ones.⁷² It is our hope that efforts such as this will continue in the long term and spur the next generation of environmental stewards.

Next Steps: Outdoor Play Funding in Canada

Another important next step is to secure funding to ensure the sustainability of the priorities listed here and to support champions in this work. The importance of funding was discussed several times in our Consultation Group meetings and was echoed by respondents in the Stakeholder Survey. In tandem with this *State of the Sector Report*, The Lawson Foundation and OPC collaborated to conduct an environmental scan of existing and potential funding opportunities for outdoor play in Canada.⁷³ Our goal was to identify key funders and stakeholders, and to bridge gaps between outdoor play and other funding issues such as education, recreation, environmentalism, health and wellbeing. Ultimately, the purpose was to connect stakeholders and funders, identify opportunities for impact, and promote investment in outdoor play in Canada.

Briefly, some of the main findings of the environmental scan include that community engagement and EDI are areas of funding opportunity and that more data and better storytelling about the value of outdoor play may help attract new funders, while providing current funders a deeper understanding of the impact they are making. Moreover, to promote collaboration and connection between funders and grant seekers (so that this relationship is not one-directional), outdoor play networks in Canada are needed. Outdoor Play Canada is one such network, but we are small and are not as well known as we need to be. There may be opportunities for us to learn from international networks such as the Blue Sky Funders Forum⁷⁴ in the US. These observations have important implications for how these priorities, and the sector more broadly, may be supported long term.

Concluding Remarks

This Report highlights the substantive momentum gained within the outdoor play sector in Canada over the past six years. We identified 364 outdoor play resource items produced in Canada and 418 academic outdoor play articles published by Canadian authors since the publication of the *Position Statement on Active Outdoor Play*,¹ including 79 items specifically produced during the COVID-19 pandemic. Moreover, in consultation with 302 outdoor play stakeholders across Canada, we identified nine major priorities for the outdoor play sector moving forward. It is our aim that by highlighting this momentum, OPC will continue its mission to bring the diversity of Canadian outdoor play stakeholders together, create a sense of community, and provide a common vision for the sector to thrive and succeed over the next five years, so that ultimately there are more people engaging in outdoor play in Canada.

Acknowledgements

Outdoor Play Canada projects and activities encompass all traditional territories of the Indigenous Nations of Turtle Island, within the Land we now call Canada.

Thank you to those within our Consultation Group (Table 1) who helped us identify the nine major priorities, the 302 individuals who completed our Stakeholder Survey (as well as the 25 individuals who wished to complete our survey but were ineligible because they were either younger than 12 years [three respondents] or did not live in Canada [22 respondents]), the 12 international colleagues who provided feedback on and endorsed the final draft (Table 2), and the 100 Stakeholder Survey respondents who agreed to review the final draft.

Finally, thank you to The Lawson Foundation, the Social Sciences and Humanities Research Council Connection Grant, and our anonymous donor for their generous support of this work.

Disclaimer

Outdoor Play in Canada: 2021 State of the Sector Report is a concise, public-facing review of evidence and proposals for future priorities and actions. While it suggests direction for the sector, it is not a prescription for outdoor play. It was designed to provide direction to be used by and for outdoor play-oriented programs, services, projects, strategies, campaigns, policies and practices. The legacy of this initiative is preserved in the *State of the Sector Report* itself (housed on the OPC website), as well as in the academic journals in which the environmental scan and scoping review will be published.

References

1. Tremblay, M. S. et al. Position statement on active outdoor play. *Int. J. Environ. Res. Public Health* 12, 6475–6505 (2015).
2. Gray, C. et al. What is the relationship between outdoor time and physical activity, sedentary behaviour, and physical fitness in children? A systematic review. *Position Statement on Active Outdoor Play* (2015) doi:10.3390/ijerph120606455.
3. Brussoni, M. et al. What is the relationship between risky outdoor play and health in children? A systematic review. *Int. J. Environ. Res. Public Health* (2015) doi:10.3390/ijerph120606423.
4. Lawson Foundation. *Lawson Foundation Outdoor Play Strategy Final Report (Philanthropic Sector)*. lawson.ca/OPS-Philanthropic-Report.pdf (2020).
5. Supreme Court of British Columbia. *Thompson v. Corp. of the District of Saanich*, 2015 BCSC 1750. (2015).
6. Google Scholar. Position statement on active outdoor play citing articles list. https://scholar.google.com/scholar?rlz=1C1VDKB_enCA927CA927&um=1&ie=UTF-8&lr&cites=13113840177140604918.
7. United Nations. United Nations Treaty Collection - Convention on the Rights of the Child. https://treaties.un.org/Pages/ViewDetails.aspx?src=IND&mtdsg_no=IV-11&chapter=4.
8. Barnes, J. D., Colley, R. C. & Tremblay, M. S. Results from the Active Healthy Kids Canada 2011 Report Card on Physical Activity for Children and Youth. *Appl. Physiol. Nutr. Metab.* 37, 793–797 (2012).
9. Barnes, J. D. et al. Results from the Active Healthy Kids Canada 2012 report card on physical activity for children and youth. *Paediatr. Child Heal.* 18 (2013).
10. United Nations Committee on the Rights of the Child. General comment No. 17 on the right of the child to rest, leisure, play, recreational activities, cultural life and the arts (art. 31). https://tbinternet.ohchr.org/_layouts/15/treatybodyexternal/TBSearch.aspx?Lang=en&TreatyID=5&DocTypeID=11 (2013).
11. *Active Canada 20/20 National Gathering: Meeting Output*. https://www.activecircle.ca/images/files/resources/National-Gathering-May-27-28-2013_Output_Final.pdf (2013).
12. Brussoni, M. et al. Can child injury prevention include healthy risk promotion? *Inj. Prev.* 21 (2015).
13. Canadian Parks Council. *Connecting Canadians with Nature: An investment in the well-being of our citizens*. https://parks-parcs.ca/wp-content/uploads/2020/09/ConnectingCanadians-English_web.pdf (2014).
14. Canadian Parks and Recreation Association/Interprovincial Sport and Recreation Council. *A Framework for Recreation in Canada - 2015 - Pathways to Wellbeing* (2015).
15. Recreation Council. *A Framework for Recreation in Canada 2015: Pathways to Wellbeing*. Ottawa. Can. Recreat. Park. Assoc. (2015).

16. ParticipACTION. *The Biggest Risk is Keeping Kids Indoors. The 2015 ParticipACTION Report Card on Physical Activity for Children and Youth*. https://participaction.cdn.prismic.io/participaction%2F61cf55e8-c1c0-42c7-ba6b-1480fd2c29b9_participaction-2015-report-card-full.pdf (2015).
17. Lawson Foundation. *Advancing Outdoor Play and Early Childhood Education: A Discussion Paper*. (2019).
18. Standing Senate Committee on Social Affairs Science and Technology. *Obesity in Canada: A Whole-of-Society Approach for a Healthier Canada*. <https://sencanada.ca/content/sen/committee/421/soci/rms/01mar16/Report-e.htm> (2016).
19. Pan-Canadian Public Health Network. *Active Outdoor Play Statement from the Council of Chief Medical Officers of Health*. <http://www.phn-rsp.ca/aop-position-jae/index-eng.php> (2018).
20. Parks Canada. *Parks for All: An Action Plan for Canada's Parks Community*. (2017).
21. Canadian Parks Conference. *Parks, Protected Areas, Open Spaces and Public Places*. (2017).
22. Child and Nature Network. *Children Need Nature, Nature Needs Kids*. (2017).
23. Children's Health and the Environment Workshop & Symposium. *Moving Research to Action for Healthy Kids*. (2017).
24. International Play Association Triennial World Conference. *Unleashing the Power of Play*. (2017).
25. Nature For All. <https://natureforall.global/>.
26. Institute for Work & Health Toronto. *Let's get moving | A common vision for increasing physical activity and reducing sedentary living in Canada | Executive*. Public Health Canada (2018).
27. Parks Canada. *The Nature Playbook - Take Action to Connect a New Generation of Canadians with Nature*. <https://parks-parcs.ca/wp-content/uploads/2020/09/nature-playbook.pdf> (2016).
28. ementalhealth.ca. *Nature and Why It's Essential for Kids' Brains: Information for Parents and Caregivers*. <https://www.ementalhealth.ca/Toronto/Nature-and-Why-Its-Essential-For-Kids-Brains-Information-for-Parents-and-Caregivers/index.php?m=article&ID=52861> (2017).
29. Child Nature Alliance of Canada. *Breath of Fresh Air Outdoor Play Summit*. (2019).
30. Barnes, J. D. *Outdoor Play Canada Launched at Breath of Fresh Air Summit*. <https://www.outdoorplaycanada.ca/2019/09/27/outdoor-play-canada-launched-at-breath-of-fresh-air-summit/> (2019).
31. Barnes, J. D. *Introducing the 2019 Outdoor Play Canada Award Winners*. <https://www.outdoorplaycanada.ca/2019/09/28/introducing-the-2019-outdoor-play-canada-award-winners/> (2019).
32. Lawson Foundation. *Lawson Foundation invests \$4.95 million in 8 demonstration projects to build adult capacity to support outdoor play in Early Learning and Child Care*. <https://lawson.ca/ops-2-0-funding-announcement-2021/> (2021).
33. PLaTO-Net. <https://www.outdoorplaycanada.ca/plato-net/> (2019).

34. de Lannoy, L., Rhodes, R., Moore, S., Faulkner, G. & Tremblay, M. S. Regional differences in access to the outdoors and outdoor play of Canadian children and youth during the COVID-19 outbreak. *Can. J. Public Heal.* 111, 988–994 (2020).
35. Caldwell, H. *et al.* 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 survey. *Submitted* (2021).
36. Sonnet Insurance and ParticipACTION. *A better way forward: how Canadians are coping during the pandemic*. <https://www.sonnet.ca/blog/lifestyle/health/how-canadians-are-coping-covid-19> (2021).
37. de Lannoy, L., Brussoni, M. & Tremblay, M. Should I go outside in the COVID-19 era? Outdoor Play Canada. <https://www.outdoorplaycanada.ca/should-i-go-outside-in-the-covid-19-era/> (2020).
38. Cowie, H. & Allan, S. *ARPA Statement on Children's Play and Municipal Parks*. <https://www.pc.gc.ca/en/voyage-travel/securite-safety/covid-19-info> (2020).
39. Lawson Foundation. *Increasing Outdoor Play in Early Learning and Child Care in the Context of COVID-19* (2020).
40. Power, M., de Lannoy, L., Brussoni, M. & Tremblay, M. *Pandemic Play: Child-Centred Policy in a Global Crisis*. <https://www.outdoorplaycanada.ca/pandemic-play-child-centred-policy-in-a-global-crisis/> (2020).
41. Qian, H. *et al.* Indoor transmission of SARS-CoV-2. *medRxiv (preprint)* (2020) doi:<https://doi.org/10.1101/2020.04.04.20053058>.
42. de Lannoy, L., MacDonald, L., Barbeau, K. & Tremblay, M. S. Environmental Scan of Outdoor Play-Based Projects, Programs, Activities and Services that Emerged in Canada in Response to the COVID-19 Pandemic and Related Restrictions. *Submitted* (2021).
43. Bowler, D. E., Buyung-Ali, L. M., Knight, T. M. & Pullin, A. S. A systematic review of evidence for the added benefits to health of exposure to natural environments. *BMC Public Health* 10 (2010).
44. Hayward, B. *The social handprint, self-transcendence and critical hope*. in *Children, Citizenship and Environment* (2020). doi:10.4324/9781003000396-8.
45. United Nations. *The sustainable development goals report 2019*. United Nations publication issued by the Department of Economic and Social Affairs (2019).
46. The Bangkok Declaration on Physical Activity for Global Health and Sustainable Development. *Br. J. Sports Med.* (2017) doi:10.1136/bjsports-2017-098063.
47. World Health Organization. *Global Action Plan On Physical Activity 2018-2030: More Active People for a Healthier World*. *J. Policy. Model.* (2018) doi:10.1016/j.jpolmod.2006.06.007.
48. Infographic. ISPAH's Eight Investments That Work for Physical Activity: Infographic, animation and call to action. *Br. J. Sports Med.* (2020) doi:10.1136/bjsports-2020-103635.
49. Harris, C. Take Me Outside. <https://takemeoutside.ca/>.

50. Canadian Parks and Recreation Association. Relmagine RREC - Renew Retool, Engage, Contribute. https://static1.squarespace.com/static/57a2167acd0f68183878e305/t/60a3bbb90d5d245c20eeaac5/1621343163094/RREC_Summary_External.pdf (2021).
51. Clark, H. et al. A future for the world's children? A WHO–UNICEF–Lancet Commission. *The Lancet* vol. 395 (2020).
52. City of Calgary. *The Calgary Play Charter*. (2017).
53. Ermine, W. The Ethical Space of Engagement. *Indig. Law J.* 6 (2007).
54. Dragon Smith, C. Creating Ethical Spaces: Opportunities to Connect with Land for Life and Learning in the NWT. *Gordon Found.* (2020).
55. Dragon Smith, C. & Grandjambe, R. To Wood Buffalo National Park, with love. *briarpatch* (2020).
56. Canadian Institutes of Health Research. Research in priority areas. <https://cihr-irsc.gc.ca/e/50077.html>.
57. Salvo, D. et al. Physical Activity Promotion and the United Nations Sustainable Development Goals: Building Synergies to Maximize Impact. *J. Phys. Act. Health* (2021).
58. Sweden Sverige. Children in Sweden. <https://sweden.se/life/society/children-in-sweden> (2020).
59. *Truth and Reconciliation Commission of Canada: Calls to Action*. Truth and Reconciliation Commission of Canada (2015).
60. First Nations Education Steering Committee. *First Peoples Principles of Learning*. <http://www.fnesc.ca/wp/wp-content/uploads/2015/09/PUB-LFP-POSTER-Principles-of-Learning-First-Peoples-poster-11x17.pdf> (2015).
61. Canadian Institutes of Health Research. Knowledge Translation at CIHR. <https://cihr-irsc.gc.ca/e/29418.html>.
62. Mygind, L. et al. Mental, physical and social health benefits of immersive nature-experience for children and adolescents: A systematic review and quality assessment of the evidence. *Heal. Place* 58, 102136 (2019).
63. Mygind, L. et al. Landscapes of becoming social: A systematic review of evidence for associations and pathways between interactions with nature and socioemotional development in children. *Environment International* vol. 146 (2021).
64. Canadian Public Health Association. *Children's Unstructured Play*. <https://www.cpha.ca/childrens-unstructured-play> (2019).
65. National Outdoor Leadership School. <https://www.nols.edu/en/>.
66. Outdoor Play Canada. Nature Based Early Learning Courses. https://www.outdoorplaycanada.ca/portfolio_page/nature-based-early-learning-courses/.
67. SDGs for Children. <https://www.sdgforchildren.org/>.
68. Park People. inTO the Ravines. <https://parkpeople.ca/opportunity/into-the-ravines/> (2021).

69. Park People. *The 2021 Canadian City Parks Report*. ccpr.parkpeople.ca/2021/ (2021).
70. Szczytko, R., Stevenson, K. T., Peterson, M. N. & Bondell, H. How combinations of recreational activities predict connection to nature among youth. *J. Environ. Educ.* (2020) doi:10.1080/00958964.2020.1787313.
71. Zimanyi, L. & Rossovskaya, O. *Who is John the Snail and When Can We Meet Him?: Parent Perspectives on Children's Engagement in a Forest Nature Program*. *J. Innov. Polytech. Edu.* (2020).
72. Education and Early Childhood Development New Outdoor Learning Fund for Nova Scotia's Elementary Schools. (2021).
73. Lawson Foundation & Outdoor Play Canada. *Funding for Outdoor Play in Canada: Environmental Scan and Summary Report*. https://www.outdoorplaycanada.ca/portfolio_page/funding-for-outdoorplay-%0Ain-canada/ (2021).
74. Blue Sky Funders Forum. <https://blueskyfundersforum.org/>.

Appendices

Appendix A: Outdoor Play in Canada: 2021 State of the Sector Report Stakeholder Survey

[Outdoor Play in Canada: 2021 State of the Sector Report Stakeholder Survey \(English\)](#)

[Sondage à propos du Rapport sur l'état du secteur du jeu à l'extérieur au Canada \(French\)](#)

Appendix B: Canadian Outdoor Play Programs, Projects and Activities During the COVID-19 Pandemic, Organized Alphabetically by Organization, as Identified in an Environmental Scan

Name	Organization	City and Province	Type of Initiative	Sector	Population	COVID-19-related actions/adaptations
Playbook 2030: A guide to building Canada's most livable region (Active City Collective, 2020)	Active City Collective	Calgary, Alberta	Report: 10-year Master Plan for the active economy	Environment, Health, Recreation	Leaders in active recreation in Calgary	The impact of the COVID-19 pandemic on the active economy is addressed as one of the major trends that will influence the future of recreation.
Virtual Roundtable Series (Peter Wall Institute for Advanced Studies, 2020)	Advancing Early Childhood Education Outdoors Now	Vancouver, British Columbia	Meeting: Webinar series	Education	Early childhood educators and researchers	This 3-part roundtable series explored licensing of outdoor early childhood education and included a discussion on the unexpected momentum for outdoor learning and play gained during the COVID-19 pandemic.
Neighborhood Adventure (Alberta Orienteering Association, 2020)	Alberta Orienteering	Alberta	Program: Resource for children and youth	Environment, Community, Health, Recreation	Children and youth	A self-guided neighbourhood adventure program to get children and youth active while practising social and physical distancing.
Coronavirus: should you let your children play with other children? (Levinson-King, 2020)	British Broadcasting Corporation	Canada	Media: Newspaper article	Community, Health	Parents and children	This Canadian-written article discussed the importance of social distancing and of following local health authority guidelines while playing during the COVID-19 pandemic.

