Protective Factor

PLAY

BC Healthy Communities

Vancouver CoastalHealth

WHERE TO START

Play: Brain growth and development, stress relief, and exercise.

Quality play consists of a mix of indoor and outdoor, supervised and independent, free and structured, and solitary and social activity.

Create and maintain spaces for all kinds of play, not just in designated play places.

Consider how age, preferences, time, cost and inclusivity affect participation in play.

Ensure access to play through independent mobility, itself a form of play.

WHAT

Children and youth are hardwired for play-- if the conditions allow for it, they will. Play includes a wide range of activities from sports, games, and music; to beach days and snow forts; or building blocks and drawing. It can be guided, supervised, scheduled, and structured, or it can be unstructured "free" play. It can also be a social activity or experienced on one's own.

"Playing is fun because you can choose what you want to play and who you want to play with. Play is when we can do what we want and not what grownups tell us."[1]

OUTDOOR PLAY

- Outdoor play is the preferred play space for young people of all ages.
- 89% of children prefer outdoor play to watching TV.[2]
- Outdoor play has shown to promote a wider diversity of play and longer play periods.[3]

INDEPENDENT MOBILITY AND PLAY

- Play and children's independent mobility are interconnected. Children who are able to get to places on their own are more likely to meet up with friends to play, play outdoors more often, and have increased physical activity.[4,5]
- In children's independent mobility, the child chooses the type, speed, direction, and even the destination of their travel, with adults either absent or following. Independent mobility is play in its own right. "Adults forget how fun it is to just roam around."[5]
- Child friendly communities need better provision for walking, cycling, and traffic management and improved connectivity between key destinations.[6]

PLAY THROUGH THE AGES

EARLY YEARS →

Peers and social opportunities remain important from early childhood through adolescence. Choice and control are both common themes across age groups.

35% of 5 year olds played on average outside in their neighbourhood in the past 6 months[7]

MIDDLE CHILDHOOD →

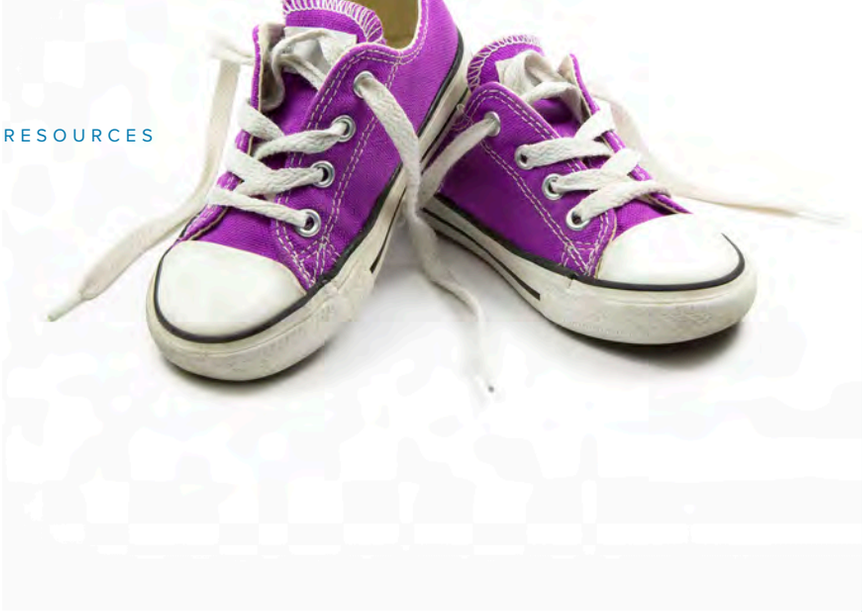
As children age, they seek more privacy and independence with less adult intervention and more opportunities to develop their social identity.

55% of Grade 5 students in BC are driven to school[8]

ADOLESCENCE

Adolescence tend to have a higher skill level based on life experience and are often allowed more freedom, however often feel more pressure from school, work, and household responsibilities.

