

## OUTDOOR PLAY

---

# Active Outdoor Play

Valerie Carson, PhD, Madison Preedy, BKin

University of Alberta, Canada

May 2019

### Introduction

Play is a fundamental part of childhood and is typically defined as a spontaneous, enjoyable, and self-directed activity with no external goal.<sup>1</sup> Active play is one main type of play.<sup>1</sup> Active play can occur indoors and outdoors but this section will focus on active outdoor play.

### Subject

Definition: A recent scientific review on active play in early childhood identified common terms used in definitions of active play including, increased energy exerted, rough and tumble, gross motor movement, unstructured, freely chosen, and fun.<sup>2</sup> Furthermore, common examples of active play were also identified, including swinging, climbing, pulling, balancing, jumping, rolling, running, and skipping.<sup>2</sup> Based on this current research a working definition of active play was created: "A form of gross motor or total body movement in which young children exert energy in a freely chosen, fun, and unstructured manner."<sup>2</sup> (pg. 164)

Settings: Active outdoor play in early childhood is typically supported by parents in the home (e.g., back-yard) and surrounding neighbourhood (e.g., park) settings.<sup>3</sup> However, since the number of children attending childcare outside the home is increasing,<sup>4</sup> the importance of the childcare setting for supporting outdoor play opportunities is increasingly being recognized.<sup>5-7</sup>

Prevalence: Information on how much time young children currently spend in active outdoor play is limited to a small number of studies. For example, in a representative sample of Canadian children (3-4 years), parents reported an average of 1.6 (children cared for at home) to 2.1 (children cared for outside of home) hours of outdoor time per day.<sup>8</sup> Conversely, in relatively large samples of young children from Australia (2-5 years) and the United States (3 years), parents reported average outdoor play time as 3.1 hours a day and 2.6 (weekday) to 3.8 (weekend) hours a day, respectively.<sup>9,10</sup> Bigger day of the week differences were observed in a large representative sample of Swedish 4-year-olds, with parents reporting double the amount of daily outdoor play time on weekend days (3 hours) compared to weekdays (1.5 hours).<sup>11</sup> Cultural differences have been noted in outdoor play time.<sup>12</sup> For example, in a small sample, it was observed that outdoor time was significantly higher in a Swedish preschool setting compared to a United States preschool setting (211 versus 91 minutes per day).<sup>13</sup> It is important to note that this body of evidence likely overestimates active outdoor play because not all outdoor play time is active.<sup>14</sup>

## **Problems**

In some countries, there is evidence to suggest that children's outdoor play has been declining in recent decades.<sup>15-17</sup> This decline has been attributed to various cultural changes including the increase of perceived safety risks by parents,<sup>18-21</sup> the growing presence of sedentary screen time in children's lives,<sup>18,21,22</sup> and the hurried, overscheduled, and academically focused lifestyle.<sup>19,20,23</sup> Parental concerns around children's safety is thought to be one of the biggest barriers to active outdoor play.<sup>22,24</sup> Commonly perceived safety risks include stranger abduction, bullies/teenagers, child pedestrian collisions, and injuries.<sup>21,24</sup> Despite findings that the frequency and seriousness of these risks are quite low, parents are increasingly monitoring their children's play, enrolling children in more structured activities, and keeping children indoors.<sup>20,21,24</sup>

## **Research Context and Key Research Questions**

The majority of research on active outdoor play in early childhood has been published in the last 10 years.<sup>2</sup> Existing evidence is primarily observational using cross-sectional designs, and therefore of lower quality.<sup>2</sup> Consequently, there are a number of research questions to be answered in this area. Three key research questions that are gaining increasing attention include: 1) What are the unique benefits of active outdoor play? 2) What is the role of the child care setting in promoting active outdoor play? 3) How do we accurately measure active outdoor play?

## Recent Research Results

Benefits: Studies have found that when children play outdoors they are more physically active than when they play indoors,<sup>20,21</sup> likely due to less space and equipment restrictions.<sup>25</sup> Therefore, active outdoor play is associated with healthy physical, social, emotional, and cognitive development due to the increased engagement in physical activity.<sup>26</sup> However, the benefits of active outdoor play extend beyond the well-known health benefits of physical activity. For instance, research has found that active outdoor play and access to green space is associated with higher vitamin D levels,<sup>27</sup> improved mental wellbeing,<sup>28</sup> better attention behaviours,<sup>29</sup> better self-regulation,<sup>30</sup> and improved spatial working memory.<sup>31</sup>

