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Nature and Why It’s Essential For Kids’ Brains: Information for Parents and Caregivers

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Summary: Despite all the advances made in modern society, many of today’s children and youth seem to struggle with physical and mental health problems. The good news is that there is a single intervention that can help our children’s physical, mental and spiritual health all at the same time: spontaneous, unstructured outdoor play. There are many things we can do to help get our kids outside so that they can do what kids used to do — and be happier and healthier for it.

Introduction

All parents want to raise happy, healthy children, but in spite of our best efforts, many children and youth struggle with physical and mental health problems in today's world.

The good news is that there is an easy way to help our children’s and teens’ physical, mental and spiritual health...

...Spontaneous, unstructured outdoor play!

Spontaneous, unstructured outdoor play is letting kids be kids outdoors, creating on their own without adult interference. It means letting kids:

- Be outdoors with fresh air, sunlight and the sounds of nature.
- Use their imaginations to do or create whatever they want, within reasonable safe limits.
- Try out age-appropriate “risky” play, such as climbing trees, running fast or roughhousing. This allows kids to test their own abilities and limits, making them safer in the long run.
- Socialize face-to-face with peers. This gives kids important opportunities to learn and practice social skills. Face-to-face contact, in particular, is important for kids’ brains to develop empathy.
- Enjoy free play activities that do not have rules or referees, unlike organized sports.

Spontaneous outdoor play is:

- Going for a walk or hike
- Playing in a nearby forest or park
- Climbing a tree
- Exploring a local stream
- Building something outdoors using outdoor elements like stones

- Playing hopscotch or playing with a jump rope
- Swimming at the local pool, waterpark or beach
- Riding a bike or scooter
- Skating on rollerblades

What spontaneous outdoor play is not:

- It's not playing a competitive sport on a team with structured rules and referees. This offers fewer opportunities to freely explore and be truly creative, and it becomes about competition and winning.
- It's not playing indoors, because then there are no benefits from sunlight and fresh air.
- It's not playing indoors in front of a screen, because then there are no benefits from interacting with the real world.

How much nature do children/youth need?

At least 60 minutes daily outside, based on various studies:

- For eye health, it's recommended to have at least 10 hours/week outdoors (1½ hours outside every day).
- For spiritual health, studies show that 5 to 10 hours/week outside help kids to feel connected to nature (Van Wierem, 2013).
- For mental health, studies show that spending at least 30 minutes a week in a park helps improve mental health — the more time spent in nature, the better (Shanahan, 2016).

How much physical activity do children/youth need?

Age	Recommended amount of physical activity per day according to the Canadian Society for Exercise Physiology
3-4 years	3 hours (180 minutes) daily, spread over the day
5-17 years	1 hour (60 minutes) daily, spread over the day, with a combination of: ● High energy activities (e.g., jogging, soccer, playing tag) at least 3 days a week ● Activities that build muscle and bone (e.g., hiking, dancing, swimming) at least 3 days a week

Let your kids play outside and meet their need for nature and physical activity at the same time!

Children connected with nature are:

- Healthier:
  - Their heart health is better because they move more, sit less and play longer.
  - They have better eye health. Kids who spend at least 10 hours/week outside reduce their risk of nearsightedness (myopia).
  - They sleep better because sunlight helps regulate sleep patterns.
- Happier:
  - Improved mood means less depression, anxiety and other mental health issues.
  - Improved social development comes from better communication skills that can lead to better relationships with others.
  - Better connections with people, animals and nature help children build a sense of who they are and where they fit in the world.
- Empathetic:
  - Lack of face-to-face time (as a result of too much screen time) may contribute to a lack of empathy, self-centredness and narcissism that have been noted in modern societies (Twenge, 2014).

- Spiritual:
  - People who spend time outdoors feel more connected to nature, the planet and others. Having children and youth who care about the planet is essential for the survival of our planet and species.
- Ready for learning:
  - The sights, smells and sounds of nature ('pink noise') are restorative for human nervous systems and result in better focus, concentration and creativity. Studies show that nature time reduces symptoms of ADHD (Kuo, 2004).

Disadvantages of indoor play

- **Sedentary lifestyle.** Sitting around for long periods is particularly bad for children and youth and increases the risk of heart disease, diabetes, mental health problems and even some types of cancer.
- **Overuse of recreational screens such as TV and video games.** Children who don't get outdoors enough may get too much screen time. This carries its own risks such as cyberbullying, online predators, inappropriate sex and violence, mental health problems and sleep problems.
- **Exposure to bad air.** Air quality indoors is often worse than outdoors. This increases exposure to allergens (e.g., dust, mould, pet dander) and infectious diseases, and potentially leads to chronic conditions.