18% of adolescents (Gr 8-12) are meeting the Canadian physical activity guidelines for this age group[9]



WHY

TRENDS IN PLAY

PLAY	Compared to previous generations, children are spending less time playing, in part due to increased time and weight given to schooling and other adult-directed activities.[10,11]
PUBLIC SPACE FOR PLAY	Children are seen as increasingly unwelcome in places that are not considered "child spaces" (e.g., playgrounds). Over three generations, diversity of play has declined, the number and types of places children play has declined, and the number of people that children meet up with in public spaces has declined.[12]
INDOOR PLAY, AT HOME AND ON SCREENS	Young people are spending more time at home, indoors, and on screens.[13,14,15] No age cohort of Canadian children is meeting the screen time guidelines, this is linked to lower levels of physical activity and reduced sleep.[16]
STRUCTURED AND SUPERVISED PLAY	Unstructured play is critical for children's social and physical development.[25] Its decline is partially due to overly protective parenting, play structures, and environments, and coincides with more prescriptive play (e.g., Lego sets that tell you what to make), and more supervised and scheduled play.[13] Structured play is important for positive child and youth development, however a balance must be struck between organized activities and informal play where young people are free to enjoy themselves without adult control.
CHILDREN'S ACTIVE TRAVEL AND INDEPENDENT MOBILITY	Compared to previous generations, children have smaller home ranges (the distance they can travel away from their home on their own during outdoor play).[18] There has also been a decrease in active modes of travel to school over time.[19] The average grade for Active Transportation for children on the Canadian Physical Activity report card since 2010 has been a D.[20]

IMPORTANCE OF PLAY TO CHILD AND YOUTH MENTAL Well-being

"We are continuously learning that play is really essential for kids – it's not just an afterthought or an accessory"[21]

– Dr. Hirsh-Pasek

Play is so fundamental to child development that it is included in Article 31 of the United Nations Conservation on the Rights of the Child.[22] Play is a uniquely all-in-one opportunity to promote the social-emotional, cognitive, language and self-regulation skills that build executive function and a prosocial brain.[23] Play fosters flexible and creative thinking, provides opportunities to encounter and solve real problems, and enables the building and demonstration of competence.[24,25,26]

Play makes young people happy. Studies have shown that the highest levels of happiness occur when young people are out of school and playing with friends. Play also protects children from mental health issues. Socially active leisure time during adolescence is related to better long-term mental health.[27]

PLAYGROUNDS & UNSTRUCTURED PLAY

The Canadian Public Health Association released a position statement in 2019 on unstructured play as a child's right as well as a critical component to child well-being.[28] Unstructured play enables children's agency and control over their experience and requires initiative-taking. Adults can limit play due to their own time constraints, noise level preference, energy levels, and perception of risk.[29] Adults who constrain play go beyond parents and caregivers. "Containing Children: Some Lessons on Planning for Play from New York City" explains that playgrounds are a 20th century invention created by adults to keep children off the street.[30] Playgrounds are a kind of structured, prescriptive play and generally present a narrow range of play options, separate children from daily community life and fail to satisfy the complexity of children's development needs.[30]

THE ROLE OF RISK IN PLAY

Taking risk is a typical part of growing up, exploring limits, and testing abilities. It is also important for child and youth development and well-being.[31,32] Many young people today are growing up in a world full of fear and risk aversion which is resulting in over protection.[31] Risk aversion is leading to a safe-at-all-costs mentality which is resulting in young people who have never explored risk and uncertainty on their own terms, have little idea of what they can and cannot do, and lack skills in risk assessment.[32,33]

There is a difference between risk and hazard. For example, for young children, bushes that provide children to hide or "get lost" in are part of risky play but a rusted out slide is a hazard that should be removed.[32] Risky play proponents encourage play environments that are "as safe as necessary" as opposed to "as safe as possible".[33] Rather than focusing on eliminating all risk, the goal should be to build the capacity of children and youth to assess risk and manage it.

Children deliberately put themselves into moderately fear-inducing conditions in play. That is what makes play fun. If too little fear is induced in play, the activity is boring; but, if too much is induced, it is no longer fun, it is terrifying. Nobody but the child knows the right dose which is why all such play must be self-directed and self-controlled.[34]

ACTIVE TRAVEL AND CHILDREN'S INDEPENDENT MOBILITY

Children's independent mobility is interconnected with unstructured play and, as such, unlocks the same kinds of benefits in relation to increased physical activity, increased creativity, increased sociability, and increased agency.[35,36]

"The ability for a child to travel without supervision directly impacts the level of access children have to play."[4]

Research shows that children who are able to get to places on their own are more likely to meet up with friends to play, play outdoors more often and have increased physical activity.[4,5]