Child care setting: Child care represents an important setting for a large proportion of children to engage in active outdoor play during the day time.<sup>32,33</sup> Policies at the national, state/provincial, local or centre level may be one potential strategy to ensure young children have adequate active outdoor play opportunities when cared for outside of the home.<sup>34,35</sup> Recent research has examined provincial/state policy.<sup>36,37,38</sup> For example, in Canada, all provincial regulatory bodies mandate daily outdoor play if weather conditions are appropriate but only two provinces specify the frequency or time for outdoor play.<sup>36</sup> Similarly in the United States, most States (86%) recommend daily outdoor time<sup>37</sup> but few (n=9) provide minimum lengths.<sup>38</sup> Several studies have also examined outdoor play policies at the child care centre level.<sup>39-42</sup> Overall, these studies have highlighted the importance of policies being translated into practice<sup>39</sup> and ensuring the content of policies are not restrictive to outdoor active play (e.g., weather-related policies).<sup>40</sup>

## Research Gaps

Given the infancy of research on active outdoor play in early childhood a number of research gaps exist. One key gap involves the current measurement of active outdoor play.<sup>2,43</sup> Questionnaires administered to parents or educators, are prone to measurement error, and activity monitors typically lack the contextual information needed to identify active outdoor play. However, an accurate measure of active outdoor play that combines activity monitors, global positioning systems (GPS), and log books has recently been introduced in older children.<sup>44</sup> Future research should determine if a similar technique can be used in early childhood to improve our understanding of active outdoor play. It is also unclear how much active outdoor play is needed daily for optimal growth and development.<sup>8</sup> Therefore, future research should examine different amounts of active outdoor play with a variety of health indicators in early childhood to inform an

evidence-based benchmark that can be promoted.

## **Conclusions**

According to the United Nations High Commission for Human Rights, play is a fundamental right for every child.<sup>45</sup> Several organizations worldwide have endorsed the importance of active outdoor play and have encouraged future research in this area.<sup>21,46,47</sup> However, parents from around the world have reported that children today play outside less compared to previous generations,<sup>15,18,48</sup> largely due to cultural changes around parenting and technology.<sup>18,20,21</sup> This decline is a major concern as active outdoor play is strongly related to physical activity in children,<sup>20</sup> an important behaviour in healthy growth and development.<sup>26</sup> Furthermore, active outdoor play is associated with unique health benefits above and beyond those of physical activity.<sup>27-31</sup> Efforts to reverse the trend of declining active outdoor play in early childhood should consider home, neighbourhood, and child care settings. There are several relevant stakeholders across these settings that can play an important role in increasing active outdoor play in early childhood.<sup>21</sup>

## **Implications for Parents, Services and Policy**

Despite the research gaps in active outdoor play, recommendations for relevant stakeholders can still be made based on current evidence. Young children have limited autonomy from adults. Therefore, parents, early childhood educators, and other caregivers are the gatekeepers for outdoor active play opportunities in early childhood. To encourage healthy growth and development, these individuals should aim to strike a balance with scheduled activities, screen time, and free time so children have ample opportunities to engage in active outdoor play.<sup>49</sup> Health care professionals and policymakers also play key roles in supporting outdoor active play in early childhood. Where policy does not already exist, regulatory bodies should add policy in child care settings around minimum frequency and duration of daily outdoor time, and policy should be updated as evidence evolves. Additionally, health care professionals should promote active outdoor play to families across settings and weather conditions as an important component of healthy growth and development.<sup>23</sup> Emphasis should be placed on the feasibility of facilitating outdoor active play opportunities for children, given specific programming or equipment is not required.<sup>2</sup> Though research is needed to continue to advance knowledge in this area, these collective efforts are a starting point to ensure all children regularly experience the joy of playing in the great outdoors.