The Summer of Free Play? (Fieber, 2020)	Canadian Broadcasting Corporation	Canada	Media: Opinion piece	Community, Recreation	Parents	This article discussed the importance of outdoor play for physical and mental health, how the COVID-19 pandemic has reduced the amount of structured play children are getting, and the importance of replacing screen time with unstructured, unsupervised play.
2020 Basecamp Conversations and COVID-19 Principles and Practices for Led Outdoor Activity (Canadian Outdoor Summit, 2020)	Canadian Outdoor Summit	Canada	Report: Guideline	Environment, Recreation	Early childhood educators, teachers, recreation leaders	A guiding document for those leading outdoor activities on how to do so safely during the COVID-19 pandemic.
Grow Alberta (Pike, 2020)	Career and Technology Centre, Calgary Board of Education	Calgary, Alberta	Project: Free seeds to learn about food security and get outdoors	Education, Environment, Recreation	Parents and children	Free seed kits were sent to families during the COVID-19 pandemic to promote getting outdoors, growing vegetables and learning about food security.
The role of play during a global pandemic (Boyd & Leo, 2020)	Centre for Active Living	Alberta	Report: Discussion of play and its importance during COVID-19	Education	Parents, early childhood educators	This article discussed the importance of play during the COVID-19 pandemic and what adults can do to support children during times of high stress and uncertainty.
Thrive Outside (Child & Nature Alliance of Canada, 2020)	Child Nature Alliance of Canada	Canada	Program: Resource for parents, educators, caregivers, community leaders	Education, Environment	Early childhood educators	An online hub, launched during the pandemic, of resources to support outdoor play and learning.
Raising Canada Reports (Children First Canada, 2020)	Children First Canada	Canada	Report: The top 10 threats to childhood	Health, Recreation	Leaders in Canada	The 2020 Raising Canada Report highlights the unprecedented impact of the COVID-19 pandemic on children and their families, including reductions in outdoor physical activities.

Raising Canada Reports Webinar 2-Part Series (Children First Canada, 2020)	Children First Canada	Canada	Meeting: Webinar	Health, Recreation	Leaders in Canada	These webinars discussed the main findings of the 2020 Raising Canada Report, including the impact of the COVID-19 pandemic on outdoor physical activities.
Canadian children's and youth's adherence to the 24-h movement guidelines during the COVID-19 pandemic: A decision tree analysis (Guerrero, Vanderloo, Rhodes et al., 2020)	Children's Hospital of Eastern Ontario (CHEO) Research Institute, Dalhousie University, ParticipACTION, University of British Columbia, University of Victoria	Canada	Report: Research publication	Health, Recreation	Parents and children, policy leaders, researchers	An exploration of children's and youth's characteristics, including time spent outdoors and in outdoor play, and their association with meeting the 24-h movement guidelines during the COVID-19 pandemic.
Regional differences in access to the outdoors and outdoor play of Canadian children and youth during the COVID-19 outbreak (de Lannoy, Rhodes, Moore et al., 2020)	Children's Hospital of Eastern Ontario (CHEO) Research Institute, Dalhousie University, ParticipACTION, University of British Columbia, University of Victoria	Canada	Report: Research publication	Health, Recreation	Parents and children, researchers, policy leaders	A survey of parents on changes in their children's time spent outdoors and in outdoor play during the COVID-19 pandemic and how this differs by region of Canada.
Healthy movement behaviours in children and youth during the COVID-19 pandemic: Exploring the role of the neighbourhood environment (Mitra, Moore, Gillespie et al., 2020)	Children's Hospital of Eastern Ontario (CHEO) Research Institute, Dalhousie University, ParticipACTION, Ryerson University, University of British Columbia, University of Victoria	Canada	Report: Research publication	Health, Recreation	Parents and children, researchers, policy leaders	An exploration of patterns of increased/decreased physical activity, sedentary and sleep behaviours among children and youth during the COVID-19 pandemic, and their association with the built environment including parks and outdoor spaces.

Impact of the COVID-19 virus outbreak on movement and play behaviours of Canadian children and youth: A national survey (Moore, Faulkner, Rhodes et al., 2020)	Children's Hospital of Eastern Ontario (CHEO) Research Institute, Dalhousie University, ParticipACTION, Ryerson University, University of British Columbia, University of Victoria	Canada	Report: Research publication	Health, Recreation	Parents and children, researchers, policy leaders	A survey of parents of children and youth aged 5-17 examining the immediate effects of the COVID-19 pandemic on movement behaviours of Canadian children and youth.
"You Can't Go to the Park, You Can't Go Here, You Can't Go There": Exploring the Parental Experiences of COVID-19 and Its Impact on Their Children's Movement Behaviours (Riazi, Wunderlich, Gierc et al., 2021)	Children's Hospital of Eastern Ontario (CHEO) Research Institute, Dalhousie University, University of British Columbia	Canada	Report: Research publication	Health, Recreation	Parents and children, researchers, policy leaders	A survey on changes in children's daily movement behaviours and outdoor play during the COVID-19 pandemic.
Canada-wide efforts to open streets to families and commuters during COVID-19 (City of Calgary, 2020)	City of Calgary	Calgary, Alberta	Program: Car-free streets	Community	Calgary residents of all ages	Select traffic lanes were blocked off to support active transportation and physical distancing.
Canada-wide efforts to open streets to families and commuters during COVID-19 (City of Edmonton, 2021)	City of Edmonton	Edmonton, Alberta	Program: Convert select streets into shared spaces	Community	Edmonton residents of all ages	Bike lanes on select streets were converted to shared space to support active transportation and physical distancing.
Canada-wide efforts to open streets to families and commuters during COVID-19 (Brand, 2020)	City of Halifax	Halifax, Nova Scotia	Program: Increase active transportation routes	Community	Halifax residents of all ages	A motion was passed to increase active travel routes to support active transportation and physical distancing.
Canada-wide efforts to open streets to families and commuters during COVID-19 (Walker, 2020)	City of Moncton	Moncton, New Brunswick	Program: Open parks and trails with one-way paths	Community	Moncton residents of all ages	All parks and trails remained open with one-way routes on park paths to support physical distancing.

Canada-wide efforts to open streets to families and commuters during COVID-19 (Ville de Montréal, 2020)	City of Montreal	Montreal, Quebec	Program: Active and family streets	Community	Montreal residents of all ages	Select streets in the city were blocked off to allow individuals and families to get active outdoors, while adhering to physical distancing guidelines.
Canada-wide efforts to open streets to families and commuters during COVID-19 (Willing, 2020)	City of Ottawa	Ottawa, Ontario	Program: Convert select streets to local traffic only	Community	Ottawa residents of all ages	Select streets were restricted to local car traffic only to support active transportation and physical distancing.
Canada-wide efforts to open streets to families and commuters during COVID-19 (Tourism Saskatchewan, 2020)	City of Regina	Regina, Saskatchewan	Program: Open trails with one-way paths	Community	Regina residents of all ages	Wascana Lake Loop was turned into a one-way path to promote active transportation and physical distancing.
Canada-wide efforts to open streets to families and commuters during COVID-19 (City of Toronto, 2021)	City of Toronto, ActiveTO	Toronto, Ontario	Program: Car-free streets	Community	Toronto residents of all ages	Signage and temporary barricades were placed at intersections across the city to encourage slower vehicle speeds and reduce vehicle access to promote outdoor recreation.
Coronavirus: is it safe for my kids to play outside with friends? (Gawley, 2020)	City of Vancouver	Vancouver, British Columbia	Media: Newspaper article	Community, Health	Parents	This article highlighted the importance of encouraging children's outdoor play during the COVID-19 pandemic.
Canada-wide efforts to open streets to families and commuters during COVID-19 (Bains, 2020)	City of Victoria	Victoria, British Columbia	Program: Increase active transportation routes	Community	Victoria residents of all ages	Active transportation routes were expanded to support physical distancing.
Canada-wide efforts to open streets to families and commuters during COVID-19 (City of Winnipeg, 2020)	City of Winnipeg	Winnipeg, Manitoba	Program: Restrict car traffic on select streets	Community	Winnipeg residents of all ages	Select streets were restricted to local car traffic only to support active transportation and physical distancing.
Virtual Summer Camp Program (The Council of Outdoor Educators of Ontario, 2021)	Council of Outdoor Educators of Ontario	Ontario	Resource: Virtual camp ideas to support children during the summer of 2021	Recreation	Parents, program providers	A virtual meeting to support summer program providers and parents in providing remote camp experiences over the summer of 2021.

Child Physical Activity during COVID-19 (Healthy Populations Institute, 2021)	Dalhousie University	Canada	Media: Whiteboard video	Health, Recreation	Parents	A series of 5 whiteboard animation videos focused on 'Staying Healthy During a Pandemic' describing how the COVID-19 pandemic is impacting children and their movement, especially outdoors.
Outdoor classrooms to reduce viral transmission risk (Equinox Holistic Alternative School, 2020)	Equinox Holistic Alternative School	Toronto, Ontario	Program: Outdoor classrooms	Education	Early childhood educators, teachers	This school moved classes outdoors to reduce risk of COVID-19 transmission.
COVID-19 resources for parents and teachers (Ever Active Schools, 2021)	Ever Active Schools	Edmonton, Alberta	Project: Resources for outdoor play and learning	Education, Health	Parents, teachers, early childhood educators	A compilation of resources (expanded during the COVID-19 pandemic) including YouTube playlists of activities, lesson plans and recommendations for outdoor play.
Exploring loose parts play at home (Ever Active Schools, 2020)	Ever Active Schools	Edmonton, Alberta	Project: Resource for loose parts play	Education, Recreation	Parents, teachers, early childhood educators	A resource including facts, tips and suggested materials for loose parts play to support children at home during the COVID-19 pandemic.
Statement on Recess (Global Recess Alliance, 2020)	Global Recess Alliance	Canada	Report: Statement on the importance of recess	Health, Recreation	School leaders	A statement outlining the importance of preserving recess during the COVID-19 pandemic.
Physical activity – the forgotten core area of child development during the pandemic (Vaillancourt, 2021)	Globe and Mail	Canada	Media: Opinion piece	Health, Recreation	Government leaders, parents	Op-ed article describing the disproportionate impact of COVID-19-related restrictions on children and youth.

Risk mitigation tool for child and youth settings operating during the COVID-19 pandemic (Government of Canada, 2020)	Government of Canada	Canada	Report: Tool for child and youth settings operating during COVID-19	Education, Health	Early childhood educators	A tool for use in child and youth settings, which includes recommendations to bring learning and play outdoors to reduce COVID-19 transmission risk.
Risk mitigation tool for outdoor recreation spaces and activities operating during the COVID-19 pandemic (Government of Canada, 2020)	Government of Canada	Canada	Report: Tool for parks and outdoor recreation facilities operating during COVID-19	Environment, Health	Recreation leaders	A tool to assist those responsible for parks and outdoor recreation facilities and programming in minimizing COVID-19 transmission risk.
World COVID-19 Survey on Access to Play (Gill & Miller, 2020)	International Play Association	Canada, international	Report: Study on impact of COVID-19 on children's play internationally	Health	Government leaders, parents	Global study on the impact of the COVID-19 pandemic on children's play and comparing measures across countries.
Increasing Outdoor Play in Early Learning and Child Care in the Context of COVID-19 (Lawson Foundation, 2020)	Lawson Foundation	Canada	Report: Recommendations for reopening children's education settings	Community, Health	Government leaders, early childhood educators	Report with recommendations for reopening children's settings with a focus on outdoor play to reduce COVID-19 transmission risk.
COVID-19 Full Report Child and Youth Well-Being (Maximum City, 2020)	Maximum City	Canada	Report: Survey results and recommendations	Health	Parents	Survey of Canadian children and youth to understand the impacts of the COVID-19 pandemic on their health, highlighting the importance of outdoor play for overall health.
Nature Homeschool (Nature Canada, 2020)	Nature Canada	Canada	Project: Resources for educators, leaders and learners to help connect with nature	Education, Environment, Health	Teachers, early childhood educators, leaders, parents	A library of diverse resources to help educators, caregivers, guardians, community leaders and learners learn and connect with nature while working and learning from home.

Webinar series on outdoor play and education during COVID-19 (Toronto District School Board, 2021)	Ontario Institute for Studies in Education – Environmental and Sustainability Education (OISE-ESE)	Toronto, Ontario	Meeting: Webinar series	Education	Early childhood educators, teachers, parents	A series of webinars to help shift environmental learning online during the COVID-19 pandemic.
Learning and Connecting through Play on the Land blog (Ottawa Forest and Nature School, 2020)	Ottawa Forest and Nature School	Ottawa, Ontario	Project: Blog	Education, Environment	Teachers, early childhood educators	A regular blog started at the beginning of the COVID-19 pandemic with recommendations for educators on how to support outdoor learning.
Being Active During COVID-19 (Ottawa Public Health, 2021)	Ottawa Public Health	Ottawa, Ontario	Report: Guideline	Health	Ottawa residents of all ages	Guidelines on how to safely be active outside and appropriate activities to reduce COVID-19 transmission risk.
Get Outside and Play! (Tremblay, 2021)	Outdoor Play Canada	Canada	Report: Blog post	Health, Recreation	Policy leaders, residents of all ages	A statement discussing the importance of getting outside and active during the COVID-19 pandemic.
Outdoor Play Strategy 2.0 project (Outdoor Play Canada, 2021)	Outdoor Play Canada	Canada	Report: OPC 2.0 Strategy	Health, Recreation	Policy leaders, teachers, early childhood educators, researchers	An outline of OPC's strategic priorities moving forward, including how OPC has served as a central portal of information on outdoor play during the COVID-19 pandemic.
Pandemic Play (Power, de Lannoy, Brussoni et al., 2021)	Outdoor Play Canada	Canada	Report: Call to action	Health, Recreation	Policy leaders	A call to action for policy makers to preserve access to outdoor space and balance the priority of reducing COVID-19 transmission with the need to help Canadians maintain their health.
Reconceptualizing play across the lifespan (Bauer, 2020)	Outdoor Play Canada	Canada	Report: Blog post	Health, Recreation	Residents of all ages	A blog post discussing the importance of outdoor play for all ages, especially during the COVID-19 pandemic.

Reopening Canada to the outdoors and nature (de Lannoy, 2020)	Outdoor Play Canada	Canada	Report: Blog post	Environment, Recreation	Policy leaders, Canadian residents	A blog post outlining the different COVID-19 pandemic provincial and territorial plans related to opening/closing of parks and outdoor recreational spaces.
Should I go outside in the COVID-19 era? (de Lannoy, Brussoni & Tremblay, 2020)	Outdoor Play Canada	Canada	Report: Statement	Health, Recreation	Residents of all ages	A statement discussing the importance of getting outside and active during the COVID-19 pandemic.
6 things we need in Canadian urban parks in 2021 (Park People 2021)	Park People	Canada	Report: Research findings and recommendations	Environment, Recreation	Policy leaders, recreation leaders	A compilation of research and recommendations for Canadian city parks to create safe and equitable access, highlighting learning from the COVID-19 pandemic.
2019-2020 Impact Report (ParticipACTION, 2020)	ParticipACTION	Canada	Report: 2019-2020 Impact Report	Health, Recreation	Policy leaders, recreation leaders, residents of all ages	Report discussing the impact of ParticipACTION initiatives, including those adapted to adhere to public health restrictions.
The Great Big Move (ParticipACTION, 2021)	ParticipACTION	Canada	Program: Virtual challenge	Environment, Recreation	Residents of all ages, parents and children	A challenge wherein participants gather a team and virtually explore Canadian destinations (given travel restrictions), log move minutes and unlock milestones to win a prize.
Sport Community Town Hall with Minister Guilbeault (de Lannoy, 2020)	ParticipACTION, Government of Canada	Canada	Meeting: Town hall	Health, Recreation	Policy leaders	A Sport Community Town Hall to hear proposals on how Canada can assist with the sport community's recovery from the impact of the COVID-19 pandemic; OPC submitted a proposal on the importance of outdoor play as part of this recovery strategy.

But What About Recess? Planning Safe and Effective Recess Experiences in the Time of COVID-19 (Physical Health Education Canada, 2020)	Physical Health Education (PHE) Canada	Canada	Meeting: Webinar	Education, Recreation	Policy leaders, teachers, early childhood educators	A webinar in which experts discussed strategies and approaches for safe and meaningful return to school and recess.
Play Outdoors Magazine (Play Outdoors Magazine, 2020)	Play Outdoors Magazine	Canada	Media: Magazine	Education, Recreation	Teachers, early childhood educators, researchers	A magazine with strategies and resources on how to support outdoor play and learning, particularly during the COVID-19 pandemic.
COVID-19 Guidance for Schools Kindergarten to Grade 12 (Government of Canada, 2021)	Public Health Agency of Canada	Canada	Project: Guidelines	Education, Health	School administrators, teachers, early childhood educators, public health authorities	Guidance for school administrators and public health authorities to support classes and mitigate risks associated with the resumption of in-school classes during the COVID-19 pandemic.
Free Virtual School Program (Recess Guardians, 2020)	Recess Guardians	Canada	Media: Video modules, communication boards, resources	Education, Recreation	Children and youth, teachers, parents	Video modules (brought online because of the pandemic) to empower youth, teacher-to-teacher communication boards, resources for teachers and parents to engage their youth, with ongoing outdoor weekly challenges.
Youth to Youth (Y2Y) (Right to Play, 2020)	Right to Play	Toronto, Ontario	Program: Games, music, etc. to help children gain critical skills	Education, Recreation	School administrators, teachers, early childhood educators	A program that uses play to support young people living in Toronto to develop skills and confidence to rise above adversity; focused on remote resources to support learning from home during the COVID-19 pandemic.
Room to play consulting (Zeni, 2020)	Room to play consulting	Canada	Program: Professional development resource for teachers	Education, Health	Teachers	Professional development resource for teachers on outdoor play-based curriculums, loose parts play, risky play, and COVID-19 specific strategies for teaching.