Feeling disconnected from Mother Earth. For the sake of our planet and future generations, it's essential that we raise our children and youth to be connected to our planet.

Maximum amount of time per day that children and youth should be using recreational screens

Age	Recommended amount of screen time per day
0-2 years	No screen time at all.
2-4 years	Maximum of 1 hour a day; less is better. Kids are actually healthier the less screen time they get.
5-17 years	Maximum of 1 to 2 hours of recreational screen time a day; less is better. This can be challenging as school-aged children start using screens to do work at school. Screens should ideally only be used if they provide a meaningful learning experience that cannot be accomplished without a screen.

Canadian Paediatric Society, 2011

A great way to reduce screen time is by having kids play outside in nature!

How to get your children and youth outside

Make nature a routine

- **Have outdoor play as a regular part of your child's routines and schedule (and as part of the family routine and culture).** Start when your kids are younger, so that as they grow older, they will just naturally understand that outdoor play is an important part of life. Family time is ideal for role modelling active outdoor pursuits like swimming, hiking or biking. Let kids know that physical activity is "having fun outside," rather than "getting exercise" or "working out."

- **Have family traditions where everyone joins in.** This could be the family walk after dinner, the family hike on the weekend or the yearly family camping trip.

- **After school, encourage your kids to get outside rather than sit in front of a TV.** Many times kids will claim they want to "relax" by watching TV or playing a video game, but screen time tends to

overstimulate, not restore, the brain. On the other hand, time outside is restorative, even if it's just sitting in a hammock in the shade. Save homework for after your child's brain has had time to relax in nature.

- **Have active instead of electronic activities.** Instead of passive activities like family TV or movie nights, try to have more active, non-electronic activities like family board game nights or music nights (playing music together, karaoke, etc.). Celebrate slow food by making your own pizza together or having a fondue.

Prepare for outdoor activities

- Be prepared with a list of outdoor activities that are appropriate to your child's physical skill level. For ideas, visit the ParticipACTION website: http://www.bringbackplay.ca/welcome/

- Keep a bag of your family's favourite activity gear with items such as balls, a jump rope, bubbles, sidewalk chalk and pylons. Keep the bag handy, for example in the car, so that you are ready to play at any time.

- When buying gifts, choose items kids can play with outside such as balls, bikes and bubbles. Tell family members not to get your kids electronic toys.

- Have your kids wear clothing that is appropriate for the weather so they will be comfortable. Kids should be encouraged to play outside in all kinds of weather, except the most extreme.

Use outdoor active play to meet emotional needs

- **Play outside with your child** to build and strengthen your relationship.

- **Choose fun and challenging activities** that your child is able to do, thus building confidence. Gradually increase the level of difficulty so that your child remains engaged.

- **Plan outdoor play dates** with other children so your child builds peer connections.

- **Give your child opportunities to explore** on his or her own to build independence.
  When kids are too closely supervised, they are less active. Go exploring with your child in nature, including nearby forests, gardens or wild areas. Let kids decide how to explore — which path to take or which tree to climb. Allow children to play without an adult hovering. Let your child decide what outdoor activities he or she likes to do, or let your child choose from a list. A child who makes his or her own choices will enjoy the activity more and stay outside longer.

- **Give your child freedom as appropriate.** When children are younger, parents need to provide supervision but should not interfere unless necessary. As children get older, letting them play around the neighbourhood without a parent gives them the freedom to make choices within boundaries appropriate to their age and abilities. This builds self-confidence.

- **Match the activity to your child's energy level.** Some kids prefer calm activities like walking; others prefer high energy activities like mountain biking. Some children prefer individual or one-on-one activities, and others prefer group activities.

- **Walk the dog.** Having a dog is great for getting family members outside for a daily walk. As kids get older, they can do this on their own. A pet can also help with children's mood and self-acceptance. After all, animals like dogs provide unconditional acceptance.

- **Give gratitude instead of praise.** Instead of praising your kids for getting outside (praise implies judgment), thank them for getting outside, and let them know how much you enjoy spending time with them outside.

Limit technology

- **Set limits on recreational screen time (TV, tablet, computer, cell phone) from an early age.**

Technology is very addictive, and having had limits from an early age will naturally help create children whose brains are wired for playing outside. Family routines that include outdoor time will help your child understand that minimal screen time is normal and limiting it is not a punishment.

