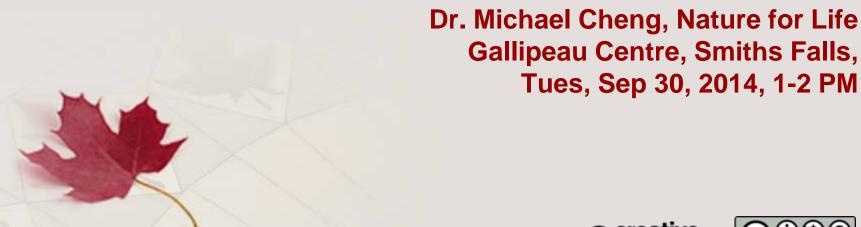
Nature: The free antidepressant with no side effects





Only when the last tree has died, and the last river been poisoned, and the last fish been caught, will we realise we cannot eat money

Cree proverb

Learning Objectives



- By the end of this session, participants will be:
 - 1. Aware of the evidence for that which we already know intuitively; that a connection with nature is essential for healthy emotional and physical health.
 - 2. Aware how modern society has disrupted our connection with nature.
 - Inspired and excited to reconnect with nature in both our personal and professional lives.

A little history lesson





In the past...



- We lived intimately with nature, and were physically active throughout the day
- Children played outside in nature, riding bikes, playing sports, with movement and sensory stimulation
- Children used their imagination, because they didn't have TVs
- We knew the shopkeepers, the neighbours, the people down the street
- We spent much more time outside in nature...

Cris Rowan, 2014



Image from Little House on the Prairie

Nowadays...



- We live in cities surrounded by concrete, increasingly disconnected from nature
- Thanks to modern conveniences (e.g. the automobile, modern appliances), we are much less physically active than we used to be
- We have less face-to-face contact with our neighbors and those in the community, and thanks to the internet, can avoid it entirely if we want...



In the past...

1

- Dining room table was a place where families came together to eat and talk
- After dinner, families continued to connect with each other
- Family, extended family and community play a large role
- Children contributed to the family through chores and looking after siblings

Cris Rowan, 2014





Nowadays...

1

- Kids play outside much less
- Elementary aged children
 - Use on average 7.5 hours per day of entertainment technology
 - 75 percent of these children have TV's in their bedrooms
- 50% of North American homes have the TV on all day.
- Parents juggle school, work, home, and community activities, rely heavily on cellphones, computers, and cars
- Dining room conversation replaced by the "big screen" and take out
- Families smaller, with much less extended supports than ever
- Today's kids are much more self-absorbed, with their main focus being how do I entertain myself





Our society is out of balance...



- Mental health issues on the rise
 - Demands for mental health facing unprecedented demands
- Physical health issues on the rise
 - Child obesity, diabetes are such that today's kids predicted to have shorter lives than their parents
- Evidence suggests that are are wired to require contact with nature, and fellow human beings
- Our disconnection from nature and fellow human beings may be contributing to these problems we face...



Nature is Good



We are not getting enough nature



- "Nature deficit disorder", coined by Richard Louv in Last Child in the Woods (2005)
- Human beings, especially children, are spending less time outdoors resulting in a wide range of behavioural, emotional and other problems (Louv, 2005)
- "Time in nature is not leisure time; it's an essential investment in our children's health."
- "Ecotherapy" (aka. "green therapy", "earth-centered therapy") are nature based ways of physical and psychological healing (Clinebell, 1996)

Evidence that nature is good



- Nature reduces symptoms of attention disorders such as ADHD (Kuo, 2004)
 - Recommends "green dose" such as
 - Ordinary "urban nature", e.g. tree-lined street, green yard, neighborhood park
 - Walking to school, doing classwork or homework with a relatively green view, playing in a green yard or ball field after recess
- Nature improves cognitive abilities, i.e. Students on an exam do better if they can view a natural scene out a window rather than an artificial environment (Tennessen, 1995)
- Walking in park anytime of the year improves attention/memory, with 20% improvement after an hour (Kaplan, 2009)

Evidence that nature is good



- Nature reduces aggression (Kuo et al., 2001)
- Nature reduces stress and anxiety (which thus also helps the cardiovascular system)
- Wilderness course (2-weeks) has psychological/lifestyle benefits (Greenway, 1995)





Exercise is good; 'green' exercise in nature is even better



- Exercise is an effective intervention for mood
 - Particularly for people who have low to moderate levels of major depressive disorders
 - Benefits comparable to medication and established psychotherapies (e.g. CBT)
- Green exercise (i.e. exercise outdoors) is better than exercise indoors
- Group nature walks improve mental health (Warber, 2014)