Adventure Calendar (Saskatchewan in Motion, 2020)	Saskatchewan in Motion	Canada	Program: Calendar with daily adventure ideas	Recreation	Parents and children	A calendar with ideas for different daily adventures that require minimal supplies and adhere to public health guidelines.
Activity Finder (Scouts Canada, 2021)	Scouts Canada	Canada	Program: Webpage with hundreds of activity resources	Recreation	Parents, children and youth	A resource with hundreds of ideas for outdoor activities sorted by age, length, season and program area that adhere to public health guidelines.
Let the Children Play: Getting children and youth outdoors now for an active recovery (SickKids, NCFST & FIFSW, 2021)	SickKids, Native Child and Family Services Toronto, University of Toronto	Ontario	Report: Call to Action Report	Health	Policy Leaders	A call to action to the Ontario government to prioritize children's health and wellbeing by supporting outdoor physical activity and play.
Going Wild Program (Sierra Club BC, 2015)	Sierra Club	Victoria, British Columbia	Meeting: Workshops	Education, Environment	Parents, teachers, early childhood educators	Free environmental education workshops provided online and in-person while adhering to public health guidelines.
Walking Curriculum: An initiative for educators to take learning outside for part of the day for 30 days (SFU Faculty of Education, 2021)	Simon Fraser University, Faculty of Education	Canada	Program: School Challenge	Education, Environment	Teachers, early childhood educators	A friendly challenge for teachers to take students outdoors every day for 30 days, with an emphasis this year on the benefit of reducing COVID-19 transmission risk.
Exercise and screen time during the COVID-19 pandemic (Colley, Bushnik & Langlois, 2020)	Statistics Canada	Canada	Report: Survey results	Health	Residents of all ages, policy leaders	A series of surveys with Canadians on the impacts of the COVID-19 pandemic on screen time and sedentary behaviour.
Take Me Outside 2020 Impact Report (Take Me Outside, 2020)	Take Me Outside	Canada	Report: 2020 Impact Report	Health, Recreation	Policy leaders	A report on Take Me Outside initiatives in 2020, highlighting the importance of getting outdoors during the COVID-19 pandemic.
As schools reopen, will this be the least fit generation of kids? (Reilly & Tremblay, 2020)	The Conversation	Canada	Media: Opinion piece	Health, Recreation	Policy leaders, parents	An article discussing the impacts of COVID-19 restrictions on the overall health of children.

Free Range Kids (Riazi & Faulkner, 2020)	The Conversation	Canada	Media: Opinion piece	Health, Recreation	Policy leaders, parents and children	An article discussing the grades children received on the ParticipACTION 2020 Report Card, highlighting the importance of getting outdoors during the COVID-19 pandemic to promote physical activity.
Rewild your kids (Reilly & Tremblay, 2021)	The Conversation	Canada	Media: Opinion piece	Health, Recreation	Policy leaders, parents	An article discussing the benefits of outdoor play and physical activity for children and why it should be a priority post-pandemic.
The Great Canadian Hike (The Great Trail of Canada, 2020)	The Great Trail	Canada	Program: Virtual challenge	Environment, Recreation	Residents of all ages, parents and children	A virtual challenge to share experiences hiking new areas of the Great Trail in Canada to encourage outdoor physical activity during the COVID-19 pandemic.
Young Canadians Roundtable on Health (YCRH) Webinar Series (The Sandbox Project, 2020)	The Sandbox Project	Canada	Meeting: Webinar series	Education, Health	School administrators, teachers, early childhood educators	A webinar series on how to cope with the COVID-19 pandemic as a family through engaging in physical activity and healthy eating.
National Guidelines: Responsible Trail Operations and Visitation During the COVID-19 Pandemic (Trans Canada Trail, 2020)	Trans Canada Trail	Canada	Report: Guideline	Environment, Recreation	Residents of all ages	A guideline and toolkit for operating trails while mitigating COVID-19 transmission risk.
Jouer dehors pendant la crise Covid-19: risques ou bénéfices pour la santé? (Frohlich, Brussoni & St-Arneault, 2020)	Université de Montréal	Canada	Meeting: Webcast	Health, Recreation	Policy leaders	A webinar discussing the consequences of physical distancing on families' ability to get active.

Why COVID-19 loneliness can be especially hard on teens (Mcmaster, 2020)	University of Alberta Folio Journal	Alberta	Media: Blog post/ news article	Health	Policy leaders, parents	An article discussing the impacts of COVID-19 restrictions on the mental health of teenagers and the importance of getting into nature for health.
Parent anxiety and perceptions of their child's physical activity and sedentary behaviour during the COVID-19 pandemic in Canada (McCormack, Doyle-Baker, Peterson et al., 2020)	University of Calgary, Waseda University, Brock University	Canada	Report: Research publication	Health, Recreation	Parents and children, researchers, policy leaders	An exploration of the association between parent COVID-19 pandemic anxiety and the physical activity and sedentary behaviours of school-aged children.
The Impact of COVID-19 on Health Behaviour, Stress, Financial and Food Security among Middle to High Income Canadian Families with Young Children (Carroll, Sadowski, Laila et al., 2020)	University of Guelph	Canada	Report: Research publication	Health, Recreation	Parents and children, researchers, policy leaders	A survey of parents and their children on changes in physical activity, sleep, screen time and dietary habits during the COVID-19 pandemic.
Guided Family Hikes (West Hants Parks and Recreation, 2020)	West Hants Parks and Recreation	West Hants, Nova Scotia	Program: Guided hikes	Environment, Recreation	Residents of all ages, parents and children	Guided hikes provided to family 'bubbles' to increase outdoor physical activity during the COVID-19 pandemic.
Outdoor Lessons and Blogs (Wild About Vancouver, 2021)	Wild About Vancouver	Vancouver, British Columbia	Program: Resources for Canadians to get active while at home	Education, Environment Recreation	Parents and children	A series of outdoor lessons and blogs to help support Canadians in getting active while at home.
Play & Resiliency During COVID-19 (World Urban Parks, 2020)	World Urban Parks Webinar	Canada	Meeting: Webinar	Health, Recreation	Policy leaders	A webinar presented by OPC discussing outdoor play and resiliency during the COVID-19 pandemic.

Table References

1. Active City Collective. (2020). *Playbook 2030 A Guide to Building Canada's Most Liveable Region*. <https://static1.squarespace.com/static/5a668a99bce1765a27495af0/t/5fc14fdf4e98326c024109a0/1606504451803/Playbook+2030+FINAL-compressed.pdf>
2. Alberta Orienteering Association. (n.d.). *Neighbourhood Adventure*. Retrieved June 14, 2021, from <https://www.orienteeringalberta.ca/neighbourhood-adventure.html>
3. Bains, M. (2020, May 15). B.C. cities expand street space for cyclists, pedestrians due to COVID-19. *CBC News*. <https://www.cbc.ca/news/canada/british-columbia/b-c-cities-expand-street-space-for-cyclists-pedestrians-due-to-covid-19-1.5570979>
4. Bauer, M. E. E. (2020, April 14). *Re-Conceptualizing Play Across the Lifespan*. Outdoor Play Canada. <https://www.outdoorplaycanada.ca/2020/04/14/re-conceptualizing-play-across-the-lifespan/>
5. Boyd, K., & Leo, J. (2020, May 8). The role of play during a global pandemic. *Centre for Active Living*. <https://www.centre4activeliving.ca/news/2020/05/play-during-global-pandemic/>
6. Brand, M. (2020, April 29). Active Transportation motion passes but with bumps in the road. *Halifax Today*. <https://www.halifaxtoday.ca/local-news/active-transportation-motion-passes-but-with-bumps-in-the-road-2291066>
7. Canadian Outdoor Summit. (2020, April 9). *Launching Basecamp Conversations*. <https://canadianoutdoorsummit.com/2020/04/09/launching-basecamp-conversations/>
8. Carroll, N., Sadowski, A., Laila, A., Hruska, V., Nixon, M., Ma, D. W. L., & Haines, J. (2020). The impact of covid-19 on health behavior, stress, financial and food security among middle to high income canadian families with young children. *Nutrients*, 12(8). <https://doi.org/10.3390/nu12082352>
9. Child & Nature Alliance of Canada. (n.d.). *Thrive Outside*. Retrieved June 14, 2021, from <https://childnature.ca/thriveoutside/>
10. Children First Canada. (2020). *Top 10 Threats to Childhood in Canada and the Impact of COVID-19*. https://childrenfirstcanada.org/wp-content/uploads/2021/03/RaisingCanadaReport_Final_Sept.pdf
11. Children First Canada. (2020, October 1). *Raising Canada Digital Event*. <https://childrenfirstcanada.org/videos/raising-canada-digital-event-part-1/>
12. City of Calgary. (n.d.). *City of Calgary - Response to COVID-19*. Retrieved June 14, 2021, from <https://www.calgary.ca/csps/cema/covid19/response-to-coronavirus.html>
13. City of Toronto. (2021, June 14). *COVID-19: ActiveTO - Closing Major Roads*. <https://www.toronto.ca/home/covid-19/covid-19-protect-yourself-others/covid-19-reduce-virus-spread/covid-19-activeto/covid-19-activeto-closing-major-roads/>
14. City of Winnipeg. (n.d.). *COVID-19 Affected programs & services*. Retrieved June 14, 2021, from <https://winnipeg.ca/emergweb/covid-19/affected-programs-services.stm>
15. Colley, R. C., Bushnik, T., & Langlois, K. (2020). *Exercise and screen time during the COVID-19 pandemic*.
16. de Lannoy, L., Rhodes, R., Moore, S., Faulkner, G., & Tremblay, M. S. (2020). Regional differences in access to the outdoors and outdoor play of Canadian children and youth during the COVID-19 outbreak. *Canadian Journal of Public Health*, 111(6), 988–994.
17. de Lannoy, L. (2020, April 27). *Reopening Canada to the Outdoors and Nature*. Outdoor Play Canada. <https://www.outdoorplaycanada.ca/2020/04/27/reopening-canada-to-the-outdoors-and-nature/>

18. de Lannoy, L., Brussoni, M., & Tremblay, M. (n.d.). *Should I go outside in the COVID-19 era?* Outdoor Play Canada. Retrieved June 15, 2021, from <https://www.outdoorplaycanada.ca/should-i-go-outside-in-the-covid-19-era/>
19. de Lannoy, L. (2020, September 30). *Sport Community Town Hall with Minister Guilbeault*. Outdoor Play Canada. <https://www.outdoorplaycanada.ca/2020/09/30/sport-community-town-hall-with-minister-guilbeault/>
20. Equinox Holistic Alternative School. (n.d.). *Welcome to Our School*. Retrieved June 14, 2021, from <https://equinoxschool.ca>
21. Ever Active Schools. (2021). *COVID-19 Resources and Supports*. <https://everactive.org/covid19-resources/>
22. Ever Active Schools. (n.d.). *Exploring Loose Parts Play at Home*. Retrieved June 14, 2021, from <https://everactive.org/blog/loose-parts-play-at-home/>
23. Fieber, P. (2020, July 20). Why COVID-19 may bring us the summer of free-range kids. *Canadian Broadcasting Corporation*.
24. Frohlich, K., Brussoni, M., & St-Arneault, K. (2020, April 2). *Jouer dehors pendant la crise Covid-19: risques ou bénéfices pour la santé?* Ecole de Santé Publique de l'Université de Montréal. <https://www.youtube.com/watch?v=GSEIDv2xdCM&t=5s>
25. Gawley, K. (2020, May 26). Coronavirus: Is it safe for my B.C. kid to play outside with friends? *NEWS 1130*. <https://www.citynews1130.com/2020/05/26/coronavirus-is-it-safe-for-my-b-c-kid-to-play-outside-with-friends/>
26. Gill, T., & Miller, R. M. (2020). *Play in Lockdown: An international study of government and civil society responses to Covid-19 and their impact on children's play and mobility*. <https://ipaworld.org/wp-content/uploads/2020/08/IPA-Covid-report-Final.pdf>
27. Global Recess Alliance. (2020). *Statement on Recess*. <https://globalrecessalliance.org/recess-statement/>
28. Government of Canada. (2020). *Risk mitigation tool for child and youth settings operating during the COVID-19 pandemic*. <https://www.canada.ca/en/public-health/services/diseases/2019-novel-coronavirus-infection/guidance-documents/covid-19-risk-mitigation-tool-child-youth-settings-operating-during-pandemic.html>
29. Government of Canada. (2020). *Risk mitigation tool for outdoor recreation spaces and activities operating during the COVID-19 pandemic*. <https://www.canada.ca/en/public-health/services/diseases/2019-novel-coronavirus-infection/guidance-documents/risk-mitigation-tool-outdoor-recreation-spaces-activities-operating-covid-19.html>
30. Government of Canada. (2021). *COVID-19 guidance for schools Kindergarten to Grade 12*. <https://www.canada.ca/en/public-health/services/diseases/2019-novel-coronavirus-infection/health-professionals/guidance-schools-childcare-programs.html>
31. Guerrero, M. D., Vanderloo, L. M., Rhodes, R. E., Faulkner, G., Moore, S. A., & Tremblay, M. S. (2020). Canadian children's and youth's adherence to the 24-h movement guidelines during the COVID-19 pandemic: A decision tree analysis. *Journal of Sport and Health Science*, 9(4), 313–321. <https://www.sciencedirect.com/science/article/pii/S2095254620300715>
32. Healthy Populations Institute. (2021, January 20). *Staying Healthy During a Pandemic*. YouTube. https://www.youtube.com/watch?v=-TZpjumGyPg&list=PL3It9lAhg3cqyBVPEugm3quI_HMpb_cb3&index=1

33. Lawson Foundation. (2020). *Increasing Outdoor Play in Early Learning and Child Care in the Context of COVID-19*. <https://www.lawson.ca/op-elcc-covid19.pdf>
34. Levinson-King, R. (2020, March 18). Coronavirus: Should you let your children play with other children? *British Broadcasting Corporation*. <https://www.bbc.com/news/world-us-canada-51938537>
35. Maximum City. (2021). *COVID-19 Child and Youth Study: The Role of Play and Outdoor Space*. https://static1.squarespace.com/static/5a7a164dd0e628ac7b90b463/t/6053601208bc3850abd83bcf/1616076821403/COVID-19+Child+and+Youth+Study+_PLAY+AND+OUTDOOR+SPACE+REPORT+v2.pdf
36. McCormack, G. R., Doyle-Baker, P. K., Petersen, J. A., & Ghoneim, D. (2020). Parent anxiety and perceptions of their child's physical activity and sedentary behaviour during the COVID-19 pandemic in Canada. *Preventive Medicine Reports*, 20. <https://doi.org/10.1016/j.pmedr.2020.101275>
37. McMaster, G. (2020, May 4). Why COVID-19 loneliness can be especially hard on teens. *University of Alberta*. <https://www.ualberta.ca/folio/2020/05/why-covid-19-loneliness-can-be-especially-hard-on-teens.html>
38. Mitra, R., Moore, S., Gillespie, M., Faulkner, G., Vanderloo, L., Chulak-Bozzer, T., Rhodes, R., Brussoni, M., & Tremblay, M. S. (2020). Healthy movement behaviours in children and youth during the COVID-19 pandemic: Exploring the role of the neighbourhood environment. *Health Place*, 65(102418).
39. Moore, S., Faulkner, G., Rhodes, R., Brussoni, M., Chulak-Bozzer, T., Ferguson, L., Mitra, R., O'Reilly, N., Spence, J., Vanderloo, L., & Tremblay, M. (2020). Impact of the COVID-19 virus outbreak on movement and play behaviours of Canadian children and youth: a national survey. *Submitted*.
40. Nature Canada. (n.d.). *Welcome to Nature HomeSchool*. Retrieved June 15, 2021, from <https://naturecanada.ca/enjoy-nature/your-naturehood/nature-homeschool/>
41. Ottawa Forest and Nature School. (n.d.). *Nurturing Health, Connection and Learning: Through Play on the Land*. Retrieved June 15, 2021, from <https://playontheland.blogspot.com/p/taking-learning-outside.html>
42. Ottawa Public Health. (2021). *Sports, Recreation and Being Active During COVID-19*. <https://www.ottawapublichealth.ca/en/public-health-topics/sports-recreation-and-being-active-during-covid-19.aspx>
43. Outdoor Play Canada. (2021). *OPS 2.0 Strategy*. <https://www.outdoorplaycanada.ca/wp-content/uploads/2021/02/OPC-OPS-2.0.pdf>
44. Park People. (2021, February 2). *Six Things We Need More of in Canadian City Parks in 2021*. <https://parkpeople.ca/2021/02/02/six-things-we-need-more-of-in-canadian-city-parks-in-2021/>
45. ParticipACTION. (2020). *Impact Report*. <https://www.participaction.com/en-ca/content/impact-report>
46. ParticipACTION. (2021). *ParticipACTION App*. <https://www.participaction.com/en-ca/programs/app>
47. Peter Wall Institute for Advanced Studies. (2020). *Advancing Early Childhood Education Outdoors Now Virtual Roundtables*. <https://eceanow.pwias.ubc.ca>
48. Physical and Health Education Canada. (2020, August 31). *But What About Recess? Planning Safe and Effective Recess Experiences in the Time of COVID 19*. <https://www.youtube.com/watch?v=9hgK53qwkkg>

49. *Play Outdoors Magazine*. (n.d.). Retrieved June 15, 2021, from <https://playoutdoorsmagazine.ca>
50. Pike, H. (2020, May 10). Idea grows from seed to student-led movement to get youth gardening. *CBC News*. <https://www.cbc.ca/news/canada/calgary/calgary-seed-kits-student-led-initiative-to-grow-1.5560629#:~:text=Now%2C%20seven%20schools%20in%20Calgary,and%20learning%20about%20food%20security>.
51. Power, M., de Lannoy, L., Brussoni, M., & Tremblay, M. (2020). *Pandemic Play: Child-Centred Policy in a Global Crisis*. <https://www.outdoorplaycanada.ca/pandemic-play-child-centred-policy-in-a-global-crisis/>
52. Recess Guardians. (2020). *Free Leadership School Program*. <https://www.recessguardians.org/school-program>
53. Reilly, J. J., & Tremblay, M. S. (2020, September 8). As schools reopen, will this be the least fit generation of schoolchildren ever? *The Conversation*. <https://theconversation.com/as-schools-reopen-will-this-be-the-least-fit-generation-of-schoolchildren-ever-145492>
54. Reilly, J. J., & Tremblay, M. S. (2021, March 11). Rewild your kids: Why playing outside should be a post-pandemic priority. *The Conversation*. <https://theconversation.com/rewild-your-kids-why-playing-outside-should-be-a-post-pandemic-priority-156077>
55. Riazi, N. A., Wunderlich, K., Gierc, M., Brussoni, M., Moore, S. A., Tremblay, M. S., & Faulkner, G. (2021). “You Can’t Go to the Park, You Can’t Go Here, You Can’t Go There”: Exploring Parental Experiences of COVID-19 and Its Impact on Their Children’s Movement Behaviours. *Children*, 8(3). <https://doi.org/10.3390/children8030219>
56. Riazi, N., & Faulkner, G. (2020, June 29). Free-range kids: Why a child’s freedom to travel and play without adult supervision matters. *The Conversation*. <https://theconversation.com/free-range-kids-why-a-childs-freedom-to-travel-and-play-without-adult-supervision-matters-132243>
57. Right to Play. (2020). *Youth to Youth*. <https://righttoplay.ca/en-ca/national-offices/national-office-canada/get-involved/y2y-10-year-timeline/>
58. Saskatchewan in Motion. (n.d.). *Adventure Calendar*. Retrieved June 15, 2021, from <http://calendar.saskatchewaninmotion.ca>
59. Scouts Canada. (2021). *Activity Finder*. <https://www.scouts.ca/resources/activity-finder.html>
60. SFU Faculty of Education. (2021). *The Walking Curriculum Challenge Spring 2021*. <http://www.circesfu.ca/practice/ecological-place-based-education/the-walking-curriculum-challenge-spring-2021/>
61. SickKids, NCFST, & FIFSW. (2021). *Let the children play: Getting children and youth outdoors now for an active recovery*. <https://www.sickkids.ca/siteassets/news/news-archive/2021/let-children-play-call-to-action.pdf>
62. Sierra Club BC. (2015). *Going Wild! Teaching about Wild Products from BC’s Coastal Rainforests*. <https://sierraclub.bc.ca/wp-content/uploads/Going-Wild-Guidebook.pdf>
63. Take Me Outside. (2020). *2020 Impact Report*. <https://www.dropbox.com/s/rsy0xh3lcfnxwer/TMO%20Report%202020%20v3.pdf?dl=0>
64. The City of Edmonton. (2021). *COVID-19 Updates*. https://www.edmonton.ca/programs_services/emergency_preparedness/covid-19.aspx
65. The Council of Outdoor Educators of Ontario. (2021). *2021 Webinar Series*. <https://www.coco.org/virtual-conference/>

