

Increasing Outdoor Play in Early Learning and Child Care in the Context of COVID-19

LAWSON

How to cite this document:

Lawson Foundation. Increasing Outdoor Play in Early Learning and Child Care in the Context of COVID-19. July 2020. English version available at http://www.lawson.ca/op-elcc-covid19.pdf. French version available at http://www.lawson.ca/op-elcc-covid19-fr.pdf.

The Lawson Foundation c/o Foundation House 2 St. Clair Avenue East, Suite 300 Toronto, Ontario M4T 2T5

www.lawson.ca

Copyright © 2020 The Lawson Foundation

Acknowledgements

The Lawson Foundation expresses its appreciation to the advisors identified below for contributing their expertise to the development of this statement. The Lawson Foundation assumes responsibility for the interpretation and synthesis of their advice.

Christine Alden

Program Director, Lawson Foundation; PhD Candidate, OISE, University of Toronto

Mariana Brussoni. PhD

Associate Professor, Department of Pediatrics, School of Population and Public Health, University of British Columbia; BC Children's Hospital Research Institute; BC Injury Research & Prevention Unit

Beverlie Dietze, PhD

Director of Learning and Applied Research, Okanagan College

Colin Furness, PhD MPH

Assistant Professor, Faculty of Information & Dalla Lana School of Public Health, University of Toronto

Sylvie Melsbach

Support for partnerships and safety on playgrounds, Regroupement des centres de la petite enfance de la Montérégie Lynn Short

Environmental Stewardship Coordinator, Humber Arboretum; Indigenous Education Coordinator, Indigenous Education and Engagement; Part-time Professor, Horticulture, Faculty of Applied Science and Technology, Humber College

Frank Welsh, PhD

Director of Policy, Canadian Public Health Association

Lisa Wolff

Director, Policy and Research, UNICEF Canada

Louise Zimanyi

Professor, Early Childhood Education, Faculty of Health Sciences and Wellness, Humber College; Doctor of Social Sciences Candidate, Royal Roads University

The Lawson Foundation thanks the following colleagues for their review of this statement: Don Giesbrecht, CEO, Canadian Child Care Federation; Marlene Power, Child and Nature Fellow, Community Knowledge Exchange; Jane Bertrand, Program Director, Margaret and Wallace McCain Family Foundation; and Jacob Flewelling, Early Childhood Leadership intern from George Brown College who contributed to the environmental scan and literature review. Photos are courtesy of Jonathan Thiang and Louise Zimanyi at Humber College.

Increasing Outdoor Play in Early Learning and Child Care in the Context of COVID-19

High-quality early learning and child care (ELCC) programs are central to the recovery of both children and the economy from the COVID-19 pandemic. Outdoor play in these programs supports goals related to health protection and promotion, and child development and learning. We recommend increasing children's opportunities for outdoor play in ELCC programs during and beyond the COVID-19 pandemic.

Use of the outdoors is underestimated and overlooked as both a significant COVID-19 mitigation strategy in children's settings, ^{1,2} and as an important learning environment for early learning and child care (ELCC). And yet outdoor play supports health protection goals to reduce the spread of COVID-19³ while providing developmental benefits for children.⁴ This statement outlines:

- the <u>context</u> for increasing children's opportunities for outdoor play;
- the evidence-based <u>rationale</u> for maximizing outdoor play in ELCC;
- the **feasibility** of increasing high-quality outdoor play through existing ELCC resources;
- issues that require <u>harmonizing</u> public health and ELCC perspectives to recognize the outdoors as a distinct learning environment in order to fully enable outdoor play; and
- policy, practice, and research <u>recommendations</u> to increase opportunities for outdoor play in ELCC.

This statement is intended for all levels of government developing public health and ELCC guidance as well as ELCC programs (community-based and publicly delivered) and post-secondary early childhood education programs. The statement was developed in consultation with advisors from public health and ELCC (see p. i) to inform evolving guidance to support the re-opening and implementation of high-quality ELCC programs for young children (birth through preschool) and school-age children (up to age 12).

Guidelines should be developed in consultation with both public health experts and ELCC outdoor play experts and regularly reviewed based on emerging evidence. Guidelines should consider the best interests of the child, alongside those of the family, educators, and others. Risk-benefit analyses and child rights impact assessment, as established in the United Nations Convention on the Rights of the Child, can be used to assess those guidelines. ELCC programs should maximize time spent outdoors with a focus on high-quality pedagogical experiences for children.

time spent outdoors

Context

High-quality ELCC programs are central to the recovery of both children and the economy from the COVID-19 pandemic

The COVID-19 pandemic has underlined the importance of ELCC to a functioning economy. National commentary on child care policy has focused on making ELCC widely available to parents returning to work and the substantial investments required to re-open and sustain operations. However, the implications of pandemic control measures in this new era for children, educators, and program quality require deeper consideration. For Canada, as a signatory of the United Nations Convention on the Rights of the Child, the best interests of the child should be central to all decisions, particularly those related to ELCC programs.