Dr. Jasper Smits, on www.mindingourbodies.ca

Proximity to urban parks improves mental health



- Studies show that proximity to safe urban parks can reduce mental health problems (e.g. depression/anxiety), as well as physical health problems (e.g. obesity)
- Various studies confirm this
 - Los Angeles
 - Residents living within 400 m of a safe park have the best mental health, compared to residents that are 800m, 1.6 km and 3.2 km away from a park
 - Having a nearby park is as important to mental health as reducing local unemployment rate by 2%
 - Netherlands (Maas, 2009)
 - Those living close to safe parks were 1/3 less likely to receive treatment for anxiety, and 1/5 less likely to receive treatment for depression

Schizophrenia linked to urban living



- Incidence of schizophrenia is 2X higher among people in cities than in rural environments
- Further more, there is a dose response
 - The more urban, the more schizophrenia
- Possibly due to
 - Environmental toxins in cities
 - Social context in cities
 - Infectious diseases (such as prenatal infections)

Ezra Susser, 2004

Lack of outdoor play linked to short-sighted children



- Eight previous studies (involving more than 10,000 children/youth) by University of Cambridge researchers found that for each additional hour spent outside per week, the risk of myopia reduced by 2%.
- Exposure to natural light and time spent looking at distant objects could be key factors, they said.
- The studies involved more than 10,000 children and adolescents.
- Short-sighted children spent on average 3.7 fewer hours per week outdoors than those who either had normal vision or were long-sighted.

Why is nature necessary?



- Sunlight
 - Without it → circadian rhythms disrupted, vit D deficiency...
- Movement
 - Insufficient movement → sedentary
- Fresh air
 - Without it → polluted indoor / outdoor air
- Natural surroundings
 - Television/video games (with rapid changes in visual scenes) → temporarily pleasure but is NOT restorative
 - Being in nature leads to improved mood and improved attention, whereas television/video games does not (Kubey, Sci Am, 2000)
- Animals, trees
 - We need attachments, whether it be people, otherwise, fellow mammals and other creatures

Nature is important, but its not all just about nature...





Can these baby animals survive on their own?











Can these baby animals survive on their own? **YES!**











Can this baby animal survive on its own?





Can this baby animal survive on its own? **NO!**





We are programmed to require attachment



- Humans cannot survive on their own and are dependent on others for survival
- This basic reality is hardwired into us
- Core drive of every person is to be connected to other people (and nature)



Bowlby, 1940; Ainsworth, 1979; Schore, 2001; Neufeld, 2004

Attachment (to people and nature) is thus required for:



- Normal development
 - Motor, sensory, self-regulation, including emotional regulation, left/right hemisphere integration, etc.
- Mental health, including happiness, contentment...
 - Healthy attachments contribute to healthy relationships later in life
 - Unhealthy attachments early in life lead to unhealthy relationships and mental health problems later in life...
- Attachment/connection drives us through all stages of life
 - Infant/toddlers/children
 - Teenagers/youth
 - Adults

Its all about attachment



- Resiliency
 - Ability to overcome adversity is known as "resiliency"
 - Not everyone exposed to stresses develops problems; many in fact, will thrive...
- Regardless of the area (e.g. mental health, school, staying out of problems with the law), attachment is one of the most important (if not most important) resiliency factors ...

Bowlby, 1940; Ainsworth, 1979; Schore, 2001; Neufeld, 2004

In other words...



- By all means, kick your kids off the TV and video games so that they can play outside...
- But make sure that you also keep your connection with them too!
- So ideally, kick your kids outside, and spend time outside with them too!

The problem with technology:
"I'd love to get my kids outside,
but I can't get them off the
screens..."



2010 Kaiser Family Foundation Survey



- U.S. children/teens (age 8-18) spend more time in front of an electronic screen than with family/friends
- Most have no household rules on their use
 - 7 hr/day
 - Television, cell phones, hand-held games, Internet games, Facebook and video games
 - 2-hrs/day
 - Violent video games

Generation M2: Media in the Lives of 8- to 18-year olds, Kaiser Family Foundation

More kids would rather spend time with TV than a period



 AC Nielsen report, 54% of kids preferred to spend time with the TV compared to parents

We all know that this is the ideal...

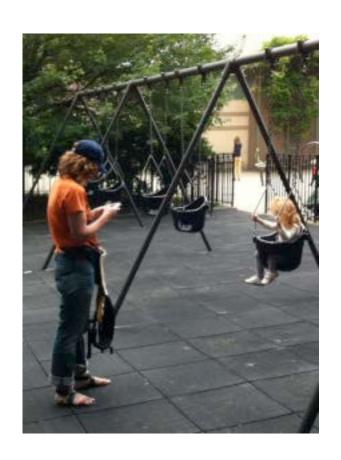






But this is what we are seeing...







From http://www.babble.com/kid/parents-on-phonesignoring-their-kidsis-your-picture-on-this-list/yeah-uh-huh-2/

But this is what we are seeing...





But this is what we are seeing...



The iPotty!



