

A stylized, colorful illustration of a landscape. The foreground features rolling green hills in various shades of green, with a dark brown path winding through them. On the left, there are several stylized plants: a green tree with rounded foliage, a purple flower, and an orange flower. A small orange bird is flying in the sky above the tree. The background consists of light blue, wavy bands representing a sky or water.

The Health Benefits of Nature

& Projects: Active Outdoor Play
CHANGE Adventure Camp

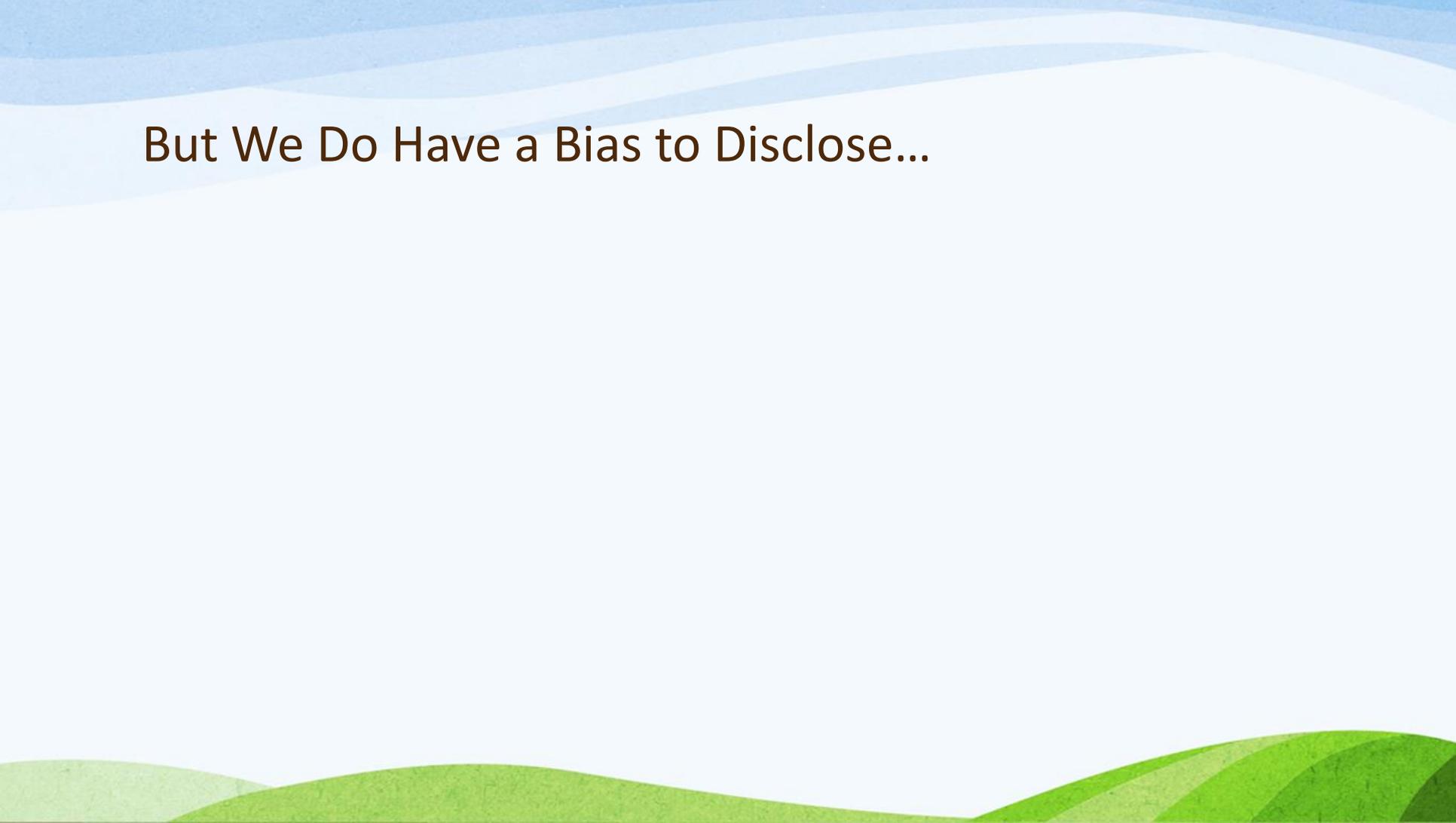
Clark Svrcek, MD, CCFP, P.Eng., M.Eng.
Doug Klein, MD, CCFP, FCFP, M.Sc.