While experiences vary, the pandemic and its related control measures have increased family economic loss and anxiety, food insecurity, and child maltreatment, and have disrupted children's development by curtailing their socialization and outdoor play. Developmental and economic inequalities among children have likely been exacerbated, and the pandemic's effects on learning and development will not be fully understood for years to come. High-quality ELCC matters more than ever to mitigate the trauma of this period, reduce inequalities, and help children to recover and thrive.

Outdoor play in ELCC programs supports goals related to health protection and promotion, and child development and learning

Early experiences influence child development and have impacts across the lifespan. In high-quality ELCC programs, qualified educators support healthy child development by engaging responsively with children in stimulating learning environments. Outdoor environments are often overlooked for learning in favour of indoor environments; however, research is establishing that high-quality outdoor environments and specific educator training in outdoor play-based learning support quality and offer unique opportunities and benefits not readily available indoors. Unique opportunities and benefits not readily available indoors. Outdoor play experiences must therefore be considered vital to ELCC programs.

The importance of outdoor play transcends the current pandemic and should inform ongoing efforts to support high-quality ELCC programs, particularly as governments increase ELCC investments and work towards providing universal access. In the meantime, a focus on outdoor play can help to overcome the many challenges governments and ELCC programs face in meeting children's needs as COVID-19 control measures evolve.

Rationale for Maximizing Outdoor Play

Outdoor environments promote health

In outdoor environments, children have more space to move and fewer shared surfaces to touch; they can breathe more deeply, and their respiratory droplets are diluted into fresh air. As a result, outdoor environments can reduce respiratory transmission risks. ELCC programs are healthier outdoors than they are in small, high-use, poorly ventilated, warm indoor spaces.

During the COVID-19 pandemic, the health benefits of outdoor environments have greater significance.

Outdoor play supports healthy child development

Outdoor play supports healthy child development in myriad ways. 16,17

- Children move more and sit less outdoors, leading to better overall physical health. 18,19,20
- Children develop social skills and self-regulation through outdoor experiences, play, and negotiating with others.²¹
- When playing outdoors, children engage with risk and develop risk management skills that support selfefficacy and resilience over time.²²
- Being outdoors in nature supports mental health and increases children's happiness and sense of joy.²³

The documented decline in children's outdoor play, due to increased use of technology, societal risk aversion, and the overscheduling of organized activities for children, threatens healthy child development.^{24,25,26}

Children's daily lives have been disrupted by COVID-19 with some children suffering hardships. Outdoor play mitigates adverse experiences and can therapeutically help all children navigate increased stress.²⁷

All children can benefit from outdoor play

Children have the right to play outdoors; however, adult attitudes, proximity to green spaces, and the built environment can create barriers to exercising that right. ELCC programs have the potential to provide outdoor access and play opportunities for all children who attend. For children with special needs in particular, developmental gains that are more readily achieved outdoors include improved cardiovascular health, endurance, muscle strength, flexibility and coordination, as well as attention span, formulating friendships, and increased communication skills. 30

Outdoor play supports holistic teaching and learning

Pedagogy is the philosophy and practice of understanding how learning happens.³¹ From a pedagogical standpoint, nature and the outdoors inspire children's inherent curiosity,³² and curiosity is the gateway to the emergent curriculum approaches broadly adopted in ELCC across Canada. Research has illuminated the value of outdoor experiences for child development and learning.³³

Play-based learning is learning that happens through play with varying degrees of educator support and direction: from child-directed free play, to collaborative play and inquiry between children and educators, to educator-directed experiences.³⁴ As they do indoors, children in ELCC can engage in play-based experiences across this continuum outdoors.³⁵ With support, ELCC programs can and should increase outdoor play to nurture its developmental and pedagogical benefits.

While Euro-Western worldviews often focus on the concept of *outdoor play*, Indigenous (First Nations, Métis, and Inuit) worldviews embrace *land as teacher*, nurturing respectful, reciprocal, and responsible relationships with nature and all living things. Supported by families, educators, and Elders, children holistically develop their body, mind, heart, and spirit as they experience and develop relationships with the outdoors. Ways of doing, knowing, seeing, and being follow natural rhythms, seasons, and ecosystems. Risk is embedded in real-life experiences. Increasing interdisciplinary research and practice in the field of early childhood education and outdoor play integrates and builds on the strengths of both Indigenous and non-Indigenous perspectives and knowledges, learning and co-learning.



Feasibility of Increasing Outdoor Play

The ELCC sector has the tools to increase children's opportunities for outdoor play now and in the future.

Outdoor play policy exists in all provinces and territories

Although specific ELCC licensing regulations affecting outdoor play vary across jurisdictions, all require the provision of outdoor play space.⁴⁰ This signals an underlying expectation for outdoor play. Furthermore, early learning curriculum frameworks across the country encourage outdoor play, primarily through the lenses of active play and scientific inquiry.⁴¹

Appreciation for the importance of outdoor play and for land-based approaches is growing

Practice and policy initiatives are increasingly exploring high-quality, culturally safe spaces within ELCC programs and exercising Indigenous rights to explore, test, inquire, and learn on the land, and to be in relationship with the land alongside their educators. While land-based approaches have always been central to Indigenous child caring, outdoor play-based learning in mainstream early childhood education is more recent but has been growing in the last decade. Increasing parental demand is contributing to the growth of outdoor programs and the transformation of pedagogy within traditional ELCC programs;⁴² COVID-19 may fuel even greater demand and interest.