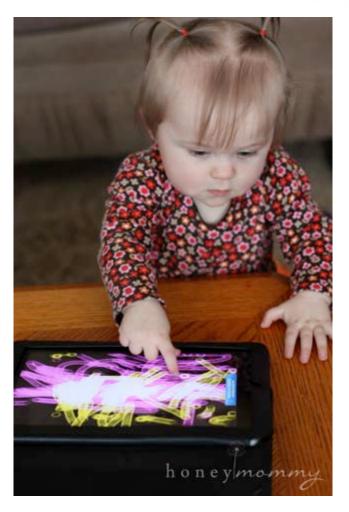
iPad Apptivity Seat from Fisher-Price

But this is what we see are seeing...

1

- More than half of parents let their babies use a smartphone or tablet
- One in seven allowing it for four or more hours a day

Retrieved Apr 28, 2014 from http://www.dailymail.co.uk/news/article-2312429/Four-year-old-girl-Britains-youngest-iPad-ADDICT-Shocking-rise-children-hooked-using-smartphones-tablets.html#ixzz30DPxQgLv



Why connection to technology is bad...



Technology addiction is hurting parent-child bonding



- Whether it is cell phones in the park, or doing work on the laptop at home in the evening, our technology makes it incredibly easier to ignore our kids, and naturally hurts parent-child connections
- Once a child learns to speak, many parents offer children technology to satisfy the child's need for companionship (Rhame)
- As such children grow older, they will turn to peers or technology to meet their needs

Technology addiction is hurting parent-child bonding



- Unfortunately, technology can never meet a child's deep needs as well as only secure parents
 - Needs such as connection through the senses, sameness, belonging/loyalty, and unconditional acceptance and validation
- Studies confirm
 - Parents who use devices are more likely to respond to their children in a harsh or negative manner (Radesky et al.: Patterns of mobile device use by caregivers and children during meals in fast food restaurants, J. Paediatrics, 2014)
 - Children are emotionally hurt by being ignored by parents distracted by a device (Sherry Turkle, 2013)
 - In particular, being ignored by parents 1) at meals, 2) at pickup after school, 3) extracurricular activities, sports events

Lack of Empathy from Loss of Face-to-Face Contact



- Plugged in kids = less face-to-face communication with a live human being
- Children and young people have fewer opportunities to make eye contact, read facial expressions, and interpret body language and tone of voice, which are key to building empathy
- Studies confirm many adolescents and teens today are having difficulty identifying emotions in people
- Thus leads to problems with empathy toward others who may be feeling pain, sorrow, anger and other emotions

Lack of Empathy from Desensitization



- Today's child is exposed to many sources of violence, cruelty and age-inappropriate content whether on internet, TV, movies, video games
- Contribute to desensitization to violence, and loss of compassion, empathy and caring for others



What happens when kids are overly exposed to technology?



- Loss of social benefits from being attached to people
 - Significant as we are a social (not solitary) species
- Loss of opportunities to move and experience the world
 - UK Association of Teachers and Lecturers warns of rising numbers of children who can swipe a screen, but are unable to perform simple tasks such as using building blocks, or socialize with others

(http://www.telegraph.co.uk/education/educationnews/10767878/Infants-unable-to-use-toy-building-blocks-due-to-iPad-addiction.html)



Photo: https://www.flickr.com/photos/ 31746614@N00/4581962986

"Screen sucking"



- "Screen sucking" = Excess use of technology
- Screen-sucking not only is a waste of time, it is also addictive
- Robs a child from participating in other activities, such as playing outdoors, getting exercise, reading a book, or doing schoolwork
- In the trance induced by screen-sucking, the child builds no useful skills and wastes precious time he or she could be investing in beneficial activities.
- So alluring are the screens, however, that children feel all but compelled to sit in front of them, sucking away...

Dr. Hallowell, ADHD expert



VIDEO CLIP: Tronick's Still Face





TEXTING Killing genuine human interaction two thumbs at a time.

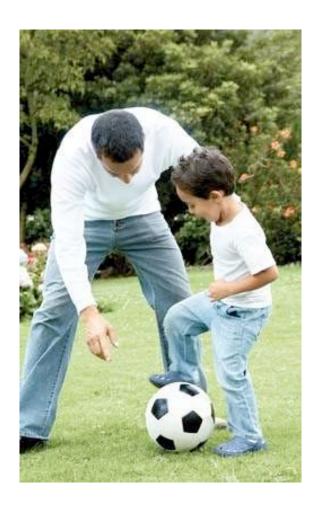
Technology makes adults appear incompetent



Q. How children used to play with parents... Who is more competent?



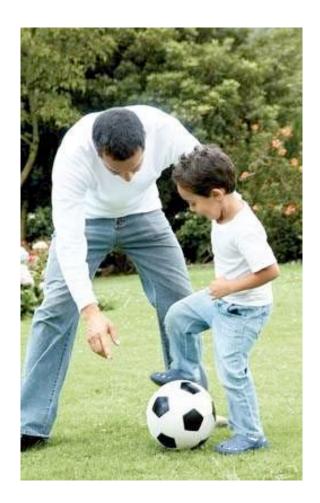




A. The parent → Child learns parents are competent and to look up to parents...







Q. In today's technology obsessed world, who is better with modern technology, our 1) children or 2) parents?





Technology makes adults look lame



- Kids tend to know more about technology
 - E.g. Video games, Facebook, Internet, Instant Messaging, etc.
- Thus, a child learns
 - "I'm smarter than the adults"
 - "I'm better than the adults"
 - "I can't count on the adults..."
 - "I can only count on myself or peers..."