66. The Great Trail of Canada. (2020). *Great Canadian Hike*. <https://greatcanadianhike.ca>
67. The Sandbox Project. (2020). *The Young Canadians Roundtable on Health*. <http://sandboxproject.ca/news/2020/8/27/webinar-registration-the-ycrh-series-coping-with-covid-19-as-a-family>
68. Toronto District School Board. (2021). *Environmental Education Webinars*. <https://www.tdsb.on.ca/ecoschools/Home/Environmental-Education-Webinars>
69. Tourism Saskatchewan. (n.d.). *COVID-19 Information*. Retrieved June 14, 2021, from <https://www.tourismsaskatchewan.com/COVID-19-Information>
70. Trans Canada Trail. (2020). *Responsible Trail Operations and Visitation during the COVID-19 Pandemic*. https://tcctrail.ca/wp-content/uploads/2020/05/2020-05-28-TCT-COVID-Guidelines-TCT-SPREADS_LR.pdf
71. Tremblay, M. (2021, February 8). *Get Outside and Play!* Outdoor Play Canada. <https://www.outdoorplaycanada.ca/2021/02/08/get-outside-and-play/>
72. Vaillancourt, T. (2021, March 15). Physical activity - the forgotten core area of child development during the pandemic. *The Globe and Mail*. https://www.theglobeandmail.com/canada/article-physical-activity-the-forgotten-core-area-of-child-development-during/?utm_medium=Referrer:+Social+Network++Media&utm_campaign=Shared+Web+Article+Links
73. Ville de Montréal. (2020, May 15). *COVID-19: Montréal to offer safe active transportation circuit this summer*. http://ville.montreal.qc.ca/portal/page?_pageid=5977,43117560&_dad=portal&_schema=PORTAL&id=32662
74. Walker, K. (2020, April 14). Moncton keeping trails and parks open, but with strict rules. *CTV News*. <https://atlantic.ctvnews.ca/moncton-keeping-trails-and-parks-open-but-with-strict-rules-1.4896374>
75. West Hants Parks and Rec. (2020, July 27). *Guided Family Hikes*. <https://www.facebook.com/WHRMParksandRec/posts/2582139518555099>
76. Wild About Vancouver. (2021). *Celebrating Outdoor Learning in Local Nature*. <https://www.wildaboutvancouver.com>
77. Willing, J. (2020, April 8). Councillor gets creative with Byron Ave. “local only” traffic, creating more pedestrian space. *Ottawa Citizen*. <https://ottawacitizen.com/news/local-news/councillor-gets-creative-with-local-only-traffic-to-create-more-pedestrian-space-during-physical-distancing/>
78. World Urban Parks. (2020). *Play and Resiliency During COVID-19 Era*. <https://vimeo.com/416066640>
79. Zeni, M. (n.d.). *Room to Play Consulting*. Retrieved June 15, 2021, from <https://meganzeni.com>

Appendix C: List of Publications Included in the Outdoor Play in Canada Scoping Review 2015-2021

1. Adamo, K. B. *et al.* Does intervening in childcare settings impact fundamental movement skill development?. *Med. Sci. Sports Exerc.* **48**, 926–932 (2016).
2. Holt, N. L. *et al.* An intergenerational study of perceptions of changes in active free play among families from rural areas of Western Canada. *BMC Public Health* **16**, 829 (2016).
3. Janssen, I. Estimating whether replacing time in active outdoor play and sedentary video games with active video games influences youth’s mental health. *J. Adolesc. Health* **59**, 517–522 (2016).
4. Larouche, R., Garriguet, D., Gunnell, K. E., Goldfield, G. S. & Tremblay, M. S. Outdoor time, physical activity, sedentary time, and health indicators at ages 7 to 14: 2012/2013 Canadian Health Measures Survey. *Heal. reports* **27**, 3–13 (2016).
5. Barnes, J. D. *et al.* Results From Canada’s 2016 ParticipACTION Report card on physical activity for children and youth. *J. Phys. Act. Health* **13**, S110–S116 (2016).
6. Michaelson, V., King, N., Janssen, I., Lawal, S. & Pickett, W. Electronic screen technology use and connection to nature in Canadian adolescents: a mixed methods study. *Can. J. Public Health* **111**, 502–514 (2020).
7. Clark, E. & Dumas, A. Children’s active outdoor play: ‘good’ mothering and the organisation of children’s free time. *Sociol. Health Illn.* **42**, 1229–1242 (2020).
8. Fortier, M., McFadden, T. & Faulkner, G. Evidence-based recommendations to assist adults with depression to become lifelong movers. *Heal. Promot. chronic Dis. Prev. Canada Res. policy Pract.* **40**, 299–308 (2020).
9. Nguyen, A., Borghese, M. M. & Janssen, I. Pedestrian traffic safety and outdoor active play among 10-13year olds living in a mid-sized city. *Prev. Med. reports* **10**, 304–309 (2018).
10. Pickett, W. *et al.* Exposure to agricultural hazards among children who visit farms. *Paediatr. Child Health* **23**, e143–e149 (2018).
11. McNamara, L., Colley, P. & Franklin, N. School recess, social connectedness and health: a Canadian perspective. *Health Promot. Int.* **32**, 392–402 (2017).
12. Truelove, S., Vanderloo, L. M. & Tucker, P. Defining and measuring active play among young children: a systematic review. *J. Phys. Act. Health* **14**, 155–166 (2017).

13. Anderson, L. N. *et al.* Vitamin D and fracture risk in early childhood: a case-control study. *Am. J. Epidemiol.* **185**, 1255–1262 (2017).
14. Hewer, M. J., Scott, D. J. & Gough, W. A. Differences in the importance of weather and weather-based decisions among campers in Ontario parks (Canada). *Int. J. Biometeorol.* **61**, 1805–1818 (2017).
15. Potvin Kent, M. & Velkers, C. Not just fun and games: toy advertising on television targeting children promotes sedentary play. *J. Phys. Act. Health* **14**, 773–778 (2017).
16. Lim, C., Donovan, A. M., Harper, N. J. & Naylor, P.-J. Nature elements and fundamental motor skill development opportunities at five elementary school districts in British Columbia. *Int. J. Environ. Res. Public Health* **14**, (2017).
17. Smart, E. *et al.* Creating an inclusive leisure space: strategies used to engage children with and without disabilities in the arts-mediated program Spiral Garden. *Disabil. Rehabil.* **40**, 199–207 (2018).
18. Tsimicalis, A., Genest, L., Stevens, B., Ungar, W. J. & Barr, R. The impact of a childhood cancer diagnosis on the children and siblings' school attendance, performance, and activities: a qualitative descriptive study. *J. Pediatr. Oncol. Nurs.* **35**, 118–131 (2018).
19. Hewitt, L. *et al.* Child care centre adherence to infant physical activity and screen time recommendations in Australia, Canada and the United States: An observational study. *Infant Behav. Dev.* **50**, 88–97 (2018).
20. Lin, Y., Borghese, M. M. & Janssen, I. Bi-directional association between sleep and outdoor active play among 10-13 year olds. *BMC Public Health* **18**, 224 (2018).
21. Ward, S. *et al.* Promoting physical activity, healthy eating and gross motor skills development among preschoolers attending childcare centers: Process evaluation of the Healthy Start-Depart Sante intervention using the RE-AIM framework. *Eval. Program Plann.* **68**, 90–98 (2018).
22. Vanderloo, L. M. & Tucker, P. Physical activity and sedentary behavior legislation in Canadian childcare facilities: an update. *BMC Public Health* **18**, 475 (2018).
23. Piccininni, C., Michaelson, V., Janssen, I. & Pickett, W. Outdoor play and nature connectedness as potential correlates of internalized mental health symptoms among Canadian adolescents. *Prev. Med. (Baltim)*. **112**, 168–175 (2018).
24. Driediger, M. *et al.* The implementation and feasibility of the supporting physical activity in the childcare environment (SPACE) intervention: a process evaluation. *Health Educ. Behav.* **45**, 935–944 (2018).

25. Matveev, R., Sergio, L., Fraser-Thomas, J. & Macpherson, A. K. Trends in concussions at Ontario schools prior to and subsequent to the introduction of a concussion policy - an analysis of the Canadian hospitals injury reporting and prevention program from 2009 to 2016. *BMC Public Health* **18**, 1324 (2018).
26. Ladle, A., Steenweg, R., Shepherd, B. & Boyce, M. S. The role of human outdoor recreation in shaping patterns of grizzly bear-black bear co-occurrence. *PLoS One* **13**, e0191730 (2018).
27. Borghese, M. M. & Janssen, I. Duration and intensity of different types of physical activity among children aged 10-13 years. *Can. J. Public Health* **110**, 178–186 (2019).
28. Gerlach, A. J., Jenkins, E. & Hodgson, K. Disrupting assumptions of risky play in the context of structural marginalization: A community engagement project in a Canadian inner-city neighbourhood. *Health Place* **55**, 80–86 (2019).
29. Priebe, C. S. *et al.* Make room for play: an evaluation of a campaign promoting active play. *J. Health Commun.* **24**, 38–46 (2019).
30. Ott, E., Vanderloo, L. M. & Tucker, P. Physical activity and screen-viewing policies in Canadian childcare centers. *BMC Public Health* **19**, 145 (2019).
31. Archambault, C., Gabias, C., Fallaha, N., Belanger, C. & Superstein, R. Pediatric ocular injuries: a 3-year review of patients presenting to an emergency department in Canada. *Can. J. Ophthalmol.* **54**, 83–86 (2019).
32. Salbach, N. M. *et al.* A theory-based, task-oriented, outdoor walking programme for older adults with difficulty walking outdoors: protocol for the Getting Older Adults Outdoors (GO-OUT) randomised controlled trial. *BMJ Open* **9**, e029393 (2019).
33. Delisle Nystrom, C. *et al.* Relationships between area-level socioeconomic status and urbanization with active transportation, independent mobility, outdoor time, and physical activity among Canadian children. *BMC Public Health* **19**, 1082 (2019).
34. Tucker, P. *et al.* Exploring the feasibility and effectiveness of a childcare Physical Activity (PLAY) policy: rationale and protocol for a pilot, cluster-randomized controlled trial. *Int. J. Environ. Res. Public Health* **16**, (2019).
35. McConnell-Nzungu, J. *et al.* Child care setting and its association with policies and practices that promote physical activity and physical literacy in the early years in British Columbia. *J. Phys. Act. Health* **17**, 429–434 (2020).
36. Lesser, I. A. & Nienhuis, C. P. The impact of COVID-19 on physical activity behavior and well-being of Canadians. *Int. J. Environ. Res. Public Health* **17**, (2020).

37. Mitra, R. *et al.* Healthy movement behaviours in children and youth during the COVID-19 pandemic: Exploring the role of the neighbourhood environment. *Health Place* **65**, 102418 (2020).
38. Rhodes, R. E., Liu, S., Lithopoulos, A., Zhang, C.-Q. & Garcia-Barrera, M. A. Correlates of perceived physical activity transitions during the COVID-19 pandemic among Canadian adults. *Appl. Psychol. Health Well. Being.* **12**, 1157–1182 (2020).
39. de Lannoy, L., Rhodes, R. E., Moore, S. A., Faulkner, G. & Tremblay, M. S. Regional differences in access to the outdoors and outdoor play of Canadian children and youth during the COVID-19 outbreak. *Can. J. Public Health* **111**, 988–994 (2020).
40. Bruijns, B. A., Johnson, A. M. & Tucker, P. Content development for a physical activity and sedentary behaviour e-learning module for early childhood education students: a Delphi study. *BMC Public Health* **20**, 1600 (2020).
41. McCormack, G. R., Nesdoly, A., Ghoneim, D. & McHugh, T.-L. Realtors' perceptions of social and physical neighborhood characteristics associated with active living: a Canadian perspective. *Int. J. Environ. Res. Public Health* **17**, (2020).
42. Wray, A. *et al.* Physical activity and social connectedness interventions in outdoor spaces among children and youth: a rapid review. *Health Promo. Chronic Dis. Prev. Can.* **40**, 104–115 (2020).
43. Arbour-Nicitopoulos, K. P. *et al.* A cross-sectional examination of the 24-hour movement behaviours in Canadian youth with physical and sensory disabilities. *Disabil. Health J.* **14**, 100980 (2021).
44. Parent, N., Guhn, M., Brussoni, M., Almas, A. & Oberle, E. Social determinants of playing outdoors in the neighbourhood: family characteristics, trust in neighbours and daily outdoor play in early childhood. *Can. J. Public Health* **112**, 120–127 (2021).
45. Predy, M., Holt, N. & Carson, V. Examining correlates of outdoor play in childcare centres. *Can. J. Public Health* **112**, 292–303 (2021).
46. Menzies, A., Mazan, C., Borisoff, J. F., Mattie, J. L. & Mortenson, W. Ben. Outdoor recreation among wheeled mobility users: perceived barriers and facilitators. *Disabil. Rehabil. Assist. Technol.* 1–7 (2020). doi:<https://dx.doi.org/10.1080/17483107.2019.1710772>
47. Lesser, I. A., Nienhuis, C. P. & Belanger, L. Active by nature: exploring cancer survivors' exercise barriers, facilitators, preferences, and psychosocial benefits of engaging in outdoor physical activity. *Support. Care Cancer* (2021). doi:<https://dx.doi.org/10.1007/s00520-020-05938-4>

48. Harju, M.-L. & Rouse, D. “Keeping Some Wildness Always Alive”: Posthumanism and the animality of children’s literature and play. *Child. Lit. Educ.* **49**, 447–466 (2018).
49. Ng, C. S., Duncan, J. R. & Koper, N. Who’s “hooting”? Motivations and scientific attitudes of Manitoban citizen science owl surveyors . *Avian Conserv. Ecol.* **13**, (2018).
50. Taylor, L. G., Clark, A. F. & Gilliland, J. A. Context matters: examining children’s perceived barriers to physical activity across varying Canadian environments. *Heal. Place* **54**, 221–228 (2018).
51. Gartner-Manzon, S. & Giles, A. R. Lasting impacts of an Aboriginal youth leadership retreat: a case study of Alberta’s Future Leaders Program. *J. Adventure Educ. Outdoor Learn.* **18**, 338–352 (2018).
52. Gabrielsen, L. E. & Harper, N. J. The role of wilderness therapy for adolescents in the face of global trends of urbanization and technification. *Int. J. Adolesc. Youth* **23**, 409–421 (2018).
53. Edwards, J. & Kulczycki, C. ‘Who wants to go the outdoor rink?’: a media analysis of Canada’s outdoor rinks and the connection to Canada’s national identity. *Leis. Loisir* **42**, 389–424 (2018).
54. Goodwin, D. L. & Ebert, A. Physical activity for disabled youth: hidden parental labor. *Adapt. Phys. Act. Q.* **35**, 342–360 (2018).
55. McNamara, L., Lakman, Y., Spadafora, N., Lodewyk, K. & Walker, M. Recess and children with disabilities: A mixed-methods pilot study. *Disabil. Health J.* **11**, 637–643 (2018).
56. Auger, D., Leclerc, V., Roult, R. & Adjizian, J.-M. Review of best practices in recruitment and retention of North American hunters and anglers. *Loisir Soc.* **41**, 472–484 (2018).
57. Wilson, K., Clark, A. F. & Gilliland, J. A. Understanding child and parent perceptions of barriers influencing children’s active school travel. *BMC Public Health* **18**, (2018).
58. Mitchell, J. & Lashewicz, B. Quirky kids: fathers’ stories of embracing diversity and dismantling expectations for normative play with their children with autism spectrum disorder. *Disabil. Soc.* **33**, 1120–1137 (2018).
59. Hewer, M. J., Scott, D. J. & Gough, W. A. Differential temperature preferences and thresholds among summer campers in Ontario’s southern provincial parks: a Canadian case study in tourism climatology. *Theor. Appl. Climatol.* **133**, 1163–1173 (2018).
60. Roach, L. & Keats, M. Skill-based and planned active play versus free-play effects on fundamental movement skills in preschoolers. *Percept. Mot. Skills* **125**, 651–668 (2018).