Educators can be empowered to lead

Canada boasts a strong grassroots base of educators already trained and practicing in the outdoors: two national organizations, the Canadian Child Care Federation and the Child & Nature Alliance of Canada, have together trained more than 4000 educators across the country, in addition to numerous local champions and providers of professional learning.⁴³ These early adopters can support local colleagues to increase their comfort with, and knowledge of, outdoor practice. All educators can be empowered to lead on outdoor play from within existing programs, even though supportive policy requires further development.⁴⁴

Quality resources to support professional learning are widely available

Existing quality resources to support outdoor play pedagogy and the logistics of implementation are plentiful. Sector organizations are poised to support continuous professional learning in various doses and formats. (See the Recommended Resources at https://lawson.ca/op-resources/ that are grouped by topic and arranged by level, from introductory to advanced.)

Early learning professionals who are new to outdoor play- and land- based approaches often benefit from additional professional learning. With implementation support and appropriate outdoor clothing, educators can become comfortable outdoors in all seasons and all weather. Myths, such as children and adults can get sick from getting wet outside, can be dispelled through the sharing of information and dialogue. Sharing such information with families helps parents become comfortable with outdoor play too.

Educators, families, administrators, policymakers, and licensing officers can become comfortable with the inherent risks of outdoor play with support. Two Canadian resources (available on the Recommended Resources webpage above) are worth noting here: Risk Benefit Assessment for Outdoor Play: A Canadian Toolkit supports good decision-making and practice. The Canadian Public Health Association's Unstructured Play Toolkit contains information, decision-making checklists, and policy development tools to enable and oversee the implementation of outdoor play.

Outdoor play environments are all around

ELCC programs usually have an adjacent or included outdoor play space and increasingly make use of outdoor community spaces and landscapes. Optimal outdoor play environments include an ample supply of diverse, open-ended materials to complement children's enjoyment of a) natural landscapes, such as parks and forests, and b) well-designed play spaces that foster opportunities for children to explore, be creative, and take risks.⁴⁷ Universal Design for play spaces, built-environment accommodations in existing spaces, and professional learning for educators can make outdoor play accessible to children with special needs and fun for all children.⁴⁸



Harmonizing Public Health and ELCC Perspectives to Increase Outdoor Play

The mandate of public health includes both health protection and promotion,⁴⁹ requiring a thoughtful balance which ideally should align with ELCC pedagogy and practice. Guidance for COVID-19 exists at different levels across Canada (national, provincial/territorial, and local) with provinces, territories, and local authorities responsible for making decisions locally. The quality and benefits of outdoor play will be influenced by their guidelines—how they evolve, how they are aligned (or not), how they are interpreted by ELCC programs—and by public attitudes and perceptions.

COVID-19 guidance: issues relevant to outdoor play

Transmission of COVID-19 remains poorly understood, but no published studies to date demonstrate high transmission among children.^{50,51} Further, the needs and rights of children in ELCC programs may differ from those of adult educators, and particularly for anyone with increased vulnerability for COVID-19. Prevalence of community spread of COVID-19 varies greatly across Canada, with varying local health protection measures that may increase or relax accordingly over the coming months.

The Lawson Foundation conducted an environmental scan of all provincial and territorial public health COVID-19 guidelines for ELCC across Canada.⁵² As of June 23, 2020, the scan revealed considerable variability on the following four issues relevant to quality outdoor play experiences:

The outdoors as a distinct ELCC environment

Public health guidelines in few jurisdictions explicitly encourage the use of the outdoors for ELCC, possibly reflecting a traditional view of learning in an indoor, classroom environment. As well, not all jurisdictions currently encourage the use of outdoor community spaces. This statement has already highlighted the outdoors as a distinct and preferred environment for high-quality learning that may mitigate the incidence of infectious diseases while promoting healthy child development. Furthermore, community green spaces can provide interesting new environments for ELCC programs that also facilitate physical distancing.

ELCC programs would benefit from explicit encouragement to maximize use of the outdoors, both licensed and community spaces.

For the most part, the guidelines reviewed did not distinguish between ELCC learning environments indoors and outdoors. The remaining three issues stem from this lack of distinction:

- use, cleaning, and disinfection of play equipment and materials
- approaches to physical distancing
- use of personal protective equipment masks

Use, cleaning, and disinfection of play equipment and materials

Some jurisdictions prohibit the use of fixed play structures at this time. Limitations on materials include reducing their number, reducing sharing among children, and eliminating sensory and other materials that are hard to clean. Many jurisdictions do not distinguish between indoor and outdoor materials or types of materials. But there is a distinction, and it may prove significant: Outdoor loose parts can either be *manufactured*, such as plastic toys, or *natural*, such as sand, wood, and stone. Early research on COVID-19 and manufactured surfaces shows that the virus persists on some surfaces for differing lengths of time under laboratory conditions,⁵³ but that there is a reduced risk in sunlight, humidity, and outdoor environments.^{54,55} Currently, the US Centers for Disease Control and Prevention recommend normal hygiene practices for outdoor areas and high-touch, manufactured surfaces, and do not recommend cleaning of natural materials.⁵⁶

Given the importance of play-rich environments in ELCC, guidelines for fixed play structures, equipment, and materials need to address different surface types and materials, across diverse weather conditions, as ELCC programs prepare to mitigate COVID-19 risk across all four seasons in Canada.