Coyne et al.: Game On... Girls: Associations Between Co-playing Video Games and Adolescent Behavioral and Family Outcomes, Journal of Adolescent Health, Feb 3, 2011

Technology makes parents irrelevant



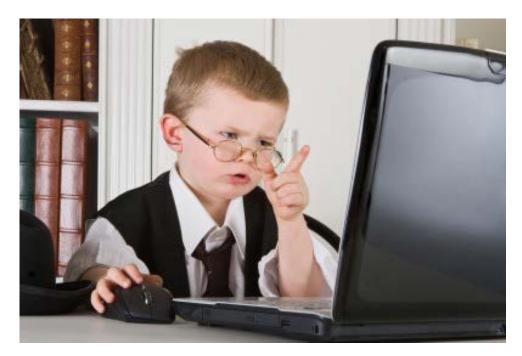
Q. If your child needed some information (e.g. what is the average flying speed of a swallow), would your child ask you?

Technology makes parents irrelevant



Q. If your child needed some information (e.g. what is the average flying speed of a swallow), would your child ask you?

A. Probably NOT





Why do today's kids detach from their parents as they get older?

Social Media



Modern technology may be harming our relationships



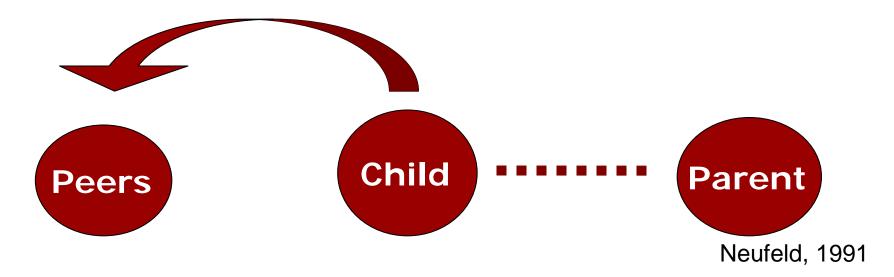
- Deeper intimacy in relationships being replaced by superficial, weak connections
 - "I have 500 Facebook friends, but I can't really talk to anyone"
 - "Facebook depression"
- Facebook cited by name in 1/3 of divorce filings (UK study, 2011)



Modern media is a double bind...



- Modern media fosters peer orientation yet today's peers are even less likely to be able to meet each other's needs because
 - Social media contributes to the superficiality of peer relationships
 - Violent culture contributes to narcissism and lack of empathy



Video games



What's the big deal about video games?







VIDEO CLIP: CALL OF DUTY: AIRPORT MASSACRE LEVEL





VIDEO CLIP: DEBRIEF

- Q. What does this do to a child's brain?
- Q. What does this teach you about life, dealing with conflict, and relationships?

Video games are bad



- Research confirms numerous harmful effects of violent video games
 - Behaviour / mood / relationships
 - Physical health, sleep

American Academy of Paediatrics, Media Policy Statement

- Violent video games are however, great for
 - Training combat soldiers
 - Creating children/youth who lack empathy and see violence as a way of solving problems

Modern society may be contributing to the apparent rise in narcissism...



- Since 1979, yearly surveys having been done of college students at the University of Michigan
- Over 14,000 students surveyed to date, with various questions to assess traits such as level of empathy and altruism
- Since year 2000 (those born 1980's onwards), students have consistently shown to be less and less empathetic (and more and more narcissistic)
- "Generation Me" appears
 - more narcissistic
 - less empathetic than previous generations

Modern technology/society may be making us less attached with each another...



- Violent culture desensitizes everyone to violence, making us less empathetic and more narcissistic
- Social media and modern technologies are great for 'weak connections' and can contribute to superficial relationships
- Interactions through Twitter, instant messaging are like "emotional junk food" compared to the deeper connections from face to face contact



Technology Use Guidelines for Children and Youth



Silicon Valley executives send their kids to... a school with no computers



- Many top executives from Google, Apple, Yahoo, Hewlett-Packard, send their kids to the Waldorf School of the Peninsula
- No computers in the classrooms
- Younger pupils educated with pencils, pen and paper, painting and knitting
- Students report frustration with parents /relatives that are wrapped up in phones and other devices