61. Connelly, J.-A., Champagne, M. & Manningham, S. Early childhood educators' perception of their role in children's physical activity: do we need to clarify expectations? *J. Res. Child. Educ.* **32**, 283–294 (2018).
62. Dionigi, R. A., Fraser-Thomas, J., Stone, R. C. & Gayman, A. M. Psychosocial development through Masters sport: What can be gained from youth sport models? *J. Sports Sci.* **36**, 1533–1541 (2018).
63. Guerrero, M. & Munroe-Chandler, K. A conceptual model of children's active play imagery. *Quest* **70**, 354–369 (2018).
64. MacDonald, K. & Breunig, M. Back to the Garten: Ontario kindergarteners learn and grow through schoolyard pedagogy. *J. Outdoor Environ. Educ.* **21**, 133–151 (2018).
65. Hannah, J. Canoe trips: An especially good place for conversation about student transition. *J. Exp. Educ.* **41**, 356–368 (2018).
66. Humphreys, C. & Blenkinsop, S. Ecological identity, empathy, and experiential learning: a young child's explorations of a nearby river. *Aust. J. Environ. Educ.* **34**, 143–158 (2018).
67. Hall, J., Mitchell, G., Webber, C. & Johnson, K. Effect of horticultural therapy on wellbeing among dementia day care programme participants: A mixed-methods study (Innovative Practice). *Dementia* **17**, 611–620 (2018).
68. James, L., Shing, J., Mortenson, W. B., Mattie, J. & Borisoff, J. Experiences with and perceptions of an adaptive hiking program. *Disabil. Rehabil.* **40**, 1584–1590 (2018).
69. Grimwood, B. S. R., Gordon, M. & Stevens, Z. Cultivating nature connection: instructor narratives of urban outdoor education. *J. Exp. Educ.* **41**, 204–219 (2018).
70. Korczak, D. J. *et al.* The longitudinal association between temperament and physical activity in young children. *Prev. Med. (Baltim)*. **111**, 342–347 (2018).
71. Massougbodji, J., Lebel, A. & De Wals, P. Individual and school correlates of adolescent leisure time physical activity in Quebec, Canada. *Int. J. Environ. Res. Public Health* **15**, (2018).
72. Beno, S., Ackery, A., Colaco, K. & Boutis, K. Parental knowledge of trampoline safety in children. *Acad. Pediatr.* **18**, 166–171 (2018).
73. Truelove, S. *et al.* Physical activity and sedentary time during childcare outdoor play sessions: a systematic review and meta-analysis. *Prev. Med. (Baltim)*. **108**, 74–85 (2018).

74. Richmond, S. A., Clemens, T., Pike, I. & Macpherson, A. A systematic review of the risk factors and interventions for the prevention of playground injuries. *Can. J. Public Heal.* **109**, 134–149 (2018).
75. Zwicker, J. G., Suto, M., Harris, S. R., Vlasakova, N. & Missiuna, C. Developmental coordination disorder is more than a motor problem: children describe the impact of daily struggles on their quality of life. *Br. J. Occup. Ther.* **81**, 65–73 (2018).
76. Jasmin, E., Tétreault, S., Larivière, N. & Joly, J. Participation and needs of children with developmental coordination disorder at home and in the community: perceptions of children and parents. *Res. Dev. Disabil.* **73**, 1–13 (2018).
77. Karlis, G., Stratas, A. & Webb, E. Canada-based peer-reviewed leisure studies research: from the 1970s to today. *Loisir Soc.* **41**, 9–26 (2018).
78. Stebbins, R. A. Leisure and the positive psychological states. *J. Posit. Psychol.* **13**, 8–17 (2018).
79. Linds, W., Hyslop, M., Goulet, L. & Eduardo Jasso Juárez, V. Weechi metuwe mitotan: playing games of presence with Indigenous youth in Saskatchewan, Canada. *Int. J. Play* **7**, 41–59 (2018).
80. Branget, B., Auger, D. & St-Laurent, M. 40 ans de recherche en plein air : évolution et tendance. *Loisir Soc.* **41**, 105–129 (2018).
81. Peterson, S. S., Madsen, A., San Miguel, J. & Jang, S. Y. Children’s rough and tumble play: perspectives of teachers in northern Canadian Indigenous communities. *Early Years* **38**, 53–67 (2018).
82. Frederiksen, A., McLeman, R. A. & Elcombe, T. L. Building backyard ice rinks in Canada: an exploratory study. *Leis. Loisir* **42**, 47–68 (2018).
83. Salvo, G., Lashewicz, B. M., Doyle-Baker, P. K. & McCormack, G. R. A mixed methods study on the barriers and facilitators of physical activity associated with residential relocation. *J. Environ. Public Health* **2018**, (2018).
84. Godillon, S. & Cloutier, M.-S. Safe journeys to school: Perceptions of road risk for parents and children involved in Trottibus, Quebec’s ‘walking School Bus’ program . *Enfances, Fam. Gener.* (2018).
85. Reddon, J. R. & Durante, S. B. Nature exposure sufficiency and insufficiency: the benefits of environmental preservation. *Med. Hypotheses* **110**, 38–41 (2018).
86. Keays, G., Friedman, D., Beaudin, M. & Gagnon, I. An evaluation of the impact of FIFA world cup on soccer emergency department injuries among Montreal adolescents. *J. Paediatr. Child Health* **54**, 515–521 (2018).

87. Arbour-Nicitopoulos, K. P. *et al.* A scoping review of inclusive out-of-school time physical activity programs for children and youth with physical disabilities. *Adapt. Phys. Act. Q.* **35**, 111–138 (2018).
88. Monnet, N. & Boukala, M. Urban trajectories and posturing: The place of children and teenagers in the makeup of the city. *Enfances, Fam. Gener.* (2018). doi:10.7202/1058681ar
89. Maziade, C. H., Thériault, G., Berryman, T. & Gadais, T. Integrating outdoor education into physical education and health teaching: Three case studies. *Staps* **122**, 45–71 (2018).
90. Tu, A. W. *et al.* What do US and Canadian parents do to encourage or discourage physical activity among their 5-12 year old children? *BMC Public Health* **17**, (2017).
91. Davydenko, M. & Peetz, J. Time grows on trees: the effect of nature settings on time perception. *J. Environ. Psychol.* **54**, 20–26 (2017).
92. Brussoni, M., Ishikawa, T., Brunelle, S. & Herrington, S. Landscapes for play: effects of an intervention to promote nature-based risky play in early childhood centres. *J. Environ. Psychol.* **54**, 139–150 (2017).
93. Göncü, A. & Vadeboncoeur, J. A. Expanding the definitional criteria for imaginative play: contributions of sociocultural perspectives. *Learn. Behav.* **45**, 422–431 (2017).
94. Harper, N. J. Wilderness therapy, therapeutic camping and adventure education in child and youth care literature: a scoping review. *Child. Youth Serv. Rev.* **83**, 68–79 (2017).
95. Tremblay, M. S. *et al.* Global matrix 2.0: Report card grades on the physical activity of children and youth comparing 38 countries. *J. Phys. Act. Heal.* **13**, S343–S366 (2016).
96. Ottoni, C. A., Sims-Gould, J., Winters, M., Heijnen, M. & McKay, H. A. “Benches become like porches”: built and social environment influences on older adults’ experiences of mobility and well-being. *Soc. Sci. Med.* **169**, 33–41 (2016).
97. Hewer, M. J. & Gough, W. A. Weather sensitivity for zoo visitation in Toronto, Canada: a quantitative analysis of historical data. *Int. J. Biometeorol.* **60**, 1645–1660 (2016).
98. Halpenny, E. A., Kulczycki, C. & Moghimehfar, F. Factors effecting destination and event loyalty: examining the sustainability of a recurrent small-scale running event at Banff National Park. *J. Sport Tour.* **20**, 233–262 (2016).
99. Duquette, M.-M., Carbonneau, H. & Jourdan-Ionescu, C. Young people with disabilities: the influence of leisure experiences on family dynamics. *Ann. Leis. Res.* **19**, 405–423 (2016).

100. Harrington, D. M. *et al.* Household-level correlates of children’s physical activity levels in and across 12 countries. *Obesity* **24**, 2150–2157 (2016).
101. Loebach, J. & Gilliland, J. Neighbourhood play on the endangered list: examining patterns in children’s local activity and mobility using GPS monitoring and qualitative GIS. *Child. Geogr.* **14**, 573–589 (2016).
102. Shultis, J. & Heffner, S. Hegemonic and emerging concepts of conservation: a critical examination of barriers to incorporating Indigenous perspectives in protected area conservation policies and practice. *J. Sustain. Tour.* **24**, 1227–1242 (2016).
103. Ghenadenik, A. E., Kakinami, L., Van Hulst, A., Henderson, M. & Barnett, T. A. Neighbourhoods and obesity: A prospective study of characteristics of the built environment and their association with adiposity outcomes in children in Montreal, Canada. *Prev. Med. (Baltim)*. **111**, 35–40 (2018).
104. Patterson, C. *et al.* Physical activity experiences in children post–liver transplant: developing a foundation for rehabilitation interventions. *Pediatr. Transplant.* **22**, (2018).
105. Harvey, J., Pearson, E. S., Sanzo, P. & Lennon, A. E. Exploring the perspectives of 10-, 11-, and 12-year-old primary school students on physical activity engagement—“Cause you can’t just be sitting at a desk all the time!” *Child. Care. Health Dev.* **44**, 433–442 (2018).
106. Bauer, M. E. E. & Giles, A. R. The need for Inuit parents’ perspectives on outdoor risky play. *Polar Rec. (Gr. Brit)*. **54**, 237–240 (2018).
107. Sharp, J. R. *et al.* Temperament is associated with outdoor free play in young children: a TARGet Kids! study. *Acad. Pediatr.* **18**, 445–451 (2018).
108. Barclay, R. *et al.* Safety and feasibility of an interactive workshop and facilitated outdoor walking group compared to a workshop alone in increasing outdoor walking activity among older adults: a pilot randomized controlled trial. *Pilot Feasibility Stud.* **4**, (2018).
109. Faulkner, G., Yun, L., Tremblay, M. S. & Spence, J. C. Exploring the impact of the ‘new’ participACTION: overview and introduction of the special issue. *Heal. Promot. Chronic Dis. Prev. Canada* **38**, 153–161 (2018).
110. Houde, M., Apparicio, P. & Séguin, A.-M. A ride for whom: has cycling network expansion reduced inequities in accessibility in Montreal, Canada? *J. Transp. Geogr.* **68**, 9–21 (2018).
111. McNamara, L., Lodewyk, K. & Franklin, N. Recess: A study of belongingness, affect, and victimization on the playground. *Child. Sch.* **40**, 114–121 (2018).

112. Hewer, M. J. & Gough, W. A. Thirty years of assessing the impacts of climate change on outdoor recreation and tourism in Canada. *Tour. Manag. Perspect.* **26**, 179–192 (2018).
113. Borghese, M. M. & Janssen, I. Development of a measurement approach to assess time children participate in organized sport, active travel, outdoor active play, and curriculum-based physical activity. *BMC Public Health* **18**, (2018).
114. Brussoni, M. *et al.* Go Play Outside! Effects of a risk-reframing tool on mothers' tolerance for, and parenting practices associated with, children's risky play: study protocol for a randomized controlled trial. *Trials* **19**, (2018).
115. Pyper, E., Harrington, D. & Manson, H. The impact of different types of parental support behaviours on child physical activity, healthy eating, and screen time: a cross-sectional study. *BMC Public Health* **16**, (2016).
116. Steele, D., Tarlao, C., Bild, E. & Guastavino, C. Evaluation of an urban soundscape intervention with music: quantitative results from questionnaires. in *Proceedings of the INTER-NOISE 2016 - 45th International Congress and Exposition on Noise Control Engineering: Towards a Quieter Future* 6844–6854 (2016).
117. Jakubec, S. L., Carruthers Den Hoed, D., Ray, H. & Krishnamurthy, A. Mental well-being and quality-of-life benefits of inclusion in nature for adults with disabilities and their caregivers. *Landsc. Res.* **41**, 616–627 (2016).
118. Hunt, L. M. *et al.* Identifying alternate pathways for climate change to impact inland recreational fishers. *Fisheries* **41**, 362–372 (2016).
119. McConnell, J. & Naylor, P.-J. Feasibility of an intergenerational-physical-activity leadership intervention. *J. Inter gener. Relatsh.* **14**, 220–241 (2016).
120. Coutinho, P., Mesquita, I., Davids, K., Fonseca, A. M. & Côté, J. How structured and unstructured sport activities aid the development of expertise in volleyball players. *Psychol. Sport Exerc.* **25**, 51–59 (2016).
121. Wilson, K. L. *et al.* Supply-demand equilibria and the size-number trade-off in spatially structured recreational fisheries. *Ecol. Appl.* **26**, 1086–1097 (2016).
122. Ward, S. A., Bélanger, M. F., Donovan, D. & Carrier, N. Relationship between eating behaviors and physical activity of preschoolers and their peers: a systematic review. *Int. J. Behav. Nutr. Phys. Act.* **13**, (2016).
123. Golbeck, J. & Neustaedter, C. Environmental factors affecting where people geocache. *Futur. Internet* **8**, (2016).

124. Socha, T., Potter, T., Potter, S. & Jickling, B. Reflections on using pinhole photography as a pedagogical and methodological tool with adolescents in wild nature. *J. Outdoor Environ. Educ.* **19**, 10–21 (2016).
125. Loebach, J. E. & Gilliland, J. A. Free range kids? Using GPS-derived activity spaces to examine children’s neighborhood activity and mobility. *Environ. Behav.* **48**, 421–453 (2016).
126. Smith, J., Smith, D. & Sioui, M. Nature, cities, people: an exploration of Aboriginal perspectives. *Can. Geogr.* **60**, 3–8 (2016).
127. Howard, R. A., O’Connell, T. S. & Lathrop, A. H. Community development, transitional value, and institutional affinity: outdoor orientation program impacts. *J. Exp. Educ.* **39**, 45–58 (2016).
128. Field, D. A., Miller, W. C., Ryan, S. E., Jarus, T. & Abundo, A. Measuring participation for children and youth with power mobility needs: a systematic review of potential health measurement tools. *Arch. Phys. Med. Rehabil.* **97**, 462–477.e40 (2016).
129. Field, S. C., Lauzon, L. L. & Meldrum, J. T. A phenomenology of outdoor education leader experiences. *J. Exp. Educ.* **39**, 31–44 (2016).
130. Tucker, P. *et al.* Supporting Physical Activity in the Childcare Environment (SPACE): Rationale and study protocol for a cluster randomized controlled trial energy balance-related behaviors. *BMC Public Health* **16**, (2016).
131. Countryman, J., Gabriel, M. & Thompson, K. Children’s spontaneous vocalisations during play: aesthetic dimensions. *Music Educ. Res.* **18**, 1–19 (2016).
132. Fenton, L. & Walker, G. J. Development of the psychologically deep experiences (PDE) in nature scale. *Leis. Loisir* **40**, 101–129 (2016).
133. Grimwood, B. S. R. An ecofeminist narrative of urban nature connection. *Leis. Sci.* **39**, 506–523 (2017).
134. Crawford, M. R., Holder, M. D. & O’Connor, B. P. Using mobile technology to engage children with nature. *Environ. Behav.* **49**, 959–984 (2017).
135. Harrington, D. W., Jarvis, J. W. & Manson, H. Parents’ perceived barriers to accessing sports and recreation facilities in Ontario, Canada: exploring the relationships between income, neighbourhood deprivation, and community. *Int. J. Environ. Res. Public Health* **14**, (2017).
136. Harper, N. J. Outdoor risky play and healthy child development in the shadow of the “risk society”: a forest and nature school perspective. *Child Youth Serv.* **38**, 318–334 (2017).

137. Gavin, J., Keough, M., Mcbrearty, M., Abravanel, M. & Moudrakovski, T. A canonical variate analysis of personal traits and physical activity interests: furthering the sport personology debate. *Leis. Loisir* **41**, 509–533 (2017).
138. Johnson, J. & Ali, A. E. Skating on thin ice? An interrogation of Canada’s melting pastime. *World Leis. J.* **59**, 259–271 (2017).
139. Waygood, E. O. D., Friman, M., Olsson, L. E. & Taniguchi, A. Transport and child well-being: an integrative review. *Travel Behav. Soc.* **9**, 32–49 (2017).
140. Mikaelis, J. & Asfeldt, M. Becoming-crocus, becoming-river, becoming-bear: a relational materialist exploration of place(s). *J. Outdoor Environ. Educ.* **20**, 2–13 (2017).
141. Tucker, P. *et al.* Impact of the supporting physical activity in the childcare environment (SPACE) intervention on preschoolers’ physical activity levels and sedentary time: a single-blind cluster randomized controlled trial. *Int. J. Behav. Nutr. Phys. Act.* **14**, (2017).
142. Shannon, C. S. Family leisure and leisure service provision: making the case for including perspectives from practice. *Leis. Sci.* **39**, 426–435 (2017).
143. Stephens, L. *et al.* Inaccessible childhoods: evaluating accessibility in homes, schools and neighbourhoods with disabled children. *Child. Geogr.* **15**, 583–599 (2017).
144. Donoff, G. & Bridgman, R. The playful city: constructing a typology for urban design interventions. *Int. J. Play* **6**, 294–307 (2017).
145. Larouche, R. *et al.* Test-retest reliability and convergent validity of measures of children’s travel behaviours and independent mobility. *J. Transp. Heal.* **6**, 105–118 (2017).
146. Harwood, D. & Collier, D. R. The matter of the stick: storying/(re)storying children’s literacies in the forest. *J. Early Child. Lit.* **17**, 336–352 (2017).
147. Watchman, T. & Spencer-Cavaliere, N. Times have changed: parent perspectives on children’s free play and sport. *Psychol. Sport Exerc.* **32**, 102–112 (2017).
148. Patten, J. W., Iarocci, G. & Bojin, N. A pilot study of children’s physical activity levels during imagination-based mobile games. *J. Child Heal. Care* **21**, 292–300 (2017).
149. Mitra, R., Cantello, I. D., Buliung, R. N. & Faulkner, G. E. J. Children’s activity-transportation lifestyles, physical activity levels and social-ecological correlates in Toronto, Canada. *J. Transp. Heal.* **6**, 289–298 (2017).
150. Sims-Gould, J., Vazirian, S., Li, N., Remick, R. & Khan, K. Jump step - a community based participatory approach to physical activity & mental wellness. *BMC Psychiatry* **17**, (2017).