Approaches to physical distancing

High-quality ELCC pedagogy and practice value the social-emotional well-being of young children. Children have fundamental needs for social interaction and play in their healthy development,⁵⁷ and high-quality ELCC is based on close, caring relationships with a consistent group of educators and children. Maintaining strict physical distancing of two metres among children and educators is simply not viable; moreover, enforcing strict physical distancing measures would affect quality pedagogy and harm children's well-being, potentially increasing children's anxiety and trauma.

Guidelines for physical distancing among and between children and educators vary greatly across jurisdictions, but tend to apply equally across ELCC environments, indoors and outdoors. Recommended groupings range from maintaining normal group sizes, to reducing group sizes and/ or increasing educator-to-child ratios, to *cohorting*, i.e., separating defined groups of children and educators from other defined groups. A number of jurisdictions have embraced cohorting while also encouraging children within cohorts not to touch one another.

Cohorting supports interactions and relationships among children and educators, and can even increase the quality of relationships when cohorts are small; however, approaches that reduce group sizes increase the cost of ELCC, necessitating substantial additional funding. Recent guidance from the Hospital for Sick Children in Toronto about the re-opening of schools also encourages cohorting, but not at the expense of disrupting normal routines.⁵⁸ If and where cohorting is established, questions arise about how cohorts can safely share outdoor play spaces: the risk of COVID-19 transmission is reduced outdoors,⁵⁹ but ELCC program play spaces are sometimes small, and children need freedom to roam and a variety of play options.

To maximize their time outdoors, ELCC programs need clear guidance about cohorting and physical distancing outdoors, and criteria for groups sharing outdoor spaces.

Use of personal protective equipment – masks

Guidance about the use of masks in ELCC programs is necessary as their prevalence increases and debate continues. When properly used, masks can contain viral spread, but they also inhibit language and expression which are key to communication and healthy child development. Only a few jurisdictions are currently explicit about for whom (educators or children) masks are required, and the criteria for mask use vary and lack consideration of the outdoors where transmission risk is reduced.⁶⁰

ELCC programs need explicit advice about the value and use of masks in outdoor environments.

Noteworthy evolutions in COVID-19 guidance

Recent guidance from the Federal Government

On June 3, 2020, the Government of Canada released new guidance which has the potential to inform the evolution of consistent approaches across jurisdictions.⁶¹ This guidance acknowledges the challenges of physical distancing among children, particularly young children, and places greater emphasis on teaching and supporting hygiene practices and reducing contact with others and with high-touch surfaces. This guidance encourages higher adult-to-child ratios with younger children and cohorting.

The guidance also suggests "moving large group activities outside when space and weather permits." However, this statement, *Increasing Outdoor Play in Early Learning and Child Care in the Context of COVID-19*, challenges the conditional nature of this advice and advocates for the regular and substantive use of the outdoors in *all* weather and in diverse community spaces. With that vision in mind, ELCC programs need enhanced guidance relevant to spending significant portions of the day outdoors.

A framework from British Columbia

The Hierarchy of Infection Prevention and Exposure Control Measures for Communicable Disease from the BC Centre for Disease Control includes the following measures,⁶² from more to less protective:

- being outdoors, frequent cleaning and disinfection
- physical distancing and hand hygiene
- the use of personal protective equipment including masks

This hierarchy provides a multi-layered framework for ELCC programs based on first, maximizing time outdoors, and maintaining regular cleaning and disinfection practices; and then cohorting children and educators as needed, and practising hand hygiene as the primary infection control measures. Such measures are compatible with high-quality ELCC pedagogy and practice.

Recommendations

The following recommendations in five areas further this statement's overarching recommendation: to increase children's opportunities for outdoor play in ELCC programs during and beyond the COVID-19 pandemic. The same three principles that informed their formulation (see p. 1) should guide their implementation.

1. Information and Guidance for ELCC Programs

- 1.1 Collaborate—all levels of government should collaborate to develop consistent, evidence-based approaches in all jurisdictions.
- 1.2 Evolve the guidance to explicitly encourage use of the outdoors in ELCC programs, and to distinguish between and clarify infection control measures in indoor and outdoor settings, including
 - whether outdoor materials need to be cleaned and disinfected.
 - whether manufactured and natural materials should be treated differently,
 - · cohorting and physical distancing outdoors, and
 - the use of masks outdoors.
- 1.3 Provide training that helps ELCC programs interpret evolving COVID-19 guidelines.
- 1.4 Provide ELCC programs with information about health protection and promotion in the outdoors to debunk myths and misinformation.