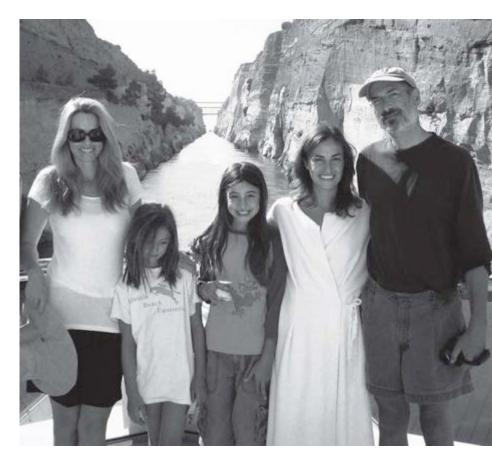


http://www.nytimes.com/2011/10/23/techno logy/at-waldorf-school-in-silicon-valley-technology-can-wait.html?pagewanted=all

Steve Jobs, Apple CEO, was a low tech parent!



- Steve Jobs did not allow his youngest children (aged 12, 15) to have iPads when it came out in 2010
- Reporter: "Your kids must love the iPad..."
- Steve Jobs: "They haven't used it... We limit how much technology our kids use at home... At the dinner table, we talk about books and history."



http://www.nytimes.com/2014/09/11/fashio n/steve-jobs-apple-was-a-low-techparent.html?_r=1

Guidelines collected from various sources...



- Cris Rowan, pediatric occupational therapist and author of Virtual Child;
- Dr. Andrew Doan, neuroscientist and author of Hooked on Games;
- Dr. Hilarie Cash, Director of reSTART Internet Addiction Recovery Program and author of Video Games and Your Kids
- Various tech parents (as quoted in NY Times)
- Contribution from the
 - American Academy of Pediatrics and the
 - Canadian Pediatric Society

Recommendations



- What children/youth need above all, is healthy connections with parents
- Technology is no replacement for genuine human interaction
- Ensure you have a close relationship with your child that is nurturing and caring
 - Spend 1:1 time with your child
 - Be sure that you are the primary influence in your child's development rather than technology, to protect yourself against negative influences from television, media, video games
 - Be close so that your child can turn to you to meet their core needs rather than technology

Recommendations

1

- Don't use screens as a babysitter
 - Its tempting to sit kids in front of the TV so you can get dinner on the table, or attend to chores that need to be done, or even have a few moments to yourself
 - Empathize and be patient with your child's complaints of boredom – they will survive and will find other ways to keep themselves occupied as children have done thousands of years



Recommendations

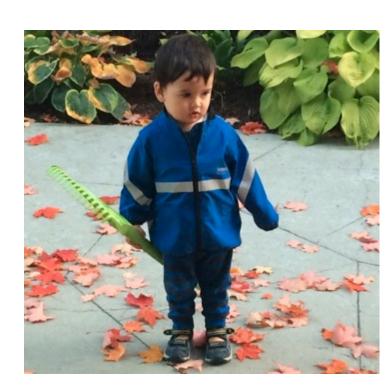


- Have rules/limits about technology
- Have tech-free times so that family can connect
 - E.g. All family members (including parents) should put devices into a basket when they come in through the door, and only retrieve them at a pre-designated time, e.g. after dinner
- Limit technology during dinner, ideally even
 TV

Recommendations for age 0-2



- No technology
 - No TV
 - No handheld devices
 - No video games
 - No non-violent
 - No violent games
- "Don't leave your devices (e.g. iPad) around... if children see all the pretty colours, they will want to use it too" (Dr. Richard Graham, UK, 2014)



Recommendations for age 3-5



- Some technology
 - Some non-violent TV
 - 1-hr daily max
 - No handheld devices
 - No video games
 - There is no convincing evidence that video games (even educational video games) improve child development

Recommendations for age 6-10 / age 6-12



- Some technology
 - Weekdays:
 - No gadgets at all
 - No screen time
 - No video games
 - No screen time in bedroom
 - Weekends
 - Limit of ½ hr to 2-hrs on gadgets
 - Non-violent TV up to 2-hrs daily
 - No screen time in bedroom at all

Technology Rules based on informal survey of tech CEOs



- Children aged 10-14
 - Weekdays: May use computers for homework only
 - No screen time
 - No screen time in bedroom at all
- Rules on social media
 - Many tech parents ban social media outright
 - Others permit it, as long as kids use Snapchat (which deletes messages) after being sent (thus, kids don't have to worry about things coming back to haunt them later in life)

http://www.nytimes.com/2014/09/11/fashion/steve-jobs-apple-was-a-low-tech-parent.html?_r=1

Recommendations

1

- Find alternatives to screen time
 - Encourage non-electronic activities such as
 - Reading
 - Sports
 - Crafts
 - Extracurricular activities
 - Realize that although electronics are stimulating and keep kids occupied, this programs their brain to become dependent on high stimulation activities, causing long-term problems





VIDEO CLIP: Gary Turk's Look Up



Tips on Getting More Nature





Tips for Individuals

- Walk everyday in an area which is more natural than man-made. This could be in the country but it could also be a park or a tree lined street. It could also be the coast or along a river.
- Get out the country, or the coast, as much as you can at weekends or on holidays.
- ☐ Join a local nature or walking group.
- □ Take up an outside hobby, e.g. walking, biking, bird watching, golf, etc.