## **References**

1. Smith PK. *Children and play*. Chichester, West Sussex: Wiley-Blackwell; 2010.
2. Truelove S, Vanderloo LM, Tucker P. Defining and measuring active play among young children: A systematic review. *Journal of Physical Activity & Health*. 2017;14(2):155-166.
3. Veitch J, Bagley S, Ball K, Salmon J. Where do children usually play? A qualitative study of parents' perceptions of influences on children's active free-play. *Health & Place*. 2006;12(4):383-393.
4. OECD. Family Database. PF3.2. Enrollment in childcare and preschools. 2016. [http://www.oecd.org/els/soc/PF3\\_2\\_Enrolment\\_childcare\\_preschool.pdf](http://www.oecd.org/els/soc/PF3_2_Enrolment_childcare_preschool.pdf). Accessed September 17, 2018.
5. Tandon PS, Zhou C, Christakis DA. Frequency of parent-supervised outdoor play of us preschool-aged children. *Archives of Pediatrics & Adolescent Medicine*. 2012;166(8):707-712.
6. Razak LA, Yoong SL, Wiggers J, et al. Impact of scheduling multiple outdoor free-play periods in childcare on child moderate-to-vigorous physical activity: A cluster randomised trial. *International Journal of Behavioral Nutrition and Physical Activity*. 2018;15(1):34.
7. Mazzucca S, Hales D, Evenson KR, et al. Physical activity opportunities within the schedule of early care and education centers. *Journal of Physical Activity & Health*. 2017;15(2):73-81.
8. ParticipACTION. The brain + body equation: Canadian kids need active bodies to build their best brains. The 2018 ParticipACTION Report Card on Physical Activity for Children and Youth. 2018; [https://www.participaction.com/sites/default/files/downloads/the\\_participaction\\_report\\_card\\_on\\_physical\\_activity\\_for\\_children\\_and\\_youth\\_2018.pdf](https://www.participaction.com/sites/default/files/downloads/the_participaction_report_card_on_physical_activity_for_children_and_youth_2018.pdf). Accessed September 17, 2018.
9. Hinkley T, Brown H, Carson V, Teychenne M. Cross sectional associations of screen time and outdoor play with social skills in preschool children. *PLOS ONE*. 2018;13(4):e0193700.
10. Burdette HL, Whitaker RC. A national study of neighborhood safety, outdoor play, television viewing, and obesity in preschool children. *Pediatrics*. 2005;116(3):657.
11. Berglind D, Tynelius P. Objectively measured physical activity patterns, sedentary time and parent-reported screen-time across the day in four-year-old Swedish children. *BMC Public Health*. 2018;18:69.
12. Waller T, Sandseter EBH, Wyver S, Ärlemalm-Hagsér E, Maynard T. The dynamics of early childhood spaces: Opportunities for outdoor play? *European Early Childhood Education Research Journal*. 2010;18(4):437-443.
13. Raustorp A, Pagels P, Boldemann C, Cosco N, Söderström M, Mårtensson F. Accelerometer measured level of physical activity indoors and outdoors during preschool time in Sweden and the United States. *Journal of Physical Activity & Health*. 2012;9(6):801-808.
14. Vanderloo LM, Tucker P, Johnson AM, Holmes JD. Physical activity among preschoolers during indoor and outdoor childcare play periods. *Applied Physiology, Nutrition, and Metabolism*. 2013;38(11):1173-1175.
15. Karsten L. It all used to be better? Different generations on continuity and change in urban children's daily use of space. *Children's Geographies*. 2005;3(3):275-290.
16. Hofferth SL. Changes in American children's time - 1997 to 2003. *Electronic International Journal of Time Use Research*. 2009;6(1):26-47.
17. Singer DG, Singer JL, D'Agostino H, DeLong R. Children's pastimes and play in sixteen nations: Is free-play declining? *American Journal of Play*. 2009;1(3):283-312.
18. Clements R. An investigation of the status of outdoor play. *Contemporary Issues in Early Childhood*. 2004;5(1):68-80.
19. Gray P. The decline of play and the rise of psychopathology in children and adolescents. *American Journal of Play*. 2011;3(4):443-463.

