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NATURALIZED OUTDOOR PLAY AREAS AT SCHOOLS TO SUPPORT PHYSICAL ACTIVITY AND HEALTH – HIGHLIGHTS FROM THE RAPID EVIDENCE REVIEW REPORT

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The health of individuals and communities is significantly influenced by complex interactions between social and economic factors, the physical environment, and individual behaviours and conditions.²⁹ In this context, a comprehensive approach to encourage and support physical activity is more than individuals developing awareness and skills; policy and supportive environments are also needed. As microcosms of the broader community, schools can be viewed in much the same way. School grounds represent an environment worthy of attention in school-based health promotion initiatives.²¹ It is anticipated that the findings from this review will be shared with local schools and school board stakeholders to raise awareness and inform or shape school ground greening plans, policies and related initiatives.

School ground greening, also referred to as naturalization, is a growing international movement. It involves transforming hard, barren expanses of turf and asphalt into places that include a diversity of natural and built elements.⁷ In this context, the authors of this review have defined naturalized school ground areas as forested areas and areas with shade trees, shrubs, gardens, logs, tree stumps, boulders, stepping stones, grassy berms, hilly terrain, rock amphitheaters, wildflower meadows, and loose parts (e.g. twigs, sand, pine cones).

The research question for this review is: How does schoolyard / ground greening / naturalization affect the health of school-aged children 4 to 12 years? The main focus though is on health from a physical activity perspective. An evidence search of several databases was conducted. Studies pertaining to active play, physical literacy, sedentary behaviour and physical activity intensity and duration within the context of naturalized outdoor areas in school settings were included.

Five themes emerged: Physical Activity Quality – Intensity and Duration; Diversity and Quality of Play; Age and Gender Variations; Interest, Ability and Inclusiveness; Sedentary Behaviour and Physical Literacy. Additional child health and developmental benefits were reported in these studies pertaining to cognitive, emotional, social health as well as positive associations between green/naturalized school grounds and behaviour and learning.

The authors of this review agree that there are complex causal pathways between environmental factors and human behaviors which are not yet fully understood.⁸ However, the body of literature associating school environment factors to child and youth physical activity outcomes is growing.⁸ Collectively, the evidence in this review is promising as it appears to reveal similar findings in terms of the themes which emerged, suggesting potential associations with schoolyard greening/naturalization.

Overall, it is agreed that school grounds are an obvious setting where health, education and environmental design issues overlap, and where inter-sectoral collaboration would be of benefit.²¹ It is in the interest of the design experts, school planners, and public health professions, as well as in the interest of communities and students, to engage in and inform policy and leadership decisions.⁸ A transdisciplinary process can be successful in focusing a particular school design project on a student's physical activity and health outcomes, in conjunction with learning outcomes.⁸

The findings realize the need for assessment of existing schoolyard conditions for potential enhancement with naturalized features that will promote and support the active play interests and abilities of all ages and genders. Traditional/conventional school grounds have their limitations in promoting physical activity in large part because many children are not interested or able to play in vigorous, rule-bound activities.²⁰

Green/ naturalized school grounds:

- represent a promising means of getting more children moving in ways that promote physical, social and cognitive health at the same time;⁷
- encourage children to get moving in ways that nurture all aspects of their health and development;²⁰
- play a significant role in promoting physical activity—especially moderate and light levels of activity;²¹
- support active play for longer periods of time;¹⁷
- can improve motor development¹⁷ which is related to physical literacy;
- provide more affordances for functional play (running, climbing rocks, sliding down slopes) in addition to constructive and symbolic play (playing house, pirates);¹⁶
- provide a diversity of spaces that better accommodate the play interests and abilities of all students;²²
- foster more welcoming settings for a diversity of children to engage in active play;²⁰
- may contribute to maintaining physical activity levels among girls, those less inclined to participate in competitive rule-bound games, and younger children;^{12,20,21,23}
- can heighten student environmental awareness and stewardship;^{14, 22}
- can provide shade, create cooler and more comfortable play and learning environments;²² and
- can create opportunities for student leadership.¹⁴

RECOMMENDATIONS

To make the most of the outdoor free time students have throughout the school day, and to potentially support outdoor classroom initiatives, the authors of this review propose and cite the following recommendations pertaining to school ground greening/naturalization as comprehensive school-based strategies to promote health generally and physical activity specifically.²⁰

Planning and Development:

- Focus school design projects on student physical activity and health outcomes, in conjunction with learning outcomes.⁸

- Develop naturalized play areas that connect children with nature and increase opportunities for physical activity to complement conventional/traditional schoolyard features.
- Balance perceptions of risk and safety on school grounds to provide children with appropriately challenging and enticing natural environments.¹⁶
- Review site plans to allow students the maximum amount of direct interaction with green/naturalized space.²²
- Ensure master plan designs and school-initiated projects incorporate practical, sustainable and engaging design elements as well as long-term maintenance plans.²²

Advocacy:

- Advocate for resources to establish and support research, policies and programs aimed at developing healthy outdoor environments for children.²¹
- Elevate the importance of green/naturalized school grounds in terms of funding priorities.²²

Education and Training:

- Organize professional development workshops and hands on learning for educators.
- Engage parents/caregivers in learning about the importance of active outdoor play.
- Utilize relevant aspects of the curriculum to support student learning about the relationship between the natural environment and health.