In fact, independent mobility is play in its own right.[5]

Children's independent mobility has been positively associated with psychological well-being, better spatial awareness and orientation, improved risk assessment and decision-making, stronger self-esteem, and a mastery over their environment.[37,38,39,40,41]

Parents and children who use active modes of travel report more positive emotions than passive travelers.[42] Providing more independent mobility options for diverse community members, including children, is a planning strategy that will lead to happier cities.[43]

PLAY ALSO PROMOTES MENTAL WELL-BEING THROUGH:

Brain Development: A brain that is given opportunities for play and exploration is more resilient and can adapt better in unknown environments and unexpected situations.[44] The first 12 years of life are critical for brain development, with ages 0-3 being especially crucial as well as when humans enter adolescence.[45]

Stress Relief: In the presence of childhood adversity, play becomes even more important due to its ability to regulate the body's stress response, instilling a sense of control and calm.[23,46] Play therapy is frequently used to treat children who have experienced complex trauma such as neglect and abuse – a testament to its critical role in healing and supporting mental well-being.

Physical Activity: Play is one of the main ways in which children engage in physical activity, something associated with higher levels of well-being and stress reduction.[47,48,49,50]

- **Early Years:** physical activity benefits cognitive development e.g., improved self-esteem, and lower levels of aggression.[51]
- **Middle Childhood:** physical activity is linked to fewer symptoms of depression and behavioural disorders over time.[52,53,54]
- **Adolescence:** physical activity is a promising form of mental health promotion.[48]

Time Outdoors: Exposure to natural environments benefits the mental well-being of all age groups, reducing blood pressure, reducing the production of stress hormones, and increasing feelings of calm and improved mood.[55,56,57,58,59] It is also associated with lower levels of aggression, anger, stress, anxiety, and improved life satisfaction.[60,61,62]

HOW

ACTIONS LOCAL GOVERNMENTS CAN TAKE TO SUPPORT PLAY

LEGEND

RURAL/SMALL TOWN

URBAN/MID-SIZED COMMUNITY

INTERNATIONAL

CREATE A STRATEGY

Barcelona, Spain

Plan for Play in Barcelona's Public Spaces

The City of Barcelona has created a strategy that aims to move from a city with playgrounds to a playable city. Actions range from removing signs that deter play to a Let's Play in the Square initiative (recreational suggestions to encourage people to get together). Milestones outlined in the plan include ensuring 100% of refurbished areas are certified as inclusive and increasing opportunities for play with challenges especially designed for older children and adolescents (e.g., ziplines).

Dublin, Ireland

Everywhere, Any Day, You can Play! Dublin Play Strategy

Dublin City Council released a municipal play strategy in 2022 that is grounded in children's right to play, as well as in children's autonomy for play and mobility. The strategy was created through an extensive engagement initiative with children, as well as an audit of current opportunities to play. Actions include ensuring that a reasonable percentage of public art involves playful interactive elements, supporting and encouraging the development of play-friendly neighborhoods, understanding the value of informal sports, and creating "play lounges."

Sheffield, England

Sheffield Green and Open Space Strategy 2010-2030

Led by the Department of Landscape, the Strategy aims to improve the quality of Green and Open spaces and to green more of the city. Actions include developing a 20-year sustainability plan across the full range of play provisions, creating a City Play Working Group, developing key spaces for natural play, and involving children as partners in the development process.

BECOME A CHILD-FRIENDLY CITY

Ghent, Belgium

Ghent: Child-Friendly City

Ghent was among the first Flemish cities to be awarded "Child-Friendly City" status. The City asked young people how to make it better, they identified three things: more green areas, more spaces to play, and fewer cars. Ghent's Child Friendly Action Plan contains 180 actions across all municipal departments.

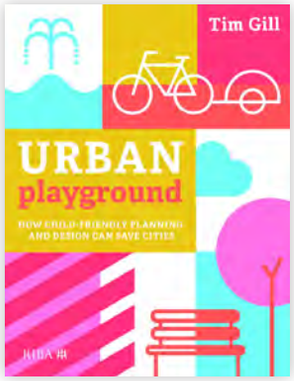
STRATEGY AND PLANNING GUIDANCE

London, England

The New London Plan and Making London Child-Friendly

The most recent Official Community Plan for London puts children and youth's needs for play and independent mobility at the heart of spatial development. The Plan provides planning actions such as requiring residential developments likely to be sued by children and youth to provide at least 10 square metres of place space per child that is free, well-designed, accessible, inclusive, stimulating, and affords play for different age cohorts, including adolescents. The Plan also requires all 33 boroughs to update their play strategies (originally required in the previous London Plan) to address unstructured play beyond playgrounds, as well as children's independent mobility.