2. Access to Outdoor Play Spaces

- 2.1 Provide sufficient funding for the development of high-quality outdoor environments for ELCC programs. Such environments
 - are based on principles of outdoor pedagogy and Universal Design,
 - have direct access to indoor spaces, and
 - include diverse collections of loose parts materials and appropriate storage.
- 2.2 Partner with regional/municipal departments to support the use of community green spaces, such as parks and forests, as outdoor ELCC environments. Develop the partnerships necessary to support the safe, ecologically respectful, and regular use of such spaces.

3. Professional Learning for ELCC Stakeholders

- 3.1 Increase professional learning to support outdoor play through recognized high-quality programs. Address the distinct needs of administrators and educators and ways of communicating key messages to families.
- 3.2 Develop and implement peer mentoring programs for colleagues with limited outdoor play experience, to help them increase their time outdoors gradually, within their level of comfort, and consider ways to increase play-based learning outdoors.
- 3.3 Develop post-secondary programs to intentionally prepare educators for outdoor play-based learning and land-based pedagogy and practice, to support long-term use of the outdoors in ELCC programs.

4. Research and Evaluation

- 4.1 Address gaps in knowledge about COVID-19 and the impact of control measures in ELCC settings. Priorities include the incidence rate and infectivity of children and adults, and the infectivity of diverse play materials and surfaces, particularly natural ones.
- 4.2 Examine ELCC in indoor and outdoor environments, in particular the effects of different approaches to infection control measures.
- 4.3 Evaluate the implementation of outdoor play programs to support continuous learning.

5. Continuing Support

5.1 Explore regulatory changes and curriculum enhancements to support high-quality outdoor play. Governments should consider changes and enhancements in consultation with the ELCC sector and outdoor play experts.

Endnotes

- 1. Government of Canada Public Health Services, "Risk mitigation tool for child and youth settings operating during the COVID-19 pandemic," accessed June 3, 2020, 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.
- 2. Hospital for Sick Children, COVID-19: Recommendations for School Reopening, June 17, 2020, https://www.sickkids.ca/PDFs/About-SickKids/81407-COVID19-Recommendations-for-School-Reopening-SickKids.pdf.
- 3. Government of Canada Public Health Services, "Community-based measures to mitigate the spread of coronavirus disease (COVID-19) in Canada," updated May 30, 2020, accessed June 5, 2020, https://www.canada.ca/en/public-health/services/diseases/2019-novel-coronavirus-infection/health-professionals/public-health-measures-mitigate-covid-19.html.
- 4. M. Brussoni, ed., "Outdoor play: Synthesis," in Encyclopedia on Early Childhood Development, eds. R. E. Tremblay, M. Boivin, and R. DeV Peters, updated May 2019, accessed June 10, 2020, http://www.child-encyclopedia.com/outdoor-play/synthesis.
- 5. K. Bezanson, A. Bevan, and M. Lysack, "Economic recovery from COVID-19 must include the 'care' sector," May 25, 2020, https://www.childcarecanada.org/documents/child-care-news/20/05/economic-recovery-covid-19-must-include-care-sector.
- 6. Canadian Child Care Federation, "Plan to sustain Canada's Early Learning and Child Care (ELCC) through the COVID-19 pandemic," April 2020, https://www.cccf-fcsge.ca/2020/04/15/plan-to-sustain-canadas-early-learning-and-child-care-elcc-through-the-covid-19-pandemic/.
- 7. Atkinson Centre for Society and Child Development, "Child care needs a transformation not a bail out," May 2020, https://www.oise.utoronto.ca/atkinson/UserFiles/File/Policy Commentaries/COVID_CHILD_CARE_STRATEGY_-_May_2020.pdf.
- 8. M. Friendly, B. Forer, and R. Vickerson, The Pandemic Experience Has Created an Uncertain Future for Canadian Child Care Services: Highlights from a National Survey (Childcare Resources and Research Unit, Canadian Child Care Federation, Child Care Now, June 4 2020), https://www.childcarecanada.org/sites/default/files/The pandemic experience has created uncertain future for Canadian child care services_Highlight of a national survey_FINAL_CRRU.pdf
- 9. "The Impact of COVID-19 On Children in Canada: Short, Medium and Long-Term Mitigation Strategies," UNICEF Canada, April 17, 2020, https://www.unicef.ca/en/press-release/impact-covid-19-children-canada-short-medium-and-long-term-mitigation-strategies.
- 10. Honourable M. N. McCain, Early Years Study 4: Thriving Kids, Thriving Society (Toronto: Margaret and Wallace McCain Family Foundation Inc., 2020), https://earlyyearsstudy.ca/wp-content/uploads/2020/02/EYS4-Report_01_15_2020.pdf.
- 11. R. Moore and N. Cosco, "Early Childhood Outdoor Play and Learning Spaces (ECOPALS): Achieving Design Quality," in Encyclopedia on Early Childhood Development, eds. R. E. Tremblay, M. Boivin, and R. DeV Peters, published May 2019, accessed June 18, 2020, http://www.child-encyclopedia.com/outdoor-play/according-experts/early-childhood-outdoor-play-and-learning-spaces-ecopals-achieving.
- 12. B. Dietze and D. Kashin, "Perceptions That Early Learning Teachers Have About Outdoor Play and Nature," LEARNing Landscapes 12, no. 1 (2019): 91–105, https://doi.org/10.36510/learnland.v12i1.981.
- 13. Brussoni, ed., "Outdoor play: Synthesis," Encyclopedia on Early Childhood Development.
- 14. Employment and Social Development Canada, "Multilateral Early Learning and Child Care Framework," 2017, accessed June 26, 2020, https://www.canada.ca/en/employment-social-development/programs/early-learning-child-care/reports/2017-multilateral-framework.html.
- 15. S. Freeman and A. Eykelbosh, COVID-19 and Outdoor Safety: Considerations for Use of Outdoor Recreational Spaces (Vancouver, BC: National Collaborating Centre for Environmental Health, April 2020).
- 16. M. S. Tremblay, C. Gray, S. Babcock, J. Barnes, C. C. Bradstreet, D. Carr, G. Chabot, et al., "Position Statement on Active Outdoor Play," International Journal of Environmental Research and Public Health 12, no. 6 (2015): 6475–6505.
- 17. Brussoni, ed., "Outdoor play: Synthesis," Encyclopedia on Early Childhood Development.
- 18. C. Gray, R. Gibbons, R. Larouche, E.B.H. Sandseter, A. Bienenstock, M. Brussoni, G. Chabot, et al., "What Is the Relationship between Outdoor Time and Physical Activity, Sedentary Behaviour, and Physical Fitness in Children? A Systematic Review," International Journal of Environmental Research and Public Health 12, no. 6 (2015): 6455–74, https://doi.org/10.3390/ijerph120606455.
- 19. R. Puhakka, O. Rantala, M. I. Roslund, J. Rajaniemi, O. H. Laitinen and A. Sinkkonen, "Greening of Daycare Yards with Biodiverse Materials Affords Well-Being, Play and Environmental Relationships," International Journal of Environmental Research and Public Health 16, no. 16 (2019), https://doi.org/10.3390/ijerph16162948.
- 20. O. J. Sando and E. B. H. Sandseter, "Affordances for Physical Activity and Well-Being in the ECEC Outdoor Environment," Journal of Environmental Psychology 69 (June 2020), https://doi.org/10.1016/j.jenvp.2020.101430.
- 21. S. Wyver, "The Influence of Outdoor Play on Social and Cognitive Development," in Encyclopedia on Early Childhood Development, eds. R. E. Tremblay, M. Boivin, and R. DeV Peters, published May 2019, accessed June 3, 2020, http://www.child-encyclopedia.com/outdoor-play/according-experts/influence-outdoor-play-social-and-cognitive-development.
- 22. E. B. H. Sandseter and R. Kleppe, "Outdoor Risky Play," in Encyclopedia on Early Childhood Development, eds. R. E. Tremblay, M. Boivin, and R. DeV Peters, published May 2019, accessed June 3, 2020, http://www.child-encyclopedia.com/outdoor-play/according-