151. Saunders, N. R., MacPherson, A., Guan, J., Sheng, L. & Guttman, A. The shrinking health advantage: unintentional injuries among children and youth from immigrant families. *BMC Public Health* **18**, (2017).
152. Ordóñez-Barona, C. How different ethno-cultural groups value urban forests and its implications for managing urban nature in a multicultural landscape: a systematic review of the literature. *Urban For. Urban Green.* **26**, 65–77 (2017).
153. Beni, S., Fletcher, T. & Ní Chróinín, D. Meaningful experiences in physical education and youth sport: a review of the literature. *Quest* **69**, 291–312 (2017).
154. Breunig, M. C. Sustaining schoolyard pedagogy through community academic partnerships. *Leis. Loisir* **41**, 467–490 (2017).
155. Alaca, B., Rocca, C. & Maggi, S. Understanding communities through the eyes and voices of children. *Early Child Dev. Care* **187**, 1095–1113 (2017).
156. Streelasky, J. Tanzanian and Canadian children’s valued school experiences: a cross case comparison. *Int. J. Early Years Educ.* **25**, 274–291 (2017).
157. Ordóñez, C., Beckley, T., Duinker, P. N. & Sinclair, A. J. Public values associated with urban forests: synthesis of findings and lessons learned from emerging methods and cross-cultural case studies. *Urban For. Urban Green.* **25**, 74–84 (2017).
158. Heagle, K., Timmons, K., Hargreaves, F. & Pelletier, J. The social kindergartener: comparing children’s perspectives of full- and half-day kindergarten. *Early Child Dev. Care* **187**, 978–989 (2017).
159. Asfeldt, M. & Beames, S. Trusting the journey: embracing the unpredictable and difficult to measure nature of wilderness educational expeditions. *J. Exp. Educ.* **40**, 72–86 (2017).
160. Broom, C. Exploring the relations between childhood experiences in nature and young adults’ environmental attitudes and behaviours. *Aust. J. Environ. Educ.* **33**, 34–47 (2017).
161. Carsley, S. *et al.* The impact of daycare attendance on outdoor free play in young children. *J. Public Heal. (United Kingdom)* **39**, 145–152 (2017).
162. Vanderloo, L. M. & Tucker, P. Physical activity and sedentary time among young children in full-day kindergarten: comparing traditional and balanced day schedules. *Health Educ. J.* **76**, 29–37 (2017).
163. Lewis, P. J. The erosion of play. *Int. J. Play* **6**, 10–23 (2017).

164. Parent, M. M. & Harvey, J. A partnership-based evaluation of a community-based youth sport and physical activity programme. *Sport Soc.* **20**, 7–29 (2017).
165. Pavelka, J. Are they having fun yet? Leisure management within amenity migration. *World Leis. J.* **59**, 21–38 (2017).
166. Krieger, S.-J., Deldrève, V. & Lewis, N. Écologisation des loisirs de nature, entre ensauvagement et domestication. *Loisir Soc.* **40**, 25–38 (2017).
167. Robinson, D. B. & Barrett, J. Why play outside? Problematising outdoor play as a biopedagogical task. *Asia-Pacific J. Heal. Sport Phys. Educ.* **8**, 39–52 (2017).
168. Hand, C., Huot, S., Rudman, D. L. & Wijekoon, S. Qualitative-geospatial methods of exploring person-place transactions in aging adults: a scoping review. *Gerontologist* **57**, e47–e61 (2017).
169. van den Bosch, M. & Nieuwenhuijsen, M. No time to lose – green the cities now. *Environ. Int.* **99**, 343–350 (2017).
170. Tobin, D. *et al.* Examining the relationship between children’s active play imagery and basic psychological needs. *Int. J. Sport Exerc. Psychol.* **15**, 92–102 (2017).
171. Hvenegaard, G. T. Visitors’ perceived impacts of interpretation on knowledge, attitudes, and behavioral intentions at Miquelon Lake Provincial Park, Alberta, Canada. *Tour. Hosp. Res.* **17**, 79–90 (2017).
172. Shubair, M. M. & Scott, J. Challenges and barriers experienced by prince George parents in providing opportunities for children to engage in healthy eating and active living: a men’s health parents perspective. *J. Mens. health* **13**, e38–e46 (2017).
173. Hamilton, K., Kaczynski, A. T., Fair, M. L. & Lévesque, L. Examining the relationship between park neighborhoods, features, cleanliness, and condition with observed weekday park usage and physical activity: a case study. *J. Environ. Public Health* **2017**, (2017).
174. Ayotte-Beaudet, J.-P., Potvin, P., Lapierre, H. G. & Glackin, M. Teaching and learning science outdoors in schools’ immediate surroundings at K-12 levels: a meta-synthesis. *Eurasia J. Math. Sci. Technol. Educ.* **13**, 5343–5363 (2017).
175. Coe, H. A. Embracing risk in the Canadian woodlands: four children’s risky play and risk-taking experiences in a Canadian Forest Kindergarten. *J. Early Child. Res.* **15**, 374–388 (2017).
176. Carson, V. *et al.* Systematic review of the relationships between physical activity and health indicators in the early years (0-4 years). *BMC Public Health* **17**, (2017).

177. Tremblay, M. S. *et al.* Canadian 24-hour movement guidelines for the early years (0-4 years): an integration of physical activity, sedentary behaviour, and sleep. *BMC Public Health* **17**, (2017).
178. Gadais, T., Gagnon, J. & Nadeau, L. Factors influencing physical activity for less active youth during Team Pentathlon. *Mov. Sport. Sci. - Sci. Mot.* **13**, 31–50 (2016).
179. Chow, A. F., Leis, A., Humbert, L., Muhajarine, N. & Engler-Stringer, R. Healthy start – Départ santé: a pilot study of a multilevel intervention to increase physical activity, fundamental movement skills and healthy eating in rural childcare centres. *Can. J. Public Heal.* **107**, e312–e318 (2016).
180. Hewes, J. *et al.* Unfreezing Disney’s Frozen through playful and intentional co-authoring/co-playing. *Can. J. Educ.* **39**, 1–25 (2016).
181. McGoey, T., Root, Z., Bruner, M. W. & Law, B. Evaluation of physical activity interventions in children via the reach, efficacy/effectiveness, adoption, implementation, and maintenance (RE-AIM) framework: a systematic review of randomized and non-randomized trials. *Prev. Med. (Baltim)*. **82**, 8–19 (2016).
182. Poitras, V. J. *et al.* Systematic review of the relationships between objectively measured physical activity and health indicators in school-aged children and youth. *Appl. Physiol. Nutr. Metab.* **41**, S197–S239 (2016).
183. McIntosh, D. & Wright, P. A. Emotional processing as an important part of the wildlife viewing experience. *J. Outdoor Recreat. Tour.* **18**, 1–9 (2017).
184. Creighton, G., Brussoni, M., Oliffe, J. & Olsen, L. “It’s Good for the Kids”: fathers consider risk and protection in their own and their children’s lives. *J. Fam. Issues* **38**, 1043–1065 (2017).
185. Ramsay, G. *et al.* The barriers to millennials visiting Rouge Urban National Park. *Sustain.* **9**, (2017).
186. Gallagher, A. J., Hammerschlag, N., Danylchuk, A. J. & Cooke, S. J. Shark recreational fisheries: status, challenges, and research needs. *Ambio* **46**, 385–398 (2017).
187. Copeland, J. L. *et al.* Fitness equipment in public parks: Frequency of use and community perceptions in a small urban centre. *J. Phys. Act. Heal.* **14**, 344–352 (2017).
188. Bedard, C., Bremer, E., Campbell, W. & Cairney, J. A quasi-experimental study of a movement and preliteracy program for 3-and 4-year-old children. *Front. Pediatr.* **5**, (2017).
189. Reid, R. & Palechuk, T. Place relationships in a wilderness setting: an analysis of two mountaineering camps in the Canadian Rocky Mountains. *Leis. Loisir* **41**, 185–204 (2017).

190. Batorowicz, B., King, G., Vane, F., Pinto, M. & Raghavendra, P. Exploring validation of a graphic symbol questionnaire to measure participation experiences of youth in activity settings. *AAC Augment. Altern. Commun.* **33**, 97–109 (2017).
191. Jachyra, P. Boys, bodies, and bullying in health and physical education class: implications for participation and well-being. *Asia-Pacific J. Heal. Sport Phys. Educ.* **7**, 121–138 (2016).
192. Russell, K., Davison, C., King, N., Pike, I. & Pickett, W. Understanding clusters of risk factors across different environmental and social contexts for the prediction of injuries among Canadian youth. *Injury* **47**, 1143–1150 (2016).
193. Croteau, C. *et al.* Life habits of school-aged children with specific language impairment as perceived by their parents and by school professionals. *J. Commun. Disord.* **58**, 21–34 (2015).
194. Vanderloo, L. M., Martyniuk, O. J. M. & Tucker, P. Physical and sedentary activity levels among preschoolers in home-based childcare: a systematic review. *J. Phys. Act. Heal.* **12**, 879–889 (2015).
195. Ward, S., Bélanger, M., Donovan, D. & Carrier, N. Systematic review of the relationship between childcare educators’ practices and preschoolers’ physical activity and eating behaviours. *Obes. Rev.* **16**, 1055–1070 (2015).
196. Janssen, I. & King, N. Walkable school neighborhoods are not playable neighborhoods. *Heal. Place* **35**, 66–69 (2015).
197. Windhorst, E. & Williams, A. Growing up, naturally: the mental health legacy of early nature affiliation. *Ecopsychology* **7**, 115–125 (2015).
198. Datta, R. Community garden: a bridging program between formal and informal learning. *Cogent Educ.* **3**, (2016).
199. Rutty, M. *et al.* The geography of skier adaptation to adverse conditions in the Ontario ski market. *Can. Geogr.* **59**, 391–403 (2015).
200. Norman, M. E. *et al.* Examining the more-than-built environments of a northern Manitoban community: Re-conceptualizing rural indigenous mobilities. *J. Rural Stud.* **42**, 166–178 (2015).
201. Herrington, S. & Brussoni, M. Beyond physical activity: the importance of play and nature-based play spaces for children’s health and development. *Curr. Obes. Rep.* **4**, 477–483 (2015).
202. Sarker, H. *et al.* Validation of parent-reported physical activity and sedentary time by accelerometry in young children Pediatrics. *BMC Res. Notes* **8**, (2015).

203. Gavin, J., Keough, M., Abravanel, M. & Mcbrearty, M. Exploring physical activity preferences across the lifespan. *Leis. Loisir* **39**, 323–344 (2015).
204. Côté-Lussier, C., Mathieu, M.-E. & Barnett, T. A. Independent associations between child and parent perceived neighborhood safety, child screen time, physical activity and BMI: a structural equation modeling approach. *Int. J. Obes.* **39**, 1475–1481 (2015).
205. Rutty, M. *et al.* Behavioural adaptation of skiers to climatic variability and change in Ontario, Canada. *J. Outdoor Recreat. Tour.* **11**, 13–21 (2015).
206. Bird, M. E., Datta, G. D., Van Hulst, A., Kestens, Y. & Barnett, T. A. A reliability assessment of a direct-observation park evaluation tool: the parks, activity and recreation among kids (PARK) tool biostatistics and methods. *BMC Public Health* **15**, (2015).
207. MacKenzie, J., Brunet, J., Boudreau, J., Iancu, H.-D. & Bélanger, M. Does proximity to physical activity infrastructures predict maintenance of organized and unorganized physical activities in youth? *Prev. Med. Reports* **2**, 777–782 (2015).
208. Langager, M. L. & Spencer-Cavaliere, N. ‘I feel like this is a good place to be’: children’s experiences at a community recreation centre for children living with low socioeconomic status. *Child. Geogr.* **13**, 656–676 (2015).
209. Van Den Bosch, M. *et al.* Born to be Wise: A population registry data linkage protocol to assess the impact of modifiable early-life environmental exposures on the health and development of children. *BMJ Open* **8**, (2018).
210. Moore, C. L. & Van Vliet, K. J. Women’s experiences of nature as a pathway to recovery from sexual assault. *J. Humanist. Psychol.* (2019). doi:10.1177/0022167819847094
211. Norman, M. & Andrews, G. J. The folding of sport space into carceral space: on the making of prisoners’ experiences and lives. *Can. Geogr.* **63**, 453–465 (2019).
212. Quinton, J. M. & Duinker, P. N. Beyond burial: Researching and managing cemeteries as urban green spaces, with examples from Canada. *Environ. Rev.* **27**, 252–262 (2019).
213. McHugh, T.-L. F. *et al.* A meta-study of qualitative research examining sport and recreation experiences of Indigenous youth. *Qual. Health Res.* **29**, 42–54 (2019).
214. Larter, P., Grek-Martin, J. & Silver, A. Does time heal all wounds? Restoring place attachment in Halifax’s Point Pleasant Park after Hurricane Juan. *Can. Geogr.* **63**, 494–506 (2019).
215. Callender, L. K., Borghese, M. M. & Janssen, I. Which intensities, types, and patterns of movement behaviors are most strongly associated with cardiometabolic risk factors among children? *J. Sport Heal. Sci.* (2019). doi:10.1016/j.jshs.2019.06.006

216. Edwards, B. M., Cameron, D., King, G. & McPherson, A. C. Contextual strategies to support social inclusion for children with and without disabilities in recreation. *Disabil. Rehabil.* (2019). doi:10.1080/09638288.2019.1668972
217. Harwood, D. The blue car in the forest: exploring children's experiences of sustainability in a Canadian forest. *Nord. Stud. Sci. Educ.* **15**, 403–417 (2019).
218. Carruthers, T. R. *et al.* Landscape-scale social and ecological outcomes of dynamic angler and fish behaviours: processes, data, and patterns. *Can. J. Fish. Aquat. Sci.* **76**, 970–988 (2019).
219. Audet, O. *et al.* What are the risk factors for injuries and injury prevention strategies for skiers and snowboarders in terrain parks and half-pipes? A systematic review. *Br. J. Sports Med.* **53**, 19–24 (2019).
220. Macgregor, A. P., Borghese, M. M. & Janssen, I. Is replacing time spent in 1 type of physical activity with another associated with health in children? *Appl. Physiol. Nutr. Metab.* **44**, 937–943 (2019).
221. Alberga, A. S., Fortier, M., Bean, C. & Freedhoff, Y. Youth get a D+ grade in physical activity: how can we change public health messages to help reverse this trend? *Appl. Physiol. Nutr. Metab.* **44**, 567–570 (2019).
222. Labbé, D. *et al.* Setting the sails: stakeholders perceptions of an adapted sailing program. *Leis. Sci.* (2019). doi:10.1080/01490400.2019.1686446
223. Stebbins, R. Sport and nature: a comment on their relationship. *Ann. Leis. Res.* (2019). doi:10.1080/11745398.2019.1672569
224. Loebach, J. & Gilliland, J. Examining the social and built environment factors influencing children's independent use of their neighborhoods and the experience of local settings as child-friendly. *J. Plan. Educ. Res.* (2019). doi:10.1177/0739456X19828444
225. Boulé, K. L. & Mason, C. W. Local perspectives on sport hunting and tourism economies: stereotypes, sustainability, and inclusion in British Columbia's hunting industries. *Sport Hist. Rev.* **50**, 93–115 (2019).
226. Neumann, P. & Mason, C. W. Managing land use conflict among recreational trail users: a sustainability study of cross-country skiers and fat bikers. *J. Outdoor Recreat. Tour.* (2019). doi:10.1016/j.jort.2019.04.002
227. Bauer, M. E. E. & Giles, A. R. Single, stay-at-home, and gay fathers' perspectives on their 4-12-year-old children's outdoor risky play behaviour and 'good' fathering. *Qual. Res. Sport. Exerc. Heal.* **11**, 704–719 (2019).

228. Houser, N. E. *et al.* A loose parts randomized controlled trial to promote active outdoor play in preschool-aged children: physical literacy in the early years (play) project. *Methods Protoc.* **2**, 1–14 (2019).
229. Hunter, S. *et al.* Objectively measured environmental correlates of toddlers’ physical activity and sedentary behavior. *Pediatr. Exerc. Sci.* **31**, 480–487 (2019).
230. Coen, S. E., Mitchell, C. A., Tillmann, S. & Gilliland, J. A. ‘I like the “outernet” stuff:’ girls’ perspectives on physical activity and their environments. *Qual. Res. Sport. Exerc. Heal.* **11**, 599–617 (2019).
231. Boiral, O., Heras-Saizarbitoria, I. & Brotherton, M.-C. Nature connectedness and environmental management in natural resources companies: an exploratory study. *J. Clean. Prod.* **206**, 227–237 (2019).
232. Genoe, M. R., Liechty, T. & Marston, H. R. Leisure innovation and the transition to retirement. *Leis. Sci.* (2019). doi:10.1080/01490400.2019.1597791
233. Larouche, R. *et al.* Relationships between outdoor time, physical activity, sedentary time, and body mass index in children: a 12-country study. *Pediatr. Exerc. Sci.* **31**, 118–129 (2019).
234. Reinders, N. J., Branco, A., Wright, K., Fletcher, P. C. & Bryden, P. J. Scoping review: physical activity and social functioning in young people with autism spectrum disorder. *Front. Psychol.* **10**, (2019).
235. Rao, D. P. *et al.* The ups and downs of trampolines: injuries associated with backyard trampolines and trampoline parks. *Paediatr. Child Heal.* **24**, E19–E25 (2019).
236. Frank, L. D., Iroz-Elardo, N., MacLeod, K. E. & Hong, A. Pathways from built environment to health: a conceptual framework linking behavior and exposure-based impacts. *J. Transp. Heal.* **12**, 319–335 (2019).
237. Cheesbrough, A. E., Garvin, T. & Nykiforuk, C. I. J. Everyday wild: urban natural areas, health, and well-being. *Heal. Place* **56**, 43–52 (2019).
238. Weatherson, K. A., Locke, S. R. & Jung, M. E. Exploring the effectiveness of a school-based physical activity policy in British Columbia, Canada: a mixed-methods observational study. *Transl. Behav. Med.* **9**, 246–255 (2019).
239. Hunt, L. M., Morris, D. M., Drake, D. A. R., Buckley, J. D. & Johnson, T. B. Predicting spatial patterns of recreational boating to understand potential impacts to fisheries and aquatic ecosystems. *Fish. Res.* **211**, 111–120 (2019).