ASSESSMENT AND EVALUATION



Count What Counts

In the book Urban Playground, author and play expert Tim Gill highlights the need to "Measure what we value not value what we measure." Rather than measuring playgrounds using checklists based on the presence and safety of play equipment, assessments of the richness and variety of play, suitability of location, and quality of design should be considered. He developed a list of indicators based on categories including:

CATEGORY	EXAMPLE OF INDICATOR
I WALK/CYCLE	% of children walking or cycling to public amenities; Presence of sidewalks in neighbourhoods; Presence of traffic calming measures
I HAVE PEACE AND QUITE OUTDOORS	% of streets with decibel levels above the standard 55dB; % of neighbourhood tree cover
I HAVE A PICNIC WITH FRIENDS AND FAMILY	$ of parks at the neighbourhood-level with free public drinking water, toilets and other facilities for families

NATURALIZATION OF PLAY SPACES

Play Preferences of Preschoolers in Outdoor Play Areas


Play Preferences of Preschoolers According to the Design of Outdoor Play Areas

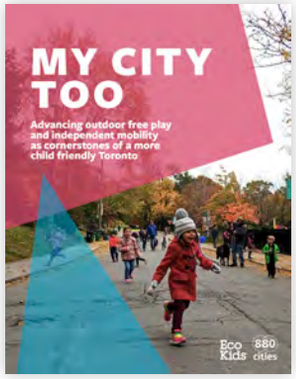
Well-designed play areas offer children opportunities to practice skills that affect their physical, intellectual, social and emotional development. Research shows that design features influence how children play and interact with each other. A study observing over 100 preschoolers found that children play according to the information they receive from the equipment. When using manufactured, fixed equipment, children often play in less creative and more repetitive ways. These designs also result in "parallel play" where children play beside each other but not with their peers. In contrast, play areas with vegetation, different landforms, and loose materials, result in a larger variety of play types. The more natural elements in a play area, the more cognitively complex play typically occurs.

ADDRESS BARRIERS

Toronto, Ontario

My City Too

My City Too is a project that was done in Toronto by EcoKids and 8 80 Cities. The project involved reviewing academic studies and policy documents, interviewing experts, and engaging children and caregivers to learn about barriers in Toronto and ideas to address them. 10 main recommendations were developed regarding child-led inclusive play; safe, healthy playful streets; and child-centred decision-making.



Belgium & United Kingdom

How to Build Public Spaces for Teen Girls

Research shows that the way formal play areas are arranged often suit boys' preferences more than girls'. Girls tend to play in places where they feel welcome and when space is not claimed by other groups such as boys or older teenagers. Girls are often less active when other groups are present because of differences in play preferences as well as safety issues. Some solutions include raising awareness of disparities and the reasons for differences, addressing traffic safety, improving social safety, and using more thoughtful design to promote inclusion.

In 2019 the NGO Kind and Samenleving in Belgium focused on girls in public space, working to develop tips and design principles to make public space more accessible. Material use, lighting, shelter, seating, and concepts such as "a place for imagination" and "landscape thinking" were covered in their report.

An architect with MUF, a female-led architecture collective in the U.K., has designed spaces with gender equity in mind, including elements such as playable bridges, hammocks, and lounge chairs. The team aims to give teenage girls freedom in the city.

REPURPOSING PUBLIC SPACE

London, England

Hackney Play Streets

Hackney, a borough of London, launched a Play Streets pilot in 2015, where residential streets are closed to through traffic for a few hours to allow for play. As of 2022, Hackney has 60 Play Streets, and evaluation of the program has found that they have increased play, resulted in minimal disruption to local traffic, and encountered very little local opposition.

GREEN SPACES AND RISK IN PLAY

Freiburg, Germany

Lessons from Freiburg

For decades, the City of Freiburg has been installing public playgrounds that make extensive use of slopes, logs, boulders, plants, sand and other natural features. These play areas have more hazards than typical playgrounds, but children learn to take more care and responsibility for their safety in the nature play spaces, and accident rates have not increased.