- **If your child or teen complains about going outside, it is even more important to limit screen time.** The high stimulation of screen time sets your child's brain to get used to easy dopamine and adrenaline. This causes your child to feel excited, energized and rewarded with very little physical effort. Once your child's brain gets used to the high stimulation from a video game, then being active outdoors will be less appealing. It requires far more effort to run, climb, move or walk than simply sitting on the couch and playing a video game.

- **Help your child enjoy the real world.** Instead of spending time on social media, get together with friends or family to throw around a Frisbee. Instead of playing a video game, get the adrenaline rush from mountain biking.

Don'ts

- **Don't get fitness trackers.** Studies show that fitness trackers don't work. Perhaps this is because some parents tend to pressure their child to achieve specific fitness targets. This then makes it about achievement and judgment and takes away the enjoyment. It can also hurt the relationship between the child and the parent. Other kids may like the novelty of having a tracker, but that soon wears off.

- **Don't make the physical activity competitive**, as competition involves judgment. Deep down, kids want to feel accepted, not judged.

- **Don't rely mainly on external rewards or negative reinforcements** (including pressure or coercion) as a way to motivate your child. It may appear to work in the short run, but it doesn't generally work in the long run. For example, try to avoid saying: "If you go play outside, we'll go for ice cream / you can have video game time / etc." Once the external rewards stop, the risk is that the behaviours stop as well. Instead, just thank your child and express gratitude for his or her healthy choices. In the long run, the goal is to help your child build self-motivation for healthy activities.

Specific advice for parents of teens (13-18 years)

- **Encourage choice and independence**. Give your teen the right to choose, but if your teen is unable to make healthy choices, then give your teen a choice among healthy options.

- Support your teen so that he or she can do outside activities such as:

  - Walking, hiking or biking
  - Rollerblading or skateboarding, alone or with friends
  - Non-competitive games of soccer, basketball, football or Frisbee

- Encourage outdoor time as a break during overscheduled days. Teens can have many demands on their time, such as homework and extracurricular activities. Going with your teen for a quick walk outside is a great way to restore energy.

- Help your teens realize that no matter how attractive screens are, there is no replacement for face-to-face contact with another person, ideally outside.

Tips for parents of children/youth with mental health issues

It can be difficult to get children and youth outside when they are struggling with mental health issues such as depression, anxiety and eating disorders. However, it's important to encourage outdoor time in nature for its therapeutic benefits.

Show acceptance and appreciation towards your child/youth.

- **Go outside with your child/youth.** Don't just tell your child to get outside, but go together. You might say something like: "I really enjoy spending time with you. Let's go for a walk to the park together. We can pack some food and have a picnic there."

- **Slowly introduce physical activities.** Start with low energy activities like sitting outside, gardening, a walk around the block or sitting on a bench at the park.

- **Avoid judgment.** Children/youth living with mental health challenges often feel disconnected physically or emotionally from caring adults. If they feel they are being judged or criticized by an adult, this can make the connection worse. For example, telling your child who is struggling with depression to exercise more may make him or her feel judged or rejected. The child may not want to exercise anymore.

- **Don't go overboard with praise.** The adult may view it as positive, but the child may view it as judgment. Consider avoiding praise such as: "Good job at going outside today!"

  Instead, use gratitude to show that you are happy with your child's behaviour: "I had a wonderful time walking with you outside today. Thank you! I can't wait until tomorrow so that we can do it again."

- **Use unconditional acceptance.** Let your kids know that you love them no matter what. Show it through your actions of wanting to be with them, rather than showing disappointment if they don't want to go outside.

When to see a doctor

If you are still struggling to get your child outside in spite of your best efforts, consider seeing a doctor, especially if you notice any of the following:

- Does your child have severe problems with clumsiness and coordination, to the point it makes it hard for your child to want to go outside? Have you noticed frequent falls, bumps or injuries?
- Does your child struggling with social skills to the point it causes problems?
- Does your child have problems with sensory issues, for example, being hypersensitive to noise or touch?
- Are there stresses in your relationship with your child, to the point where there are constant fights and disagreements?
- Is your child's connection to technology so strong that it gets in the way of your child connecting to other things such as people or the outdoors?

A health professional can work with you to see if there are any conditions or issues that might be contributing to your child's difficulties getting outside. Together you can come up with a plan.

