

NATURE CAN IMPROVE HEALTH AND WELLBEING

Spending time in nature provides children with a wide range of health benefits.

HEALTHY BABIES

Nature exposure for mothers can promote:



HEALTHY EYES AND VITAMIN D LEVELS

Time spent in bright sunlight can:



NATURE CONTACT IS especially beneficial for mothers of lower education and socio-economic levels^{2,3,4}

INCREASED PHYSICAL ACTIVITY

Access to parks and greenspace can foster:

INCREASED PHYSICAL ACTIVITY^{11,12}

REDUCED RISK OF OBESITY¹³

OUTDOOR PLAY

increases the likelihood that girls will remain active into adolescence⁹

Children are better able to cope with stress when they live near trees and other greenery.^{15,16}

SOCIAL-EMOTIONAL WELLBEING

Learning in nature can support:

IMPROVED RELATIONSHIP SKILLS^{17,20}

REDUCED STRESS¹⁷ ANGER^{18,19} AND AGGRESSION^{18,19}

children & nature NETWORK

NLC NATIONAL LEAGUE OF CITIES

THE JPB FOUNDATION

ADDITIONAL RESEARCH ON THE BENEFITS OF NATURE AVAILABLE AT childrenandnature.org/research

SUPPORTING RESEARCH

¹Dzhambov et al. (2014). Association between residential greenness and birth weight: Systematic review and meta-analysis. *Urban For Urban Gree*, 13(4), 621-629. ²Markevych et al. (2014). Surrounding greenness and birth weight: Results from the GINIplus and LISAPlus birth cohorts in Munich. *Health Place*, 26, 39-46. ³Dadvand et al. (2014). Inequality, green spaces, and pregnant women: Roles of ethnicity and individual and neighbourhood socioeconomic status. *Environ Inter*, 71, 101-108. ⁴Agay-Shay et al. (2014). Green spaces and adverse pregnancy outcomes. *Occup Environ Med*, 71(8), 562-9. ⁵French et al. (2013). Time outdoors and the prevention of myopia. *Exp Eye Res*, 114, 58-68. ⁶He et al. (2015). Effect of time spent outdoors at school on the development of myopia among children in China. *JAMA*, 314(11), 1142-1148. ⁷Dolgin (2015). The myopia boom: Short-sightedness is reaching epidemic proportions. Some scientists think they have found a reason why. *Nature*, 519, 276 - 278. ⁸McCurdy et al. (2010). Using nature and outdoor activity to improve children's health. *Curr Prob Pediatr Adolesc Health Care*, 40(5), 102-117. ⁹Pagels et al. (2014). A repeated measurement study investigating the impact of school outdoor environment upon physical activity across ages and seasons in Swedish second, fifth and eighth graders. *BMC Public Health*, 14(1), 803. ¹⁰Almanza et al. (2012). A study of community design, greenness, and physical activity in children using satellite, GPS and accelerometer data. *Health Place*, 18(1), 46-54. ¹¹Hartig et al. (2014). Nature and health. *Ann Rev Publ Health*, 35, 207-28. ¹²Christian et al. (2015). The influence of the neighborhood physical environment on early child health and development: A review and call for research. *Health Place*, 33, 25-36. ¹³Wolch et al. (2011). Childhood obesity and proximity to urban parks and recreational resources: A longitudinal cohort study. *Health Place*, 17(1), 207-214. ¹⁴Duncan et al. (2014). The effect of green exercise on blood pressure, heart rate and mood state in primary school children. *Int J Environ Res Public Health*, 11(4), 3678-3688. ¹⁵Wells & Evans (2003). Nearby nature: A buffer of life stress among rural children. *Environ Behav*, 35(3), 311-330. ¹⁶Corraliza et al. (2012). Nature as a moderator of stress in urban children. *Procedia - Soc Behav Sci*, 38, 253-263. ¹⁷Chawla et al. (2014). Green schoolyards as havens from stress and resources for resilience in childhood and adolescence. *Health Place*, 28, 1-13. ¹⁸Roe & Aspinall (2011). The restorative outcomes of forest school and conventional school in young people with good and poor behavior. *Urban For Urban Gree*, 10, 205-212. ¹⁹Younan et al. (2016). Environmental determinants of aggression in adolescents: Role of neighborhood green space. *J Am Acad Child Adolesc Psychiatry*, 55(7), 591-601. ²⁰Chawla (2015). Benefits of nature contact for children. *J Plan Lit*, 30(4), 433-452.

C&NN recognizes that not all studies support causal statements.

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