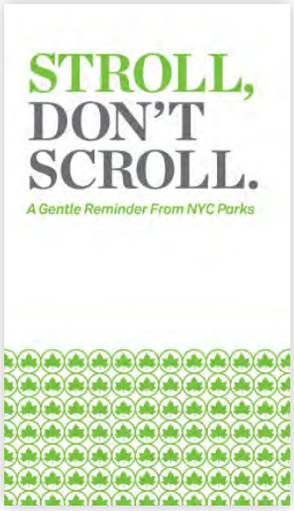
Credit: Reiselfeld, Freiburg, Lindsey Houston

MESSAGING

New York City, USA

Parks Campaign- Get Outside

The New York City Parks Department launched an ad campaign in February 2023 to encourage residents of all ages to enjoy the outdoors in Winter. The campaign included art with slogans such as “More Green, Less Screen” and “Stroll, don’t Scroll.”



CREATING SAFE ACTIVE TRAVEL NETWORKS

Griesheim, Germany

Playable Networks in a Rural Town

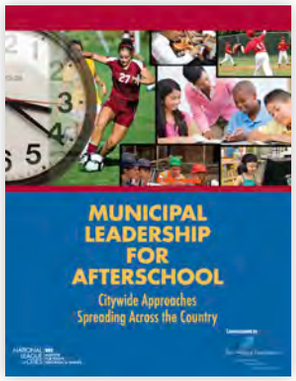
Griesheim is considered by some to be the first playable town in Germany. In response to children stating that their routes to school were boring, the Town conducted engagement with children to identify 101 routes that are important for children’s travel network. Over the course of three years, the routes were completed and designed with children so that each route has a distinct character, surface, wayfinding, and a playable object. The only criteria for the playable object was that it had to be ambiguous to allow for a variety of play. 75% of primary school survey respondents rated the project a positive improvement to the town.


How a small town in Germany became a model for the ‘Playable City’.

STRUCTURED PLAY ACTIVITIES

Various Municipalities, USA

Municipal Leadership for Afterschool



The report Municipal Leadership for Afterschool profiles 27 cities in the United States to look at city-led efforts to build afterschool and out-of-school time systems. Each city made progress on six "action elements" for system building: (1) Multi-year planning; (2) Expanding participation; (3) Committed leadership; (4) Reliable information; (5) A commitment to quality; and, (6) A public or private coordinating entity. The report looks at the role of Mayor and Council, city departments, School Superintendents, and other stakeholders required in out-of-school time system building. Moving from individual afterschool programs to out-of-school time system building resulted in more sustainable approach to providing opportunities for positive youth development.

Cardiff, Wales

Cardiff Passport to the City

Cardiff Passport to the City is a partnership between the City of Cardiff and Cardiff University to develop a "passport" program to ensure all children in Cardiff can access a broad range of extracurricular experiences. Amenities and experiences in the program include parks and open spaces, leisure, sports, recreation, arts and culture, and city centre attractions. Children and youth can also submit ideas and activities to be considered for inclusion in the program. Participants receive credits in relation to their participation, with a gathering at the end of the year in a graduation style event. The program has helped build a sense of local pride and belonging in the city, with over 400 participants in the pilot project and City Council committing to expand the project to ensure inclusion of children from all backgrounds.

TOOLS & RESOURCES

Playful Cities Toolkit. Reclaiming Play in Cities
https://www.arup.com/perspectives/publications/research/section/playful-cities-toolkit-resources-for-reclaiming-play-in-cities

Play Sufficiency: Toolkit for Local Authorities
https://www.gov.wales/play-sufficiency-toolkit

Neighbourhood Evaluation and Engagement: Place Standard Tools
https://www.ourplace.scot/place-standard-tool-children-and-young-people

Checklist: Teen-Friendly Parks
https://www.taylorfrancis.com/books/mono/10.4324/9781003108658/urban-playground-tim-gill

Municipal Action Guide: Cities Connecting Children to Nature
https://eadn-wc04-796033.nxedge.io/cdn/wp-content/uploads/CCCN-Municipal-Action-Guide_webready.pdf

Framework: Cycling Cities for Infants, Toddlers and Caregivers
https://bycs.org/wp-content/uploads/2020/11/Cycling-Cities-for-Infants-Toddlers-Caregivers.pdf