CentreforConfidence.co.uk





Tips for Individuals

1

- ☐ Grow a garden outside.
- ☐ Get house plants.
- Have nature pictures on the wall.
- Arrange chairs/tables near the window
- Shop at the local grocer, rather than drive to the outlet mall
- Don't vote for politicians that allow developers to build suburbs kilometers from nearest grocery store

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Tips for Parents and Families

1

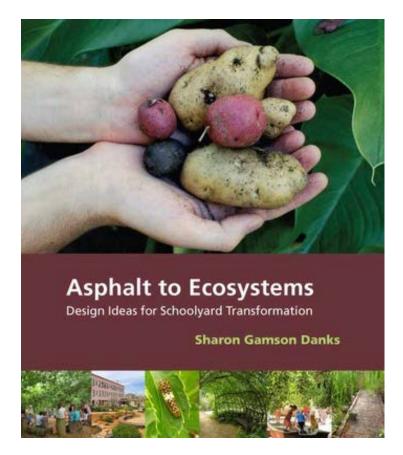
- Walk with your kids to school
- Have family outings in wild places
- Have family walks in the evening
- ☐ Spend 1:1 time outside with your kids
- ☐ Create or join a family nature clubs
- Visit Cheryl Charles' Children & Nature Network (<u>www.childrenandnature.org</u>)



Tips for Educators

- Advocate for more green in schools as well as outdoor green spaces
 - E.g. grass rather than concrete / asphalt
- Never punish a child by removing their contact with recess / nature
 - ☐ If a child is having behavioural, emotional or other difficulties, they need recess / nature more than ever
- Embed nature in the curriculum
- □ Promising practices include 'forest schools', 'outdoor education', etc...





Tips for Urban Planners

1

- Reverse the trend of having cities divided into separate zones for living and working, with commuting between them
- □ Communities must be walkable or bikable so people get out of cars
- Design communities where people can live, work and play
 - E.g. Have shops and grocers within walking distance
 - E.g. Young teenagers are 2.5 times more likely to walk if there is a recreation destination within 1-kilometre of their home



Image from http://ibikenopa.blogspot.ca

Tips for Urban Planners

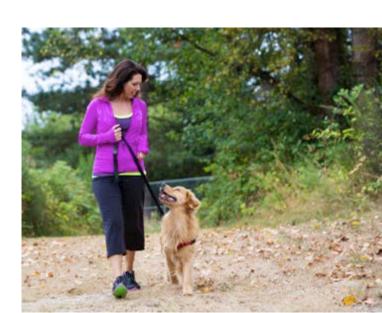
- □ Parents must feel safe to let children bike to school
- □ Ramps ('curb cuts') need to be adequate in order for people with disabilities to venture out into their communities.
- ☐ Increase housing density to reduce urban sprawl
- Don't allow developers to build new suburbs far away from grocery stores
- Safe and interesting parks