Collaboration:

- Engage students, parents, community stakeholders in school ground greening/naturalization initiatives, including plans for maintenance.
- Explore opportunities for support from public health.

Policy:

- Officially recognize at a policy level the broad health benefits of green/naturalized school grounds.²¹
- Ensure school ground design standards and supervision policies foster and support opportunities for physical activity on school grounds.²⁰
- Explore policy development regarding school-community partnerships to promote physical activity.⁸
- Develop a plan to measure policy implementation and ensure school community involvement.²⁰

POTENTIAL ROLE FOR PUBLIC HEALTH

Collaborate with schools/school boards to:

- Exchange information, identify policy and research priorities, and advocate for support to promote healthy school environments that include green/naturalized school grounds.²¹
- Advocate for resources to establish and support research, policies and programs aimed at developing healthy outdoor environments for children.²¹
- Support policy development that promote healthy outdoor settings for children including green/naturalized school grounds.²¹
- Support school community awareness and engagement.

RESOURCES FOR SCHOOLS

Videos

- Over Protection and Safe Risk Documentary – Youth Voice - <http://www.childhealth2.com/#!activities/c17ov>
- Voices from the International School Grounds Movement - <https://www.youtube.com/watch?v=HOUp0Xho1-l>
- Natural Play in Schools - <https://www.youtube.com/watch?v=pot8EhKUdl>
- The Child in Nature - <https://www.youtube.com/watch?v=wsIYWEodnz0>
- Evergreen Canada – Outdoor Play and Learning – Video Series <https://www.youtube.com/watch?v=t7U-ElN2Y3k&index=1&list=PLDSOKzaT4AFu7mJXhod7gudaCs3UsSqPw>

Posters

- Conservation Ontario – Step into Nature – The Benefits of Nature poster http://healthyhikes.ca/images/CO_Step_Infographic.pdf
- Ecohealth Ontario poster – What’s in a green space that makes us feel so good - http://www.ecohealth-ontario.ca/files/EcoHealth_Handout_1_1.pdf

Policy & Planning

- Position Statement on Active Outdoor Play - <http://www.haloresearch.ca/outdoorplay/>
- Back to Nature. Children’s Outdoor Charter - <http://www.childrensoutdoorcharter.ca/>
- Physical Activity Guidelines for School Architecture - <http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0132597>
- Sun Safety Policy Guidelines for Schools - <http://www.cancer.ca/~media/cancer.ca/ON/prevention%20and%20screening/live%20well/Sunsense/Sunsense-Policy-Document---FinalVersion.pdf?la=en>

- TDSB Eco Schools Guide - School Ground Greening: Design for Shade and Energy Conservation - <http://www.tdsb.on.ca/Portals/ecoschools/docs/Shade%20Guide%20low-rez.pdf>
- TDSB - Transforming the Schoolyard: How Local Communities Design and Build their Playground Learning Environments - <http://www.ocdsb.ca/calendar/AGENDA%20DOCS/2014%20DOCS/March%202014/CO W%2018%20March%202014/08bC%20Appendix%20C%20to%20Report%2014-044.pdf>
- The Outdoor PLAYbook for Schools - <http://outdoorplaybook.ca/>
- Evergreen Canada - <https://www.evergreen.ca/downloads/pdfs/School-Ground-Greening-Policy-Planning.pdf>

Funding

- Evergreen Funding Opportunities - <http://www.evergreen.ca/get-involved/funding-opportunities/>
- TD Friends of the Environment Foundation – Funding - <https://fef.td.com/about-us/>
- Tree Canada – Greening Canada’s School Grounds – Funding <https://treecanada.ca/en/programs/greening-canadas-school-grounds/>
- WWF Go Wild School Grants - <http://www.wwf.ca/takeaction/gowildschools/>
- Walmart and Evergreen Foundation Green Grants - https://www.evergreen.ca/downloads/pdfs/WalmartGuide2015_EN_web.pdf
- Tree Canada – Green Schools, Green Futures Award - <https://treecanada.ca/en/green-schools-green-futures-award/application/>
- S’cool Life Fund - <http://www.scoollifefund.ca/>
- Let Them Be Kids – Building Playgrounds, Inspiring Hope - <http://www.activecircle.ca/en/funding/1665-let-them-be-kids-building-playgrounds-inspiring-hope.html>

General

- Houghton, E. - A Breath of Fresh Air: Celebrating Nature and School Gardens - <http://www.torontopubliclibrary.ca/detail.jsp?R=155006>
- Evergreen Resources – School Ground Greening - <http://www.evergreen.ca/get-involved/resources/school-ground-greening/>
- Evergreen Landscape and Child Development - <https://www.evergreen.ca/downloads/pdfs/Landscape-Child-Development.pdf>

CONTACT US TO LEARN MORE

To view the full rapid evidence review report including the listing of references visit:
<http://www.simcoemuskokahealth.org/HealthUnit/Library/Research.aspx>

To find out more about the evidence and opportunities to collaborate and receive support from public health staff, contact Health Connection at the Simcoe Muskoka District Health Unit 705-721-7520 (or toll free 1-877-721-7520).