Tool: Making it Possible to Do Play Sufficiency: Exploring the Conditions that Support Local Authorities to Secure Sufficient Opportunities for Children in Wales to Play.
https://eprints.glos.ac.uk/10160/7/10160-Russell-(2020)-Making-it-possible-to-do-play.pdf

Information Sheet: Mental Well-Being and Play
https://www.playengland.org.uk/

Video: Do Young Girls Have Enough Public Spaces?
https://www.youtube.com/watch?v=bXOy-Z8AiX8

Guide: Routes to Play: A Guide for Local Authorities
https://www.playaustralia.org.au/sites/default/files/LibraryDownloads/Routes%20to%20play%20UK.pdf

DESIGN IDEAS & GUIDELINES

Design Ideas: Where do the Children Play?
https://issuu.com/citiesforplay/docs/child_friendly_cities_natalia_krysiak?utm_medium=referral&utm_source=www-citiesforplay-com.filesusr.com

Streets for Kids Design Guide
https://globaldesigningcities.org/streets-for-kids/

Proximity of Care Design Guide
https://www.proximityofcare.com/

RESEARCH

Access to and Quality of Neighbourhood Public Open Space and Children's Mental Health Outcomes
https://www.mdpi.com/1660-4601/19/11/6780

Play Sufficiency: A Case Study.
https://ludicology.com/store-room/play-sufficiency-a-case-study/

Report: Building Cities Fit for Children
https://timrgill.files.wordpress.com/2020/02/wcmt-report-2020-02-04.pdf

Child-Friendly Urban Design. Observations on Public Space from Eindhoven and Jerusalem
https://www.tandfonline.com/doi/full/10.1080/23748834.2019.1586327

Influences of Neighbourhood Built Environments on the Outdoor Free Play of Young Children
https://pubmed.ncbi.nlm.nih.gov/36534228/

Influences of neighbourhood Built Environments on the Outdoor Free Play of Young Children
https://pubmed.ncbi.nlm.nih.gov/36534228/

It's Not Just about 'More': A Research Project Exploring Satisfaction with Opportunities to Play for Children in Two Welsh Neighbouring Communities.
https://www.tandfonline.com/doi/abs/10.1080/21594937.2017.1288393

BOOKS

Urban Playground: How Child-Friendly Planning and Design can Save Cities by T. Gill.
https://www.routledge.com/Urban-Playground-How-Child-Friendly-Planning-and-Design-Can-Save-Cities/Gill/p/book/9781859469293

How to Grow a Playspace: Development and Design
https://www.routledge.com/How-to-Grow-a-Playspace-Development-and-Design/Masiulanis-Cummins/p/book/9781138907065

REFERENCES

1. McInnes, K. and Birdsey, N. “Understanding play: The perceptions and children, adolescents, parents and teachers.” in Barnett, L.A. (ed.) Play of Individuals and Societies. Inter-Disciplinary Press. Oxford, 2014.
2. FKY. IKEA’s Play Report. Family Kids and Youth. London, 2015.
3. Dowdell, K., et. al. “Nature and its influence on children’s outdoor play.” Journal of Outdoor and Environmental Education.” 15(2). January 2011: 24-35.
4. ARUP. Cities Alive. Towards a Walking World. ARUP. London, UK, June 2016.
5. EcoKids. My City Too: Advancing Outdoor Free Play and Independent Mobility as Cornerstones of a More Child Friendly Toronto. 8 80 Cities. Toronto, November 2019.
6. Monaghan, J. “Engagement of children in developing healthy and child-friendly places in Belfast.” Cities and Health. 3(1-2). February 2019: 29-39.
7. Human Early Learning Partnership. Childhood Experiences Questionnaire: BC Summary Report 2021. 2021.
8. Human Early Learning Partnership. The Middle Development Instrument 2021-2022. 2022
9. McCreary Centre Society. Balance and Connection in BC: The Health and Well-Being of Our Youth: Results of the 2018 BC Adolescent Health Survey. 2019.
10. Gray, P. “The decline of play and the rise of psychopathology in children and adolescents.” American Journal of Play. 3(4). Spring 2011: 443-63.
11. Frost, J.L. A History of Children’s Play and Play Environments: Toward a Contemporary Child-Saving Movement. 1st edition. Routledge. New York, 2009.
12. Woolley, H. Urban Open Spaces. Taylor and Francis. New York, 2003.
13. Karesten, L. “It all used to be better? Different generations on continuity and change in urban children’s daily use of space.” Children’s Geographies. 3(3). December 2005: 275-90.
14. Carver, A., et. al. “Playing it safe: The influence of neighbourhood safety on children’s physical activity. A review.” Health and Place. 14(2). June 2008: 217-27.