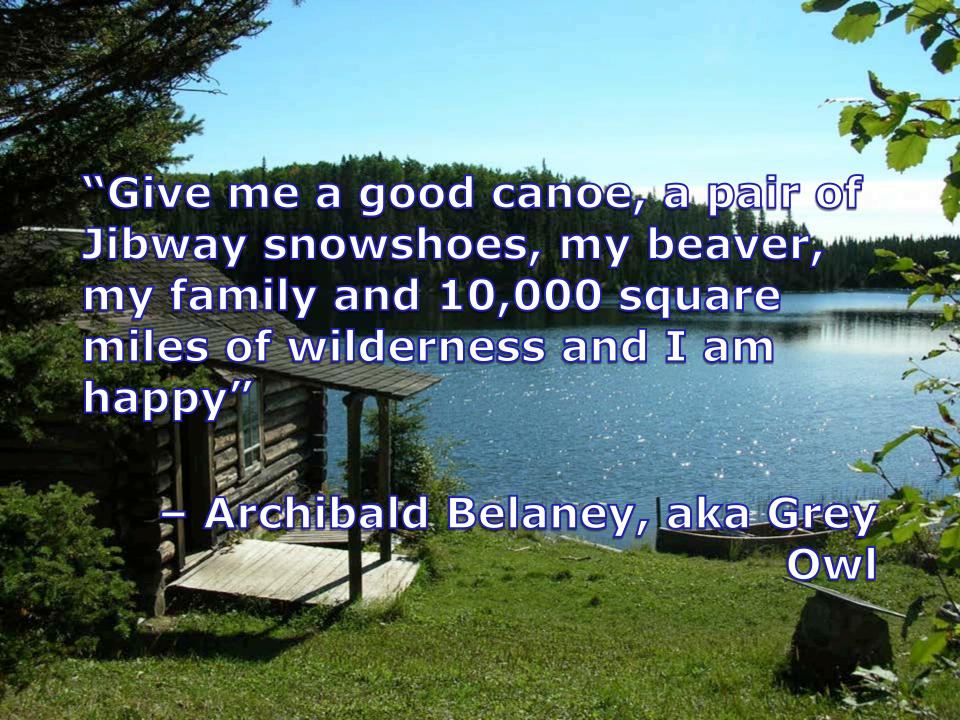


Tips for Health Care Professionals



- ☐ Take a holistic, psycho-socialspiritual-environmental perspective
- □ Avoid narrow, reductionist views (such as focusing just on medications)
- Diagnose "Nature Deficit Disorder" to build awareness
- ☐ Prescribe nature, "ecotherapy"





Tips for Managers/Policy Makers



- ☐ Review how much exposure your employees/clients may have to the green or natural environment and how much this can be improved by your organization.
- Set up a committee to look at how contact with the natural world can be improved.
- Improve the landscaping around buildings.
- □ Try to create a green effect indoor through plants. Encourage an office group to look after them and encourage staff to bring in plants.
- □ Hang up pictures or posters of natural scenes. Install a water feature if possible.
- ☐ Where possible, have retreats, trainings away in a green environment. Allow time in the program for a walk.

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Contact with Nature as a Public Health Intervention



- Contact with nature is a powerful, cost-effective public health intervention
- Collaboration is required by researchers in health, social services, urban planning and environmental management

Maller et al., Health Promotion International, 21(1), Mar 2006.

Luckily, we live in the most beautiful country in the world!







VIDEO CLIP: Young David Attenborough discovers the Tech Crèche



How to Motivate Yourself: What the Studies Show



How long does it take before a new habit sticks?



- Popular misconception is that it is a minimum of 21 days (Maltz, 1960)
- More recent study
 - Minimum of 2 months (i.e. 66 days) (Lally, 2009)
- Thus
 - Realize it takes time to form a new habit
 - Don't be discouraged if it takes longer than you expected!

Give yourself a real reward



- Vague goals such as "better mental health" work for some people
- Others need a real, tangible reward
- Thus, after doing the desired behaviour (such as going for a walk outside), reward yourself with a real reward such as
 - A favorite treat
 - A favorite TV show

Start with small goals



- ☐ Start small, e.g. 5-minutes every day after dinner
 - While its nice to "walk 60-minutes every day after dinner", it is best to start with a small goal such as 5minutes

Journey of a thousand miles begins with a single step.

Lao Tse

Sign a Contract



- ☐ Sign a contract in front of friends/family that you will go for a daily walk after dinner
 - Research shows people are more likely to follow through with pledges when made in front of friends / family
 - Studies show that people with contracts ended up exercising longer than those who didn't
- ☐ Consider including a penalty for not doing it, such as paying \$\$ every time you don't go for the walk

Goldhaber-Fiebert, 2010

Visualization



- Identify your wish (e.g. going for a daily walk after dinner)
- ☐ Visualize the positive outcome (e.g. feeling more energy)
- ☐ Identify what might stop or block you from doing it (e.g. feeling too tired)
- ☐ Come up with a plan to deal with the obstacle (e.g. going out anyways, knowing that you can shorten the walk if too tired)

Still struggling with getting more nature?





Join a more traditional society!



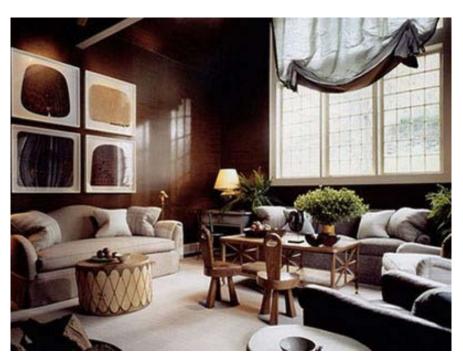




Get a Feng Shu Consult!

*

- Bringing nature into one's living spaces is a key component of Feng Shui, which seeks to balance the five elements:
 - Fire: Passion, enthusiasm, warmth
 - Earth: Staying grounded and being present
 - Metal: Mental clarity and determination
 - Water: Spirit and synchronicity
 - Wood: Growth
 - Trees, plants, flowers, pictures of plants/flowers
 - Shapes such as pillars, columns, vertical lines



http://www.feng-shui-and-beyond.com/feng-shui-living-room.html

Just wait until the zombie invasion!