- experts/outdoor-risky-play.
- 23. P. Gray, "The Decline of Play and the Rise of Psychopathology in Children and Adolescents," American Journal of Play 3, no. 4 (2011): 443–63.
- 24. Healthy Active Living and Obesity Research Group, Position Statement on Active Outdoor Play, 2015, https://www.haloresearch.ca/outdoorplay/.
- 25. Gray, "The Decline of Play."
- 26. ParticipACTION. The Role of the Family in the Physical Activity, Sedentary and Sleep Behaviours of Children and Youth. The 2020 ParticipACTION Report Card on Physical Activity for Children and Youth (Toronto, ON: ParticipACTION, 2020), https://www.participaction.com/en-ca/resources/children-and-youth-report-card.
- 27. International Play Association, Access to Play for Children in Situations of Crisis, Play: Rights and Practice—A Toolkit for Staff, Managers and Policy Makers, 2017, http://ipaworld.org/wp-content/uploads/2017/07/IPA-A4-ACCESS-TO-PLAY-IN-SITUATIONS-OF-CRISIS-TOOLKIT-LR.pdf.
- 28. International Play Association, "Children's Right to Play and the Environment," A discussion paper prepared by the International Play Association: Promoting the Child's Right to Play for the UN Committee on the Rights of the Child Day of General Discussion, 2016 Children's Rights and the Environment, accessed June 25, 2020, http://ipaworld.org/wp-content/uploads/2016/05/IPA-Play-Environment-Discussion-Paper.pdf
- 29. Brussoni, ed., "Outdoor play: Synthesis," Encyclopedia on Early Childhood Development.
- 30. S. Flatman, "6 Reasons: Outdoor Play Is Crucial for Children with Special Needs," The Exceptional Parent 46, no. 6 (June 2016): 20–23.
- 31. Ontario Ministry of Education, How Does Learning Happen: Ontario's Pedagogy for the Early Years, 2014, http://www.edu.gov.on.ca/childcare/howlearninghappens.pdf.
- 32. B. Dietze and D. Kashin, Outdoor and Nature Play in Early Childhood Education (Toronto, ON: Pearson Canada, 2018).
- 33. J. Waters and A. Rekers, "Young Children's Outdoor Play-Based Learning," in Encyclopedia on Early Childhood Development, eds. R. E. Tremblay, M. Boivin, and R. DeV Peters, published May 2019, accessed June 3, 2020, http://www.child-encyclopedia.com/outdoor-play/according-experts/young-childrens-outdoor-play-based-learning.
- 34. E. Danniels and A. Pyle, "Defining Play-based Learning," in Encyclopedia on Early Childhood Development, eds. R. E. Tremblay, M. Boivin, and R. DeV Peters, published February 2018, accessed June 10, 2020, http://www.child-encyclopedia.com/sites/default/files/textes-experts/en/4978/defining-play-based-learning.pdf.
- 35. Waters and Rekers, "Young Children's Outdoor Play-Based Learning," Encyclopedia on Early Childhood Development.
- 36. V. A. James, C. Dragon-Smith, and W. Lahey. "Indigenizing Outdoor Play," in Encyclopedia on Early Childhood Development, eds. R. E. Tremblay, M. Boivin, and R. DeV Peters, published May 2019, accessed June 10, http://www.child-encyclopedia.com/outdoor-play/according-experts/indigenizing-outdoor-play.
- 37. L. Zimanyi, H. J. Keeshig, and L. Short, "Children Make Connections to Aki (Earth) through Anishinaabe Teachings," The Conversation, April 19, 2020, https://theconversation.com/children-make-connections-to-aki-earth-through-anishinaabe-teachings-133669.
- 38. James et al., "Indigenizing Outdoor Play."
- 39. Zimanyi et al., "Children Make Connections to Aki (Earth)."
- 40. K. McCuaig and J. Bertrand, Policy Oversight of Outdoor Play in Early Childhood Education Setting in Canadian Provinces and Territories, 2019, https://www.oise.utoronto.ca/atkinson/UserFiles/File/Publications/Policy_Oversight_of_Outdoor_Play_in_Early_Childhood_Education_Setting_in_Canadian_Provinces_and_Territories.pdf.
- 41. McCuaig and Bertrand, Policy Oversight of Outdoor Play in Early Childhood Education Setting.
- 42. L. Zimanyi and O. Rossovska, "Who is John the Snail and When Can We Meet Him? Parent Perspectives on Children's Engagement in a Forest Nature Program," Humber College Institute of Technology & Advanced Learning, June 2020, https://healthsciences. humber.ca/assets/files/pdfs/JIPE_v1.2_ZimanyiRossovska_ECE_7.pdf.
- 43. Canadian Child Care Federation, personal communication, June 2020; Child & Nature Alliance of Canada, personal communication, June 2020; Okanagan College, June 2020.
- 44. Lawson Foundation, Advancing Outdoor Play and Early Childhood Education: A Discussion Paper, May 2019, http://lawson.ca/advancing-op-ece.pdf.
- 45. A. N. Niehues, A. Bundy, A. Broom, P. Tranter, J. Ragen, and L. Engelen, "Everyday Uncertainties: Reframing Perceptions of Risk in Outdoor Free Play," Journal of Adventure Education & Outdoor Learning 13, no. 3 (2013): 223–237, https://doi.org/10.1080/1472967 9.2013.798588.
- 46. Dietze and Kashin, "Perceptions That Early Learning Teachers Have about Outdoor Play and Nature."
- 47. S. Herrington, S. Brunelle, and M. Brussoni, "Outdoor Play Spaces in Canada: As if Children Mattered," in The SAGE Handbook of Outdoor Play and Learning, ed. T. Waller et al. (London: SAGE, 2017), 143–165.
- 48. Cosco and Moore, "Creating Inclusive Naturalized Outdoor Play Environments."