15. Skar, M. and Krogh, E. “Changes in children’s nature-based experiences near home: From spontaneous play to adult-controlled, planned and organized activities.” Children’s Geographies. 7(3). August 2009: 339-54.

16. Garriguet, D., et. al. “Physical activity and sedentary behaviour of Canadian children aged 3 to 5.” Health Reports. 27(9). September 2016: 14-23.

17. Gleave, J. Children’s Time to Play: A Literature Review. Jointly commissioned by Play England, Play Scotland, Play Wales and Play Northern Ireland, 2009.

18. Matthews, H.M. Making Sense of Place: Children’s Understanding of Large-Scale Environments. Harvester Wheatsheaf. London, 1992.

19. Fabri, E., et. al. Investigation of Supportive Policy for Active School Travel: Evidence-Based Recommendations for Policies to Promote Active Transportation for School Journeys. Human Environments Analysis Lab (Western University), Green Communities Canada, Ontario Active School Travel Council, 2022.

20. ParticipACTION. Lost and Found. Pandemic-Related Challenges and Opportunities for Physical Activity. 2022 ParticipACTION Report Card on Physical Activity for Children and Youth. ParticipACTION. Canada, 2022.

21. Quote is from Dr. Hirsh-Pasek, co-author of a report from the Committee on Psychosocial Aspects of Child and Family Health and was found in: Wyckoff, A.S. “Simple prescription: Pediatricians have a role in promoting healthy development through play.” AAP Clinical Report. American Academy of Pediatrics, August 2018.

22. UNHCR. Convention on the Rights of the Child. General Assembly Resolution 44/25. United Nations Human Rights Office of the High Commissioner. Adopted November 1989.

23. Yogman, M., et. al. “The power of play: A pediatric role in enhancing development in young children.” Pediatrics. 142(3). September 2018: e20182058.

24. Staemplfi, M. “Reintroducing adventure into children’s outdoor play environments.” Environment and Behavior. 41(2). March 2009: 268-80.

25. Fromberg, D.P and Bergen, D. Play from Birth to Twelve: Contexts, Perspectives and Meanings. 2nd edition. Routledge. New York, 2006.

26. Pellegrini, A.D. “Play: What is it?” in Pellegrini, A.D. (ed.) The Role of Play in Human Development. Oxford University Press. Oxford, 2009: 6-20.

27. Timonen, J., et. al. “Social leisure time activities as a mediating link between self-reported psychological symptoms in adolescence and psychiatric morbidity by young adulthood: The Northern Finland 1986 birth cohort study.” European Child and Adolescent Psychiatry. November 2022.

28. CPHA. Children’s Unstructured Play: Position Statement. Canadian Public Health Association. Ottawa, March 2019.

29. Watchman, T. and Spencer-Cavaliere, N. “Times have changed: Parent perspectives on children’s free play and sport.” Psychology of Sport and Exercise. 32. September 2017: 102-12.

30. Hart, R. “Containing children: Some lessons on planning for play from New York City.” Environment and Urbanization. 14(2). October 2002: 135-48.

31. Brussoni, M., et. al. “What is the relationship between risky outdoor play and health in children: A systematic review.” 12(6). International Journal of Environmental Research and Health. June 2015: 6423-54.

32. Peterborough Public Health. Outdoor Playspaces: An Evidence Review. Peterborough, 2017.

33. Brussoni, M., et. al. “Risky play and children’s safety: Balancing priorities for optimal child development.” International Journal of Environmental Research and Public Health. 9(9). August 2012: 3134-48.

34. Sandseter, E.B. “Characteristics of risky play.” Journal of Adventure Education and Outdoor Learning. 9(1). June 2009: 3-21.

35. Gill, T. No Fear. Growing Up in a Risk Averse Society. Calouste Gulbenkian Foundation. London, 2007.

36. Pacilli, M.G., et. al. “Children and the public realm: Antecedents and consequences of independent mobility in a group of 11-13-year-old Italian children.” Children’s Geographies. 11(4). November 2013: 377-93.