In conclusion

Access to active play in nature and outdoors, along with all its risks, is essential for healthy child development. We must all work together in our homes, schools and communities to increase opportunities for self-directed play outdoors. **Healthy, active outdoor play: it's one of the single best hacks for physical and mental health.**

For more information

Websites

Parks Canada has a "Nature Playbook" with tips on how to get into nature.
http://www.parks-parcs.ca/pdf/playbook/nature-playbook.pdf

ParticipACTION is a national non-profit organization whose mission is to help Canadians sit less and move more.

The website has lots of resources and ideas for active play for the whole family. https://www.participaction.com/en-ca

For more information for parents on how to find the right balance of technology, read our handout: “Unplug (from technology) and connect: Keeping families strong in a wired world,” from http://www.ementalhealth.ca/26722.

“Position Statement on Active Outdoor Play” examines the best available scientific evidence on the overall benefit (balance of benefits vs. harms) of outdoor and risky active play.
http://stage.participaction.com/sites/default/files/downloads/Participaction-PositionStatement-ActiveOutdoorPlay.pdf

The Canadian Physical Activity Guidelines and Canadian Sedentary Behaviour Guidelines
http://www.csep.ca/en/guidelines/get-the-guidelines

Books for Parents

Free-Range Kids: How to Raise Safe, Self-Reliant Children (Without Going Nuts with Worry), Lenore Skenazy

Saving Our Children From Nature-Deficit Disorder, Richard Louv.
Organizations for More Information

Child and Nature Alliance of Canada, http://childnature.ca

Children and Nature Network, http://www.childrenandnature.org

References

Brussoni M et al. What Is the Relationship between Risky Outdoor Play and Health in Children? A Systematic Review. International Journal of Environmental Research and Public Health. Vol 12, No 6 (2015). *This systematic review study showed overall positive effects of risky outdoor play on physical activity, social health and behaviours, injuries and aggression.*

Canadian Society for Exercise Physiology (CSEP): Canadian 24-Hour Movement Guidelines for Children and Youth: An Integration of Physical Activity, Sedentary Behaviour, and Sleep, 2016. https://www.participaction.com.

Dolgin E. The Myopia Boom. Nature. 2015 Mar 19; 519(7543):276-8. *Myopia may be related to lack of time outdoors, due to lack of sunlight when indoors. To prevent myopia in children, it is recommended that they spend at least 10 hours per week outdoors, whether in shade or sunlight.*

Gunnell et al. Measuring perceived barriers to physical activity in adolescents. Paediatric Exercise Science (2015). *Everyone is born with a need for competence, autonomy and relatedness to others. If these needs can be met while doing physical activity, children will willingly want to do these activities.*

Gray C 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. Vol 12, No 6 (2015).*This systematic review study showed positive effects of outdoor time on physical activity, sedentary behaviour and cardiorespiratory fitness in children.*

Kuo F. A Potential Natural Treatment for Attention-Deficit/Hyperactivity Disorder: Evidence From a National Study, Am. J. Public Health 2004 Sep; 94(9): 1580-1586.

Maras D, Flamant M, Murray M, Buchholz A, Henderson KA, Obeid N, Goldfield G. Screen time is associated with depression and anxiety in Canadian youth. Prev Med. 2015 Apr; 73:133-8. *Shows association between more screen time and having depression/anxiety.*

Shanahan, D. F. et al. Health Benefits from Nature Experiences Depend on Dose. Scientific Reports 6, 28551; doi: 10.1038/srep28551 (2016). Retrieved July 11, 2016 from http://www.nature.com/articles/srep28551.
Recommends that a minimal dose of 30 minutes a week is enough to see benefits to mental health from nature.

Tremblay M, Gray C, Babcock S, Barnes B, Bradstreet C, Carr D, Chabot G, Choquette L Chorney D, Collyer C, Herrington S, Janson K, Janssen I, Larouche R, Pickett W, Power M, Sandseter E, Simon B, Brussoni M. Position Statement on Active Outdoor Play. International Journal of Environmental Research and Public Health. Vol 12, No 6 (2015). *The position statement was developed by a diverse group of partners, stakeholders and researchers to detail research and recommendations on the importance of active outdoor play for children.*

Twenge J. Generation Me. (2014). *Reviews data showing that generations since the 1980s are increasingly more confident, tolerant and open-minded, yet at the same time, more anxious, narcissistic, lacking empathy and disengaged.*

Van Wieren G, Kellert SR. The Origins of Aesthetic and Spiritual Values in Children's Experience of Nature. Journal of the Study of Religion, Nature and Culture, Vol 7, No 3 (2013). *In this study, children who played outside 5 to 10 hours per week said they felt a spiritual connection with the earth and felt their role is to protect it.*

About this document

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