- 49. Canadian Public Health Association, "Public Health: A Conceptual Framework" (Canadian Public Health Association Working Paper, March 2017), https://www.cpha.ca/sites/default/files/uploads/policy/ph-framework/phcf_e.pdf
- 50. Hospital for Sick Children, COVID-19: Recommendations for School Reopening.
- 51. Government of Canada, "Community-based measures to mitigate the spread of coronavirus disease (COVID-19) in Canada."
- 52. Provincial and territorial public health COVID-19 guidelines for child care consulted for environmental scan:

Alberta Health Services, "COVID-19 Information: Guidance For Day Care/Out of School Care (Child Care)," June 11, 2020, accessed June 11, 2020, https://open.alberta.ca/dataset/54c64016-fd3f-40f5-a259-f5e08483bb29/resource/909dab18-4117-4022-9f29-460c81070dd8/download/covid-19-relaunch-guidance-daycare-out-of-school-care-2020-0611.pdf.

British Columbia Centre for Disease Control, "COVID-19 Public Health Guidance for Child Care Settings," updated May 19, 2020, accessed June 2, 2020, https://www2.gov.bc.ca/assets/gov/health/about-bc-s-health-care-system/office-of-the-provincial-health-officer/covid-19/covid-19-pho-guidance-childcare.pdf.