37. Stark, J., et. al. “Active school travel, attitudes and psychological well-being of children.” Transportation Research Part F Traffic Psychology and Behaviour. 56. July 2018: 453-65.

38. Gu, J. and Chen, S. “Associations between active travel to school and depressive symptoms among early adolescents.” Children (Basel). 7(5). May 2020: 41.

39. Riazi, N.A., et. al. “Correlates of children’s independent mobility in Canada: A multi-site study.” International Journal of Environmental Research and Public Health. 16(16). August 2019: 2862.

40. Waygood, E., et. al. “Transport and child well-being: An integrative review.” Travel Behaviour and Society. 9. October 2017: 32-49.

41. Kolto, A., et. al. “Transport to school and mental well-being of school children in Ireland.” International Journal of Public Health. 66. April 2021: 583613.

42. Ramanathan, S., et. al. “Happiness in motion: Emotion, well-being and active school travel.” Journal of School Health. 84(8). July 2014: 516-23.

43. Litman, T. Urban Sanity: Understanding Urban Mental Health Impacts and How to Create Saner, Happier Cities. Victoria Transport Institute. Victoria, BC, December 2022.

44. Pellis, S., et. al. “The function of play in the development of the social brain.” American Journal of Play. 2(3). Winter 2010: 278-96.

45. Else, P. “Teenagers and playing: Are pastimes like neknominate a usual response to adolescence?” Children (Basel). 1(3). December 2014: 339-54.

46. Niholf, S.L., et. al. “Healthy play, better coping: The importance of play for the development of children in health and disease.” Neuroscience and Biobehavioral Reviews. 95. December 2018: 421-29.

47. Biddle, S.J. and Asare, M. “Physical activity and mental health in children and adolescents: A review of reviews.” British Journal of Sports Medicine. 45(11). September 2011: 886-95.

48. Pascoe, M., et. al. “Physical activity and exercise in youth mental health promotion: A scoping review.” BMJ Open Sports Exercise Medicine. 6(1). January 2020: e000677.

49. Sharma, A., et. al. “Exercise for mental health.” Primary Care Companion to the Journal of Clinical Psychiatry. 8(2). February 2006: 106.

50. Lee, H., et. al. “A meta-study of qualitative research examining determinants of children’s independent active free play.” International Journal of Behavioral Nutrition and Physical Activity. 12(5). January 2015: 1-12.

51. 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(5). November 2017: 33-63.

52. Zahl, T., et. al. “Physical activity, sedentary behavior, and symptoms of major depression in middle childhood.” Pediatrics. 139(2). February 2017: e20161711.

53. Philippot, A., et. al. “Impact of physical exercise on symptoms of depression and anxiety in pre-adolescents: A pilot randomized trial.” Frontiers in Psychology. 10. August 2019: 1820.

54. Bowling, A., et. al. “Cybercycling effects on classroom behavior in children with behavioral health disorders: An RCT.” Pediatrics. 139(2). February 2017: e20161985.

55. Alcock, I., et. al. “Longitudinal effects on mental health of moving to greener and less green urban areas.” Environment, Science and Technology. 48(2). January 2014: 1247–55.

56. Beyer, K.M., et. al. “Exposure to neighbourhood green space and mental health: Evidence from the survey of the health of Wisconsin.” International. Journal of Environmental Research and Public Health. 11(3). March 2014: 3453–72.

57. Pearson, D.G. and Craig, T. “The great outdoors? Exploring the mental health benefits of natural environments.” Frontiers of Psychology. 5. October 2014: 1178.

58. Madzia, J., et. al. “Residential greenspace association with childhood behavioral outcomes.” Journal of Pediatrics. 207. April 2019: 233-40.

59. Moss, S. Natural Childhood. Natural Trust. U.K., 2012.

60. Younan, D., et. al. “Environmental determinants of aggression in adolescents: Role of urban neighborhood greenspace.” Journal of the American Academy of Child and Adolescent Psychiatry. 55(7). July 2016: 591-601.

61. Soga, M., et. al. “Gardening is beneficial for health: A meta-analysis.” Preventive Medicine Reports. 5. March 2017: 92–99.

62. Ohly, H., et. al. “A systematic review of the health and well-being impacts of school gardening: Synthesis of quantitative and qualitative evidence.” BMC Public Health. 16(1). March 2016: 286.