20. Gray C, Gibbons R, Larouche R, 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*. 2015;12(6): 6455-6474.
21. Tremblay MS, Gray C, Babcock S, et al. Position statement on active outdoor play. *International Journal of Environmental Research and Public Health*. 2015;12(6):6475-6505.
22. Lee H, Tamminen KA, Clark AM, Slater L, Spence JC, Holt NL. A meta-study of qualitative research examining determinants of children's independent active free play. *International Journal of Behavioral Nutrition and Physical Activity*. 2015;12(1):5.
23. Ginsburg KR. The importance of play in promoting healthy child development and maintaining strong parent-child bonds. *Pediatrics*. 2007;119(1):182.
24. Carver A, Timperio A, Crawford D. Playing it safe: The influence of neighbourhood safety on children's physical activity: A review. *Health & Place*. 2008;14(2):217-227.
25. Tonge KL, Jones RA, Okely AD. Correlates of children's objectively measured physical activity and sedentary behavior in early childhood education and care services: A systematic review. *Preventive Medicine*. 2016;89:129-139.
26. Carson V, Lee E-Y, Hewitt L, et al. Systematic review of the relationships between physical activity and health indicators in the early years (0-4 years). *BMC Public Health*. 2017;17(5):854.
27. Absoud M, Cummins C, Lim MJ, Wassmer E, Shaw N. Prevalence and predictors of vitamin D insufficiency in children: A Great Britain population based study. *PLOS ONE*. 2011;6(7):e22179.
28. McCormick R. Does access to green space impact the mental well-being of children: A systematic review. *Journal of Pediatric Surgical Nursing*. 2017;37:3-7.
29. Mårtensson F, Boldemann C, Söderström M, Blennow M, Englund JE, Grahn P. Outdoor environmental assessment of attention promoting settings for preschool children. *Health & Place*. 2009;15(4):1149-1157.
30. Becker DR, McClelland MM, Loprinzi P, Trost SG. Physical activity, self-regulation, and early academic achievement in preschool children. *Early Education and Development*. 2014;25(1):56-70.
31. Schutte AR, Torquati JC, Beattie HL. Impact of urban nature on executive functioning in early and middle childhood. *Environment and Behavior*. 2015;49(1):3-30.
32. Tandon PS, Saelens BE, Christakis DA. Active play opportunities at child care. *Pediatrics*. 2015;135(6):e1425.
33. Tandon PS, Walters KM, Igoe BM, Payne EC, Johnson DB. Physical activity practices, policies and environments in Washington state child care settings: Results of a statewide survey. *Maternal and Child Health Journal*. 2017;21(3):571-582.
34. Pate RR, O'Neill JR, Brown WH, McIver KL, Howie EK, Dowda M. Top 10 research questions related to physical activity in preschool children. *Research Quarterly for Exercise and Sport*. 2013;84(4):448-455.
35. Stacey FG, Finch M, Wolfenden L, et al. Evidence of the potential effectiveness of centre-based childcare policies and practices on child diet and physical activity: Consolidating evidence from systematic reviews of intervention trials and observational studies. *Current Nutrition Reports*. 2017;6(3):228-246.
36. Vanderloo LM, Tucker P. Physical activity and sedentary behavior legislation in Canadian childcare facilities: an update. *BMC Public Health*. 2018;18(1):475.
37. Duffey KJ, Slining MM, Benjamin Neelon SE. States lack physical activity policies in child care that are consistent with national recommendations. *Childhood Obesity*. 2014;10(6):491-500.
38. Kaphingst KM, Story M. Child care as an untapped setting for obesity prevention: State child care licensing regulations related to nutrition, physical activity, and media use for preschool-aged children in the United States. *Preventing Chronic Disease*. 2009;6(1):A11.

39. Erinoshio T, Hales D, Vaughn A, Mazzucca S, Ward DS. Impact of policies on physical activity and screen time practices in 50 child-care centers in North Carolina. *Journal of Physical Activity & Health*. 2016;13(1):59-66.
40. Copeland KA, Sherman SN, Khoury JC, Foster KE, Saelens BE, Kalkwarf HJ. Wide variability in physical activity environments and weather-related outdoor play policies in child care centers within a single county of Ohio. *Archives of Pediatrics & Adolescent Medicine*. 2011;165(5):435-442.
41. Wolfenden L, Neve M, Farrell L, et al. Physical activity policies and practices of childcare centres in Australia. *Journal of Paediatrics and Child Health*. 2011;47(3):73-76.
42. Gerritsen S, Morton SMB, Wall CR. Physical activity and screen use policy and practices in childcare: Results from a survey of early childhood education services in New Zealand. *Australian and New Zealand Journal of Public Health*. 2016;40(4):319-325.
43. Bates B, Stone MR. Measures of outdoor play and independent mobility in children and youth: A methodological review. *Journal of Sports Science & Medicine*. 2015;18(5):545-552.
44. Borghese MM, 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*. 2018;18(1):396.
45. Office of the United Nations High Commissioner for Human Rights. Convention on the rights of the child. Geneva, Switzerland: United Nations;1989.
46. Yogman M, Garner A, Hutchinson J, Hirsh-Pasek K, Golinkoff RM. The power of play: A pediatric role in enhancing development in young children. *Pediatrics*. 2018.
47. Play Safety Forum. Managing risk in play provision: A position statement. 2008; <http://www.playengland.org.uk/media/120462/managing-risk-play-safety-forum.pdf>. Accessed September 17, 2018.
48. Valentine G, McKendrick J. Children's outdoor play: Exploring parental concerns about children's safety and the changing nature of childhood. *Geoforum*. 1997;28(2):219-235.
49. Active Healthy Kids. Is Canada in the running? The 2014 Active Healthy Kids Canada report card on physical activity for children and youth. 2014; [https://www.participaction.com/sites/default/files/downloads/Participaction-2014FullReportCard-CanadaInTheRunning\\_0.pdf](https://www.participaction.com/sites/default/files/downloads/Participaction-2014FullReportCard-CanadaInTheRunning_0.pdf). Accessed September 17, 2018.