Manitoba Public Health, "Coronavirus (COVID-19) Early Learning and Child Care Practice Guidance," April 9, 2020, accessed June 2, 2020, https://manitoba.ca/asset_library/en/coronavirus/famcirculars/Covid-19_Practice_Guide_ELCC_April92020.pdf.

New Brunswick Office of the Chief Medical Officer of Health, "COVID-19 Recovery Phase: Guidance to Early Learning and Childcare Facilities and Day Camps," May 7, 2020, accessed June 2, 2020, https://www.nbed.nb.ca/ParentPortal/Content/Covid-19/ELCF%20May%207%202020%20EN%20FINAL.pdf.

Newfoundland and Labrador Public Health, "COVID-19 Child Care Operations Policy – Alert Level 3," 2020, accessed June 20, 2020, https://www.gov.nl.ca/eecd/eecd-covid-19-child-care-information/covid-19-child-care-operations-policy/.

Nova Scotia Public Health, "COVID-19 Guidance for Child Care Settings," June 3, 2020, accessed June 5, 2020, https://novascotia.ca/coronavirus/education/#licensed-childcare.

Nunavut Public Health, "Child Care Facility Guidelines for Re-opening June 1, 2020," (n.d.), accessed June 2, 2020, https://gov.nu.ca/sites/default/files/child_care_facility_re-opening_guidelines_complete_en.pdf.

Ontario Ministry of Health, "COVID-19 Guidance: Emergency Child Care Centres," May 8, 2020, accessed June 2, 2020, http://www.edu.gov.on.ca/childcare/child-care-re-opening-operational-guidance.pdf.

Prince Edward Island Public Health Office, "PEI Chief Public Health Office COVID-19 Response: Conditions for Re-opening Select Licensed Child Care Centres," March 2020, accessed June 2, 2020, https://www.ecdaofpei.ca/user-content/resources/PEICovidChildcareDocMarch2020-v.1.2.pdf.

Quebec Public Health Branch, "Educational childcare services in the context of COVID-19 pandemic," 2020, accessed June 23, 2020, https://www.quebec.ca/en/family-and-support-for-individuals/services-de-garde-educatifs-a-lenfance-dans-le-contexte-de-la-covid-19/.

Saskatchewan Public Health, "Information for Licensed Child Care Facilities: Coronavirus Disease (COVID-19)," March 23, 2020. Retrieved June 2, 2020 from https://www.childcarecanada.org/sites/default/files/SK_COVID-19%20-%20 Measures%20to%20Reduce%20Spread%20of%20the%20Disease%20-%20Final.pdf.

Yukon Public Health, "Public Health Interim Guidance for Yukon Daycares and Day Homes: Enhanced Measures During the COVID-19 Pandemic," May 14, 2020, accessed June 2, 2020, https://yukon.ca/sites/yukon.ca/files/hss/hss-imgs/interim_guidance_child_care_covid-19_may_14_en.pdf.

- 53. L. Fiorillo, G. Cervino, M. Matarese, C. D'Amico, G. Surace, V. Paduano, M. T. Fiorillo, et al., "COVID-19 Surface Persistence: A Recent Data Summary and Its Importance for Medical and Dental Settings," International Journal of Environmental Research and Public Health 17, no. 9 (2020), accessed June 5, 2020, https://www.mdpi.com/1660-4601/17/9/3132/htm.
- 54. S. Ratnesar-Shumate, G. Williams, B. Green, M. Krause, B. Holland, S. Wood, J. Bohannon, et al., "Simulated Sunlight Rapidly Inactivates SARS-CoV-2 on Surfaces," The Journal of Infectious Diseases 222, no. 2 (July 2020), accessed June 5, 2020, https://academic.oup.com/jid/advance-article/doi/10.1093/infdis/jiaa274/5841129.
- 55. Q. Hongchao, S. Xiao, R. Shi, M.P. Ward, Y. Chen, W. Tu, Q. Su, et al., "COVID-19 Transmission in Mainland China Is Associated with Temperature and Humidity: A Time-Series Analysis," Science of the Total Environment 728 (August 2020), accessed June 24, 2020, https://www.sciencedirect.com/science/article/pii/S0048969720322956.
- 56. "Cleaning and Disinfecting Your Facility: Everyday Steps, Steps When Someone is Sick, and Considerations for Employers," Centers for Disease Control and Prevention (CDC), accessed June 5, 2020, https://www.cdc.gov/coronavirus/2019-ncov/community/disinfecting-building-facility.html.
- 57. Brussoni, ed., "Outdoor play: Synthesis," Encyclopedia on Early Childhood Development.
- 58. Hospital for Sick Children, COVID-19: Recommendations for School Reopening.
- 59. Freeman and Eykelbosh, COVID-19 and Outdoor Safety.
- 60. Freeman and Eykelbosh, COVID-19 and Outdoor Safety.
- 61. Government of Canada, "Risk mitigation tool for child and youth settings operating during the COVID-19 pandemic."
- 62. British Columbia Centre for Disease Control, "COVID-19 Public Health Guidance for Child Care Settings," p. 3.