In Summary



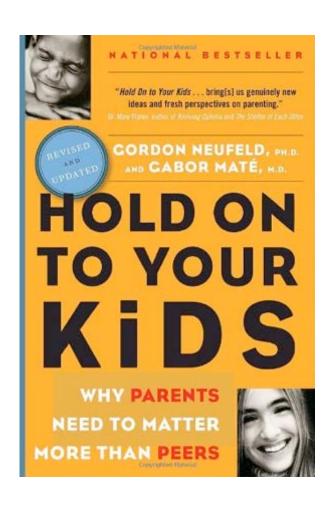
Learning Objectives

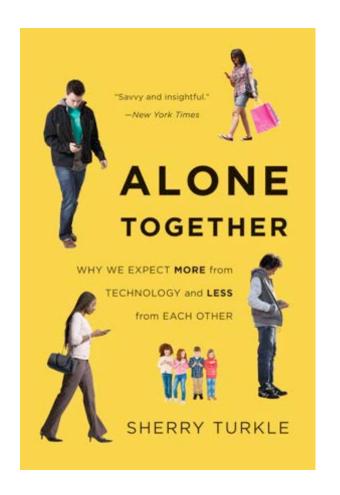


- 1. A connection with nature is essential for healthy emotional and physical health.
- 2. Modern society has disrupted our connection with nature.
- We must reconnect with nature (and to fellow human beings) if we are to restore ourselves to emotional and physical health

References and More Information

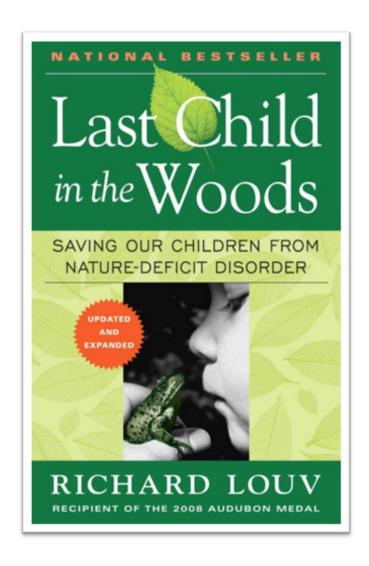


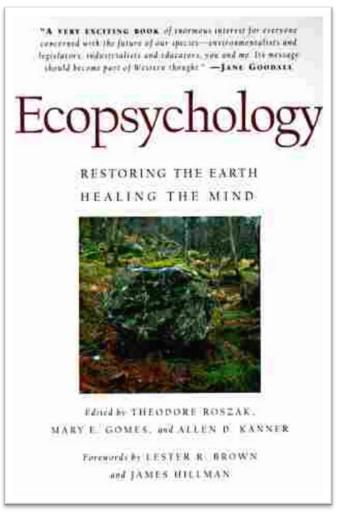




References and More Information







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References



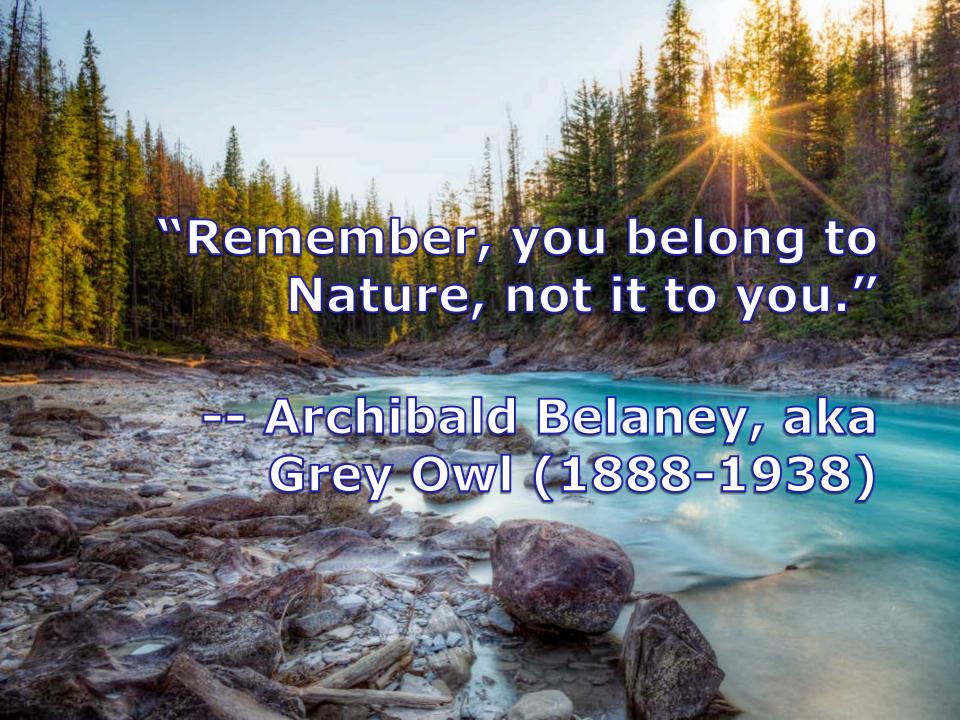
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For more information about mental health and where to find help...







Any questions?