240. Bauer, M. E. E. & Giles, A. R. Exploring single, stay-at-home, and gay fathers' perspectives of masculinity and the influence these have on their understandings of their 4- to 12-year-old children's outdoor risky play. *J. Mens. Stud.* **27**, 108–125 (2019).
241. Prince, S. A., Butler, G. P., Rao, D. P. & Thompson, W. Where are children and adults physically active and sedentary? – a rapid review of location-based studies. *Heal. Promot. Chronic Dis. Prev. Canada* **39**, 67–103 (2019).
242. Bergeron, N. *et al.* Don't take down the monkey bars. *Can. Fam. Physician* **65**, E121–E128 (2019).
243. Wilson, K., Coen, S. E., Piaskoski, A. & Gilliland, J. A. Children's perspectives on neighbourhood barriers and enablers to active school travel: a participatory mapping study. *Can. Geogr.* **63**, 112–128 (2019).
244. Cheeseman, A. & Wright, T. Examining environmental learning experiences at an earth education summer camp. *Environ. Educ. Res.* **25**, 375–387 (2019).
245. Furneaux, A. & Manaugh, K. Eyes on the alley: children's appropriation of alley space in Riverdale, Toronto. *Child. Geogr.* **17**, 204–216 (2019).
246. Kirwin, M., Harper, N. J., Young, T. & Itzvan, I. Mindful adventures: a pilot study of the outward bound mindfulness program. *J. Outdoor Environ. Educ.* **22**, 75–90 (2019).
247. Routhier, F. *et al.* Mobility and participation of people with disabilities using mobility assistive technologies: protocol for a mixed-methods study. *JMIR Res. Protoc.* **8**, (2019).
248. Hewer, M. J. & Gough, W. A. Using a multiyear temporal climate-analog approach to assess climate change impacts on park visitation. *Weather. Clim. Soc.* **11**, 291–305 (2019).
249. Labbé, D., Miller, W. C. & Ng, R. Participating more, participating better: health benefits of adaptive leisure for people with disabilities. *Disabil. Health J.* **12**, 287–295 (2019).
250. Crozier, A. J., Spink, K. S. & Faulkner, G. An exploratory experimental study examining the short-term effects of a public service announcement on parents' perceptions of the descriptive norm for children's outdoor play: a cautionary tale. *Heal. Promot. J. Aust.* **30**, 246–251 (2019).
251. Loeffler, T. A. Looking back, paddling forward: perspectives on outdoor expedition participation over the lifespan. *J. Adventure Educ. Outdoor Learn.* **19**, 111–123 (2019).
252. Streelasky, J. A forest-based environment as a site of literacy and meaning making for kindergarten children. *Literacy* **53**, 95–101 (2019).

253. Steele, D., Bild, E., Tarlao, C. & Guastavino, C. Soundtracking the public space: outcomes of the musikiosk soundscape intervention. *Int. J. Environ. Res. Public Health* **16**, (2019).
254. Roult, R., White, B., Adjizian, J.-M., Morel-Michaud, L. & Auger, D. Loisir et intégration des immigrants : revue systématique des écrits sur le domaine et analyses autour des paradigmes de multiculturalisme et d’interculturalisme dans le contexte canadien. *Loisir Soc.* **42**, 279–302 (2019).
255. Pynn, S. R. *et al.* An intergenerational qualitative study of the good parenting ideal and active free play during middle childhood. *Child. Geogr.* **17**, 266–277 (2019).
256. Wickstrom, H., Pyle, A. & DeLuca, C. Does theory translate into practice? An observational study of current mathematics pedagogies in play-based kindergarten. *Early Child. Educ. J.* **47**, 287–295 (2019).
257. Sauvage-Mar, C., Naylor, P.-J., Wharf Higgins, J. & VonBuchholz, H. Way2Go! Social marketing for girls’ active transportation to school. *Prev. Med. Reports* **14**, (2019).
258. Hogan, J. L., Sponarski, C. C. & Bath, A. J. All-terrain vehicles: differences in perceptions of impact on coastal dunes among communities in New Brunswick, Canada. *J. Outdoor Recreat. Tour.* **26**, 61–71 (2019).
259. Dopko, R. L., Capaldi, C. A. & Zelenski, J. M. The psychological and social benefits of a nature experience for children: a preliminary investigation. *J. Environ. Psychol.* **63**, 134–138 (2019).
260. Koller, D. & Farley, M. Examining elements of children’s place attachment. *Child. Geogr.* **17**, 491–500 (2019).
261. Fennell, D. A. & Birbeck, M. Broads with rods: the social world of female fly anglers. *J. Gend. Stud.* **28**, 503–518 (2019).
262. Khazaei, A., Joppe, M. & Elliot, S. Mapping a diverse community’s engagement in parks planning. *Leis. Sci.* **41**, 294–312 (2019).
263. Hurly, J. & Walker, G. J. “When you see nature, nature give you something inside”: The role of nature-based leisure in fostering refugee well-being in Canada. *Leis. Sci.* **41**, 260–277 (2019).
264. Neville, A. R., Moothathamby, N., Naganathan, M., Huynh, E. & Moola, F. J. “A place to call our own”: the impact of camp experiences on the psychosocial wellbeing of children and youth affected by cancer – a narrative review. *Complement. Ther. Clin. Pract.* **36**, 18–28 (2019).
265. Hurly, J. & Walker, G. J. Nature in our lives: examining the human need for nature relatedness as a basic psychological need. *J. Leis. Res.* **50**, 290–310 (2019).

266. Vlaar, J., Brussoni, M., Janssen, I. & Mâsse, L. C. Roaming the neighbourhood: influences of independent mobility parenting practices and parental perceived environment on children's territorial range. *Int. J. Environ. Res. Public Health* **16**, (2019).
267. Potter, B. D. Tracing the landscape: re-enchantment, play, and spirituality in parkour. *Religions* **10**, (2019).
268. Genik, L. M. & McMurtry, C. M. Prevalence and impact of bumps, bruises, and other painful incidents among children while handling and riding horses. *J. Outdoor Recreat. Tour.* **27**, (2019).
269. Arbuthnott, K. D. & Sutter, G. C. Songwriting for nature: increasing nature connection and well-being through musical creativity. *Environ. Educ. Res.* **25**, 1300–1318 (2019).
270. Weber, M., Groulx, M., Lemieux, C. J., Scott, D. & Dawson, J. Balancing the dual mandate of conservation and visitor use at a Canadian world heritage site in an era of rapid climate change. *J. Sustain. Tour.* **27**, 1318–1337 (2019).
271. Alden, C. & Pyle, A. Multi-sector perspectives on outdoor play in Canada. *Int. J. Play* **8**, 239–254 (2019).
272. McGavock, J. *et al.* Walking on water - a natural experiment of a population health intervention to promote physical activity after the winter holidays. *Int. J. Environ. Res. Public Health* **16**, (2019).
273. Hurly, J. 'I feel something is still missing': leisure meanings of African refugee women in Canada. *Leis. Stud.* **38**, 1–14 (2019).
274. Kim, B. 'Sometimes I like to see what I am doing': studying outdoor play pedagogical documentation from children's perspectives. *Int. J. Play* **8**, 94–106 (2019).
275. Macnaughton, J. F. P., Walker, E. P., Mock, S. E. & Glover, T. D. Social capital and attitudes towards physical activity among youth at summer camps: a longitudinal analysis of personal development and environmental awareness as mediators. *World Leis. J.* **61**, 3–16 (2019).
276. Ito, E., Walker, G. J., Mitás, O. & Liu, H. Cultural similarities and differences in the relationship between types of leisure activity and happiness in Canadian, Chinese, and Japanese university students. *World Leis. J.* **61**, 30–42 (2019).
277. Ball, D. J., Brussoni, M., Gill, T. R., Harbottle, H. & Spiegel, B. Avoiding a dystopian future for children's play. *Int. J. Play* **8**, 3–10 (2019).
278. Bruijns, B. A. *et al.* Exploring the physical activity and screen-viewing-related knowledge, training, and self-efficacy of early childhood education candidates. *BMC Pediatr.* **19**, (2019).

279. Reddon, J. R. & Durante, S. B. Prisoner exposure to nature: benefits for wellbeing and citizenship. *Med. Hypotheses* **123**, 13–18 (2019).
280. Ladle, A. *et al.* Grizzly bear response to spatio-temporal variability in human recreational activity. *J. Appl. Ecol.* **56**, 375–386 (2019).
281. Nykiforuk, C. I. J., Rawson, D., McGetrick, J. A. & Belon, A. P. Canadian policy perspectives on promoting physical activity across age-friendly communities: lessons for advocacy and action. *Ageing Soc.* **39**, 307–339 (2019).
282. Harper, N. J., Mott, A. J. & Obee, P. Client perspectives on wilderness therapy as a component of adolescent residential treatment for problematic substance use and mental health issues. *Child. Youth Serv. Rev.* **105**, (2019).
283. Girling, C., Zheng, K., Monti, A. & Ebnesahidi, M. Walkability vs. walking: assessing outcomes of walkability at Southeast False Creek, Vancouver, Canada. *J. Urban.* **12**, 456–475 (2019).
284. Shirazipour, C. H., Tennant, E. M., Aiken, A. B. & Latimer-Cheung, A. E. Psychosocial aspects of physical activity participation for military personnel with illness and injury: a scoping review. *Mil. Behav. Heal.* **7**, 459–476 (2019).
285. Lambert, A., Vlaar, J., Herrington, S. & Brussoni, M. What is the relationship between the neighbourhood built environment and time spent in outdoor play? A systematic review. *Int. J. Environ. Res. Public Health* **16**, (2019).
286. Arellano, A. & Downey, A. Sport-for-development and the failure of aboriginal subjecthood: re-imagining lacrosse as resurgence in indigenous communities. *Settl. Colon. Stud.* **9**, 457–478 (2019).
287. Mikraszewicz, K. & Richmond, C. Paddling the Biigtig: Mino biimadisiwin practiced through canoeing. *Soc. Sci. Med.* **240**, (2019).
288. Driediger, M. *et al.* The impact of shorter, more frequent outdoor play periods on preschoolers' physical activity during childcare: a cluster randomized controlled trial. *Int. J. Environ. Res. Public Health* **16**, (2019).
289. Langevin, M., Schneider, P., Packman, A. & Onslow, M. Exploring how preschoolers who stutter use spoken language during free play: a feasibility study. *Int. J. Speech. Lang. Pathol.* **21**, 646–654 (2019).
290. Cardwell, F. S. & Elliott, S. J. They say 'kids with asthma don't play sports': geographies of asthma. *Child. Geogr.* **17**, 649–663 (2019).

291. Tillmann, S., Button, B., Coen, S. E. & Gilliland, J. A. 'Nature makes people happy, that's what it sort of means:' children's definitions and perceptions of nature in rural Northwestern Ontario. *Child. Geogr.* **17**, 705–718 (2019).
292. Dottori, M. *et al.* Lost in knowledge translation: media framing of physical activity and sport participation. *Int. J. Sport Commun.* **12**, 509–530 (2019).
293. Lew-Levy, S., Milks, A., Lavi, N., Pope, S. M. & Friesem, D. E. Where innovations flourish: an ethnographic and archaeological overview of hunter-gatherer learning contexts. *Evol. Hum. Sci.* **2**, (2020).
294. Harlow, M., Wolman, L. & Fraser-Thomas, J. Should toddlers and preschoolers participate in organized sport? A scoping review of developmental outcomes associated with young children's sport participation. *Int. Rev. Sport Exerc. Psychol.* **13**, 40–64 (2020).
295. Dingle, G. & Mallen, C. Community sports fields and atmospheric climate impacts: Australian and Canadian perspectives. *Manag. Sport Leis.* (2020). doi:10.1080/23750472.2020.1766375
296. Button, B. L. G., Tillmann, S. & Gilliland, J. Exploring children's perceptions of barriers and facilitators to physical activity in rural Northwestern Ontario, Canada. *Rural Remote Health* **20**, (2020).
297. MacPhail, V. J., Gibson, S. D. & Colla, S. R. Community science participants gain environmental awareness and contribute high quality data but improvements are needed: insights from Bumble Bee Watch. *PeerJ* **2020**, (2020).
298. Pelletier, C. A., Ward, K., Pousette, A. & Fox, G. Meaning and experiences of physical activity in rural and northern communities. *Qual. Res. Sport. Exerc. Heal.* (2020). doi:10.1080/2159676X.2020.1761434
299. Zeidan, J. *et al.* Look around me: environmental and socio-economic factors related to community participation for children with cerebral palsy in Québec. *Phys. Occup. Ther. Pediatr.* (2020). doi:10.1080/01942638.2020.1867693
300. Jachyra, P., Renwick, R., Gladstone, B., Anagnostou, E. & Gibson, B. E. Physical activity participation among adolescents with autism spectrum disorder. *Autism* (2020). doi:10.1177/1362361320949344
301. Leather, M., Harper, N. & Obee, P. A pedagogy of play: Reasons to be playful in postsecondary education. *J. Exp. Educ.* (2020). doi:10.1177/1053825920959684
302. Portier, C., Friedrich, N. & Peterson, S. S. Play(ful) pedagogical practices for creative collaborative literacy. *Read. Teach.* **73**, 17–27 (2019).

303. Zimmer, C., Dunn, J. C. & Holt, N. L. Experiences in physical education for children at risk for developmental coordination disorder. *Adapt. Phys. Act. Q.* **37**, 385–403 (2020).
304. Bruijns, B. A. *et al.* Early childhood education candidates' perspectives of their importance and responsibility for promoting physical activity and minimizing screen-viewing opportunities in childcare. *J. Early Child. Teach. Educ.* (2020). doi:10.1080/10901027.2020.1818651
305. Hogan, J. L. & Brown, C. D. Spatial extent and severity of all-terrain vehicles use on coastal sand dune vegetation. *Appl. Veg. Sci.* (2020). doi:10.1111/avsc.12549
306. Harper, N. J. & Obee, P. Articulating outdoor risky play in early childhood education: voices of forest and nature school practitioners. *J. Adventure Educ. Outdoor Learn.* (2020). doi:10.1080/14729679.2020.1784766
307. Reining, C. E., Lemieux, C. J. & Doherty, S. T. Linking restorative human health outcomes to protected area ecosystem diversity and integrity. *J. Environ. Plan. Manag.* (2020). doi:10.1080/09640568.2020.1857227
308. Ford, P. R. *et al.* The developmental and professional activities of female international soccer players from five high-performing nations. *J. Sports Sci.* 1–9 (2020). doi:10.1080/02640414.2020.1789384
309. Connelly, J.-A., Manningham, S. & Champagne, M. Factors related to energetic play during outdoor time in childcare centres. *Early Child. Educ. J.* (2020). doi:10.1007/s10643-020-01088-8
310. Norman, M. Sport and incarceration: theoretical considerations for sport for development research. *Soc. Incl.* **8**, 187–196 (2020).
311. Horgan, M., Liinamaa, S., Dakin, A., Meligrana, S. & Xu, M. A shared everyday ethic of public sociability: outdoor public ice rinks as spaces for encounter. *Urban Plan.* **5**, 143–154 (2020).
312. Scheibling, C. & Marsiglio, W. #HealthyDads: “Fit Fathering” discourse and digital health promotion in dad blogs. *J. Marriage Fam.* (2020). doi:10.1111/jomf.12743
313. Oncescu, J. Addressing the funding gaps in recreation access provisions: the role of leisure education. *Manag. Sport Leis.* (2020). doi:10.1080/23750472.2020.1761866
314. Merrick, D. *et al.* All aboard: users' experiences of adapted paddling programs. *Disabil. Rehabil.* (2020). doi:10.1080/09638288.2020.1725153
315. Wigglesworth, J. & Heintzman, P. A qualitative study of the perceived significant life impacts of a university summer outdoor education course. *J. Adventure Educ. Outdoor Learn.* (2020). doi:10.1080/14729679.2020.1854097

316. Rioux, B. V, Gupta, N., Bouchard, D. R., Dunbar, J. & Sénéchal, M. Outdoor time is not associated with metabolically healthy overweight and obesity phenotype in Canadian children aged 6-14 years. *Int. J. Exerc. Sci.* **13**, 383–394 (2020).
317. Berg, S. *et al.* Meaning-making of student experiences during outdoor exploration time. *J. Adventure Educ. Outdoor Learn.* (2020). doi:10.1080/14729679.2020.1769694
318. Heintzman, P. Empirical research on leisure and spiritual well-being: conceptualisation, measurement and findings. *Leis. Stud.* **39**, 146–155 (2020).
319. Chang, D. Encounters with suchness: contemplative wonder in environmental education. *Environ. Educ. Res.* **26**, 1–13 (2020).
320. Banack, H. & Berger, I. The emergence of early childhood education outdoor programs in British Columbia: a meandering story. *Child. Geogr.* **18**, 58–68 (2020).
321. McCullough, C. D., Schultze, M. & Vandenberg, J. Realizing beneficial end uses from abandoned pit lakes. *Minerals* **10**, (2020).
322. Jarvis, I., Gergel, S., Koehoorn, M. & van den Bosch, M. Greenspace access does not correspond to nature exposure: measures of urban natural space with implications for health research. *Landsc. Urban Plan.* **194**, (2020).
323. McConnell-Nzunga, J. *et al.* Prevalence and relationships among physical activity policy, environment, and practices in licensed childcare centers from a manager and staff perspective. *Int. J. Environ. Res. Public Health* **17**, (2020).
324. Wilson, K. L. *et al.* Social–ecological feedbacks drive spatial exploitation in a northern freshwater fishery: a halo of depletion. *J. Appl. Ecol.* **57**, 206–218 (2020).
325. Hassani, K. *et al.* Implementing appetite to play at scale in British Columbia: evaluation of a capacity-building intervention to promote physical activity in the early years. *Int. J. Environ. Res. Public Health* **17**, (2020).
326. Saly, D., Hendrikx, J., Birkeland, K. W., Challender, S. & Johnson, J. Using time lapse photography to document terrain preferences of backcountry skiers. *Cold Reg. Sci. Technol.* **172**, (2020).
327. Sampasa-Kanyinga, H., Colman, I., Hamilton, H. A. & Chaput, J.-P. Outdoor physical activity, compliance with the physical activity, screen time, and sleep duration recommendations, and excess weight among adolescents. *Obes. Sci. Pract.* **6**, 196–206 (2020).

328. Mogo, E. *et al.* Using a rapid review process to engage stakeholders, inform policy and set priorities for promoting physical activity and leisure participation for children with disabilities in British Columbia. *Leis. Loisir* **44**, 225–253 (2020).
329. Cheeseman, A. & Wright, T. Perspectives from parents: an investigation of the longer-term benefits of an earth education summer camp program. *Appl. Environ. Educ. Commun.* **19**, 117–128 (2020).
330. Oncescu, J. & Loewen, M. Community recreation provisions that support low-income families' access to recreation. *Leis. Loisir* **44**, 279–302 (2020).
331. Farley, L., Sonu, D., Garlen, J. C. & Chang-Kredl, S. Childhood memories of playful antics and punishable acts: risking an imperfect future of teaching and learning. *New Educ.* **16**, 106–121 (2020).
332. Hunter, S. *et al.* Moderators of parents' perceptions of the neighborhood environment and children's physical activity, time outside, and screen time. *J. Phys. Act. Heal.* **17**, 557–565 (2020).
333. Watchman, T. & Spencer, N. L. I. 'What are you doing for your kids?' Exploring messages and Canadian parents' decisions and perspectives in children's sport and free play. *Leis. Stud.* **39**, 341–354 (2020).
334. Diduck, A. P., Raymond, C. M., Rodela, R., Moquin, R. & Boerchers, M. Pathways of learning about biodiversity and sustainability in private urban gardens. *J. Environ. Plan. Manag.* **63**, 1056–1076 (2020).
335. Tink, L. N. *et al.* 'Pushing the outdoor play agenda': exploring how practitioners conceptualise and operationalise nature play in a Canadian context. *Qual. Res. Sport. Exerc. Heal.* **12**, 303–318 (2020).
336. Goon, S., Kontulainen, S. & Muhajarine, N. Neighborhood built environment measures and association with physical activity and sedentary time in 9–14-year-old children in Saskatoon, Canada. *Int. J. Environ. Res. Public Health* **17**, (2020).
337. Marion, S. *et al.* A systematic review of methods for studying the impacts of outdoor recreation on terrestrial wildlife. *Glob. Ecol. Conserv.* **22**, (2020).
338. Archbell, K. A., Coplan, R. J. & Rose-Krasnor, L. What did your child do today? Describing young children's daily activities outside of school. *J. Early Child. Res.* **18**, 189–199 (2020).
339. Lodewyk, K. R., McNamara, L. & Sullivan, P. Associations between elementary students' victimization, peer belonging, affect, physical activity, and enjoyment by gender during recess. *Can. J. Sch. Psychol.* **35**, 154–170 (2020).

340. Rhodes, R. E. *et al.* Development of a consensus statement on the role of the family in the physical activity, sedentary, and sleep behaviours of children and youth. *Int. J. Behav. Nutr. Phys. Act.* **17**, (2020).
341. Purc-Stephenson, R. J., Rawleigh, M., Kemp, H. & Asfeldt, M. We are wilderness explorers: a review of outdoor education in Canada. *J. Exp. Educ.* **42**, 364–381 (2019).
342. Richmond, S. A., Black, A. M., Jacob, J., Babul, S. & Pike, I. Active & safe central: development of an online resource for the prevention of injury in sport and recreational activity. *Inj. Prev.* **25**, 546–551 (2019).
343. Sims-Gould, J., Race, D. L., Vasaya, N. & McKay, H. A. A new urban greenway in Vancouver, British Columbia: adolescents’ perspectives, experiences and vision for the future. *J. Transp. Heal.* **15**, (2019).
344. Bélanger, M. *et al.* Physical activity mediates the relationship between outdoor time and mental health. *Prev. Med. Reports* **16**, (2019).
345. Johnson, S. A., Snow, S., Lawrence, M. A. & Rainham, D. G. C. Quasi-randomized trial of contact with nature and effects on attention in children. *Front. Psychol.* **10**, (2019).
346. Guerrero, M. D. *et al.* Canadian children’s and youth’s adherence to the 24-h movement guidelines during the COVID-19 pandemic: a decision tree analysis. *J. Sport Heal. Sci.* **9**, 313–321 (2020).
347. Bauer, M. E. E., Brussoni, M. & Giles, A. R. Categorizing mothers’ and fathers’ conceptualizations of children’s serious play-related injuries: “You won’t grow a finger back”. *Child. Care. Health Dev.* **46**, 530–536 (2020).
348. Lodewyk, K. & McNamara, L. Recess enjoyment, affect, and preferences by gender and developmental level in elementary school. *J. Teach. Phys. Educ.* **39**, 360–373 (2020).
349. Edwards, R. C. & Larson, B. M. H. When screens replace backyards: strategies to connect digital-media-oriented young people to nature. *Environ. Educ. Res.* **26**, 950–968 (2020).
350. Moore, S. A. *et al.* Impact of the COVID-19 virus outbreak on movement and play behaviours of Canadian children and youth: a national survey. *Int. J. Behav. Nutr. Phys. Act.* **17**, (2020).
351. Waygood, E. O. D., Olsson, L. E., Taniguchi, A. & Friman, M. The role of children’s independent mobility and social media use for face-to-face social interaction with friends. *Transportation (Amst)*. **47**, 1987–2009 (2020).

352. Brussoni, M. *et al.* A qualitative investigation of unsupervised outdoor activities for 10- to 13-year-old children: “I like adventuring but I don’t like adventuring without being careful”. *J. Environ. Psychol.* **70**, (2020).
353. Shirazipour, C. H. & Latimer-Cheung, A. E. Understanding quality participation: exploring ideal physical activity outcomes for military veterans with a physical disability. *Qual. Res. Sport. Exerc. Heal.* **12**, 563–578 (2020).
354. Ooi, L. L., Rose-Krasnor, L., Shapira, M. & Coplan, R. J. Parental beliefs about young children’s leisure activity involvement. *J. Leis. Res.* **51**, 469–488 (2020).
355. Russell, K., Arthur, S., Goulet, C., Selci, E. & Morrongiello, B. Understanding youths’ attitudes and practices regarding listening to music, video recording and terrain park use while skiing and snowboarding. *BMC Pediatr.* **20**, (2020).
356. Carter, D. P., Hutson, G., Lam, P., Rose, J. & Furman, N. The self-governance challenges facing climbers, with examples from Utah, Colorado, & Ontario. *J. Outdoor Recreat. Tour.* **31**, (2020).
357. Dring, C. C., Lee, S. Y. H. & Rideout, C. A. Public school teachers’ perceptions of what promotes or hinders their use of outdoor learning spaces. *Learn. Environ. Res.* **23**, 369–378 (2020).
358. Romain, A. J., Longpré-Poirier, C., Tannous, M. & Abdel-Baki, A. Physical activity for patients with severe mental illness: Preferences, barriers and perceptions of counselling. *Sci. Sport.* **35**, 289–299 (2020).
359. Lacoste, Y., Dancause, K. N., Gosselin-Gagne, J. & Gadais, T. Physical activity among immigrant children: a systematic review. *J. Phys. Act. Heal.* **17**, 1047–1058 (2020).
360. Lee, E.-Y. & Khan, A. Prevalence and clustering patterns of pro-environmental behaviors among Canadian households in the era of climate change. *Sustain.* **12**, (2020).
361. Larouche, R. *et al.* Relationships among children’s independent mobility, active transportation, and physical activity: a multisite cross-sectional study. *Pediatr. Exerc. Sci.* **32**, 189–196 (2020).
362. Lim, B. T., Chhina, H., Pike, I., Brussoni, M. & Cooper, A. Methodological challenges in investigating supracondylar fractures of the humerus from a child’s viewpoint: evolution of study protocol. *JMIR Res. Protoc.* **9**, (2020).
363. Katapally, T. R., Bhawra, J. & Patel, P. A systematic review of the evolution of GPS use in active living research: a state of the evidence for research, policy, and practice. *Heal. Place* **66**, (2020).
364. Boileau, E. Y. S. & Dabaja, Z. F. Forest school practice in Canada: a survey study. *J. Outdoor Environ. Educ.* **23**, 225–240 (2020).

365. Button, B. L. G., Clark, A. F., Martin, G., Graat, M. & Gilliland, J. A. Measuring temporal differences in rural Canadian children's moderate-to-vigorous physical activity. *Int. J. Environ. Res. Public Health* **17**, 1–14 (2020).
366. Hand, C., Laliberte Rudman, D., Huot, S., Pack, R. & Gilliland, J. Enacting agency: exploring how older adults shape their neighbourhoods. *Ageing Soc.* **40**, 565–583 (2020).
367. Forsyth, A., Lysaght, R., Aiken, A. & Cramm, H. Wilderness adventure program may help combat perceptions of stigma among veterans. *Ecopsychology* **12**, 8–18 (2020).
368. Meilleur, A. *et al.* A retrospective study of the importance of a mandatory outdoor experience program at university. *J. Outdoor Environ. Educ.* **23**, (2020).
369. Antonsen, C. M. Restorying the image of the child's body in early childhood education. *Contemp. Issues Early Child.* **21**, 7–19 (2020).
370. Blye, C.-J. & Halpenny, E. Do Canadians leave no trace? Understanding leave no trace attitudes of frontcountry and backcountry overnight visitors to Canadian provincial parks. *J. Outdoor Recreat. Tour.* **29**, (2020).
371. Lodewyk, K., McNamara, L. & Walker, M. Victimization, physical activity, and affective outcomes during recess in students with and without disabilities. *Alberta J. Educ. Res.* **66**, 17–31 (2020).
372. Sharpe, E. K., Litwiller, F. & Gallant, K. Risk, nostalgia and the production of the ideal childhood in online commentary on children's outdoor play. *Leis. Stud.* **39**, 225–237 (2020).
373. Neustaedter, C., Procyk, J., Chua, A., Forghani, A. & Pang, C. Mobile video conferencing for sharing outdoor leisure activities over distance. *Human-Computer Interact.* **35**, 103–142 (2020).
374. Gruno, J. & Gibbons, S. L. Incorporating nature-based physical activity in physical and health education. *J. Phys. Educ. Recreat. Danc.* **91**, 26–34 (2020).
375. McCormack, G. R., Doyle-Baker, P. K., Petersen, J. A. & Ghoneim, D. Parent anxiety and perceptions of their child's physical activity and sedentary behaviour during the COVID-19 pandemic in Canada. *Prev. Med. Reports* **20**, (2020).
376. Haegeli, P. & Strong-Cvetich, L. R. Using discrete choice experiments to examine the stepwise nature of avalanche risk management decisions—an example from mountain snowmobiling. *J. Outdoor Recreat. Tour.* **32**, (2020).
377. Barakat, C. & Yousufzai, S. Green space and mental health for vulnerable populations: a conceptual review of the evidence. *J. Mil. Veteran Fam. Heal.* **6**, 51–57 (2020).

378. Scott, D., Steiger, R., Ruty, M., Pons, M. & Johnson, P. Climate change and ski tourism sustainability: an integrated model of the adaptive dynamics between ski area operations and skier demand. *Sustain.* **12**, 1–16 (2020).
379. Sturge, J. *et al.* Features of the social and built environment that contribute to the well-being of people with dementia who live at home: a scoping review. *Heal. Place* **67**, (2021).
380. Gargano, V. & Turcotte, D. Helping factors in an outdoor adventure program. *J. Soc. Work* **21**, 88–106 (2021).
381. Girard, C., Dubé, J. É., Abdel-Baki, A. & Ouellet-Plamondon, C. Off the beaten path: adventure therapy as an adjunct to early intervention for psychosis. *Psychosis* (2021). doi:10.1080/17522439.2021.1901301
382. Cook, K. J., Hvenegaard, G. T. & Halpenny, E. A. Visitor perceptions of the outcomes of personal interpretation in Alberta’s Provincial Parks. *Appl. Environ. Educ. Commun.* **20**, 49–65 (2021).
383. Pullenayegum, E. M., Birken, C., Maguire, J. & Collaboration, T. Targ. K. Clustered longitudinal data subject to irregular observation. *Stat. Methods Med. Res.* (2021). doi:10.1177/0962280220986193
384. Glover, T. D., Munro, S., Men, I., Loates, W. & Altman, I. Skateboarding, gentle activism, and the animation of public space: CITE—a celebration of skateboard arts and culture at The Bentway. *Leis. Stud.* **40**, 42–56 (2021).
385. Ho, Y. C. J. & Chang, D. To whom does this place belong? Whiteness and diversity in outdoor recreation and education. *Ann. Leis. Res.* (2021). doi:10.1080/11745398.2020.1859389
386. Harper, N. J., Lim, C., Alqallaf, H. & Naylor, P. J. A case study exploring the ‘real world’ process of ‘naturalizing’ school playgrounds. *Int. J. Environ. Health Res.* **31**, 298–314 (2021).
387. Bauer, M. E. E., Brussoni, M. & Giles, A. R. Rural mothers’ perspectives on keeping their children safe during outdoor play: ‘it’s hard to raise a child in a small community’. *J. Adventure Educ. Outdoor Learn.* (2021). doi:10.1080/14729679.2021.1902827
388. Buttazzoni, A., Doherty, S. & Minaker, L. How do urban environments affect young people’s mental health? A novel conceptual framework to bridge public health, planning, and neurourbanism. *Public Health Rep.* (2021). doi:10.1177/0033354920982088
389. Bernard, P. *et al.* Climate change, physical activity and sport: a systematic review. *Sport. Med.* (2021). doi:10.1007/s40279-021-01439-4

390. Gruno, J. & Gibbons, S. L. Using discussion to inform action: formative research on nature-based physical activity as a means of fostering relatedness for girls in physical and health education. *Eur. Phys. Educ. Rev.* (2021). doi:10.1177/1356336X21991181
391. Spencer, R. A., Numer, M., Rehman, L. & Kirk, S. F. L. Picture perfect? Gazing into girls' health, physical activity, and nutrition through photovoice. *Int. J. Qual. Stud. Health Well-being* **16**, (2021).
392. Goldman, D. E., Turnnidge, J., Kelly, A. L., deVos, J. & Côté, J. Athlete perceptions of playing-up in youth soccer. *J. Appl. Sport Psychol.* (2021). doi:10.1080/10413200.2021.1875518
393. Pludwinski, B. J. & Grimwood, B. S. R. (Re)producing wilderness tourism discourses in Algonquin Provincial Park. *Tour. Stud.* (2021). doi:10.1177/1468797621989207
394. Lincoln, S. Building resilience through trail running: women's perspectives. *Leis. Loisir* (2021). doi:10.1080/14927713.2021.1880337
395. Pereira, T. J., King, T. & Burr, J. F. Mental health & physical activity: could off-road motorized recreation help combat depression and anxiety? *Leis. Loisir* (2021). doi:10.1080/14927713.2021.1874829
396. McGarr, G. W. *et al.* Heat strain in children during unstructured outdoor physical activity in a continental summer climate. *Temperature* **8**, 80–89 (2021).
397. Robinson, D. B., Hall, N., Costa, J. D. & Bradford, B. Alternative environment activities on both sides of the Atlantic: a Canada-Ireland consideration and comparison. *Eur. Phys. Educ. Rev.* (2021). doi:10.1177/1356336X20985883
398. Szpunar, M. *et al.* Implementation adherence and perspectives of the childcare Physical Activity (PLAY) policy: a process evaluation. *Heal. Educ. Behav.* (2021). doi:10.1177/1090198121996285
399. Richmond, S. A., Bruin, S., Black, A. M., Pike, I. & Babul, S. Active & safe central: using a mixed-methods design and the RE-AIM framework to evaluate a sport and recreational injury prevention resource for practitioners in Canada. *BMJ Open* **11**, (2021).
400. Goodbody, T. R. H. *et al.* Mapping recreation and tourism use across grizzly bear recovery areas using social network data and maximum entropy modelling. *Ecol. Modell.* **440**, (2021).
401. Gautreau, S. J. *et al.* Home versus indoor trampoline park injuries: a four-year review of hospital admissions, associated costs, and impact on patients. *Trauma Case Reports* **31**, (2021).
402. Zhang, Z. *et al.* Associations between the child care environment and children's in-care physical activity and sedentary time. *Heal. Educ. Behav.* **48**, 42–53 (2021).

403. Paradis, Y., Bernatchez, S., Lapointe, D. & Cooke, S. J. Can you fish in a pandemic? An overview of recreational fishing management policies in North America during the COVID-19 crisis. *Fisheries* **46**, 81–85 (2021).
404. Geng, D. C., Innes, J. L., Wu, W., Wang, W. & Wang, G. Seasonal variation in visitor satisfaction and its management implications in Banff National Park. *Sustain.* **13**, 1–17 (2021).
405. Høj, S. B., Paquet, C., Caron, J. & Daniel, M. Relative ‘greenness’ and not availability of public open space buffers stressful life events and longitudinal trajectories of psychological distress. *Heal. Place* **68**, (2021).
406. Burns, K. E., Chaurasia, A., Carson, V. & Leatherdale, S. T. Examining if changes in the type of school-based intramural programs affect youth physical activity over time: a natural experiment evaluation. *Int. J. Environ. Res. Public Health* **18**, 1–14 (2021).
407. Moghaddaszadeh, A. & Belcastr, A. N. Guided active play promotes physical activity and improves fundamental motor skills for school-aged children. *J. Sport. Sci. Med.* **20**, 86–93 (2021).
408. Geng, D. C., Innes, J., Wu, W. & Wang, G. Impacts of COVID-19 pandemic on urban park visitation: a global analysis. *J. For. Res.* **32**, 553–567 (2021).
409. Steele, D., Fraisse, V., Bild, E. & Guastavino, C. Bringing music to the park: the effect of Musikiosk on the quality of public experience. *Appl. Acoust.* **177**, (2021).
410. Bruijns, B. A. *et al.* Training may enhance early childhood educators’ self-efficacy to lead physical activity in childcare. *BMC Public Health* **21**, (2021).
411. Lee, E.-Y. *et al.* Systematic review of the correlates of outdoor play and time among children aged 3–12 years. *Int. J. Behav. Nutr. Phys. Act.* **18**, (2021).
412. Bergeron, N. *et al.* Don’t take down the monkey bars: rapid systematic review of playground-related injuries. *Can. Fam. Physician* **65**, e121–e128 (2019).
413. Mahboob, A., Richmond, S. A., Harkins, J. P. & Macpherson, A. K. Childhood unintentional injury: the impact of family income, education level, occupation status, and other measures of socioeconomic status. A systematic review. *Paediatr. Child Heal.* **26**, e39–e45 (2021).
414. Alexander, S. A., Barnett, T. A. & Fitzpatrick, C. Are inequalities produced through the differential access to play opportunities at school? A call to level the playing field. *Can. J. Public Heal.* **108**, e583–e585 (2017).
415. Lee, E.-Y. *et al.* Role of parental and environmental characteristics in toddlers’ physical activity and screen time: bayesian analysis of structural equation models. *Int. J. Behav. Nutr. Phys. Act.* **15**, 17 (2018).

416. Kerpan, S. & Humbert, L. Playing together: the physical activity beliefs and behaviors of urban Aboriginal youth. *J. Phys. Act. Health* **12**, 1409–1413 (2015).
417. Ferrao, T. & Janssen, I. Parental encouragement is positively associated with outdoor active play outside of school hours among 7-12 year olds. *PeerJ* **3**, e1463 (2015).
418. Riazi, N. A. *et al.* Correlates of children's independent mobility in Canada: a multi-site study. *Int. J. Environ. Res. Public Health* **16**, (2019).