Disclosures

- **Presenter: Clark Svrcek**
- **Relationships with commercial interests:**
 - **Grants/Research Support: TD Friends of the Environment**
 - **Speakers Bureau/Honoraria: nil**
 - **Consulting Fees: nil**
 - **Other: nil**
- **Related Volunteer Board Work: Director, Bateman Foundation; Director, CHANGE Health**
- **Funded by: University of Calgary, Alberta Health**

Disclosures

- **Presenter and Faculty: Doug Klein**
- **Relationships with commercial interests:**
 - **Grants/Research Support – CIHR, Alberta Innovates Health Solutions, Alberta Health Services (Diet and Exercise projects)**
 - **Consulting/speakers bureaus – None**
 - **Other: Member of Metabolic Syndrome Canada Board**
- **Funded by: University of Alberta, Alberta Health**



But We Do Have a Bias to Disclose...

We Both Love Nature!



Outline

- Health Benefits of Nature
 - Emphasis on Urban Nature
- The Projects
 - Enhancing Student Wellness through Active Outdoor Play
 - CHANGE Adventure Camp

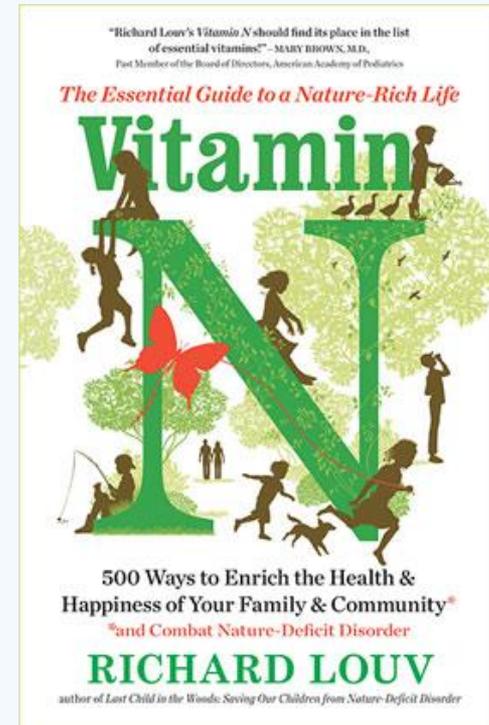
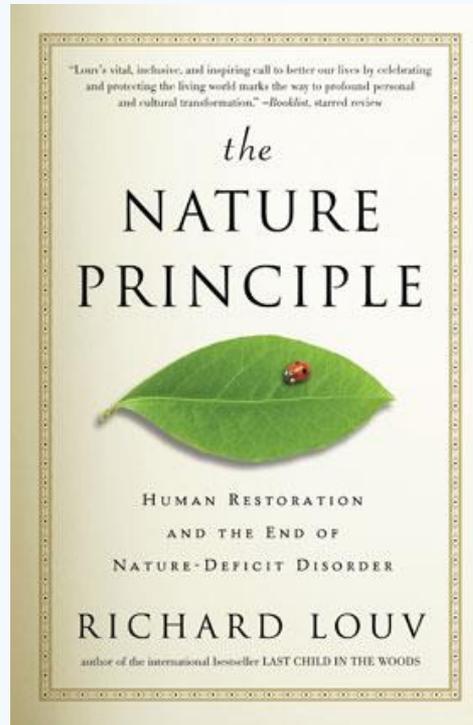
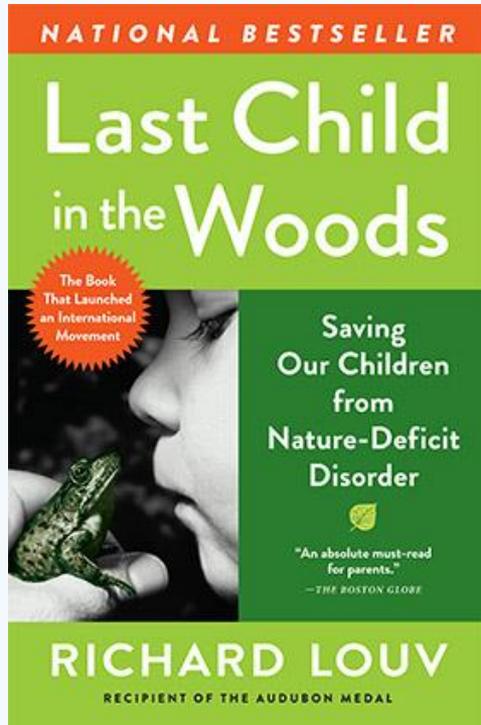
What are the Health Benefits of Nature?

- Decreased Stress
- Restores Attention/ Improves Cognition
- Improves Psychological Well-Being
- Promotes Physical Activity
- Improves Social Cohesion
- Improved Immune Function
- Mortality Benefits
- Better Pregnancy Outcomes
- Decreased rates of Myopia
- Spiritual Data
- Nature at the End of Life
- Dose-Response

What are the Health Benefits of Nature?

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Why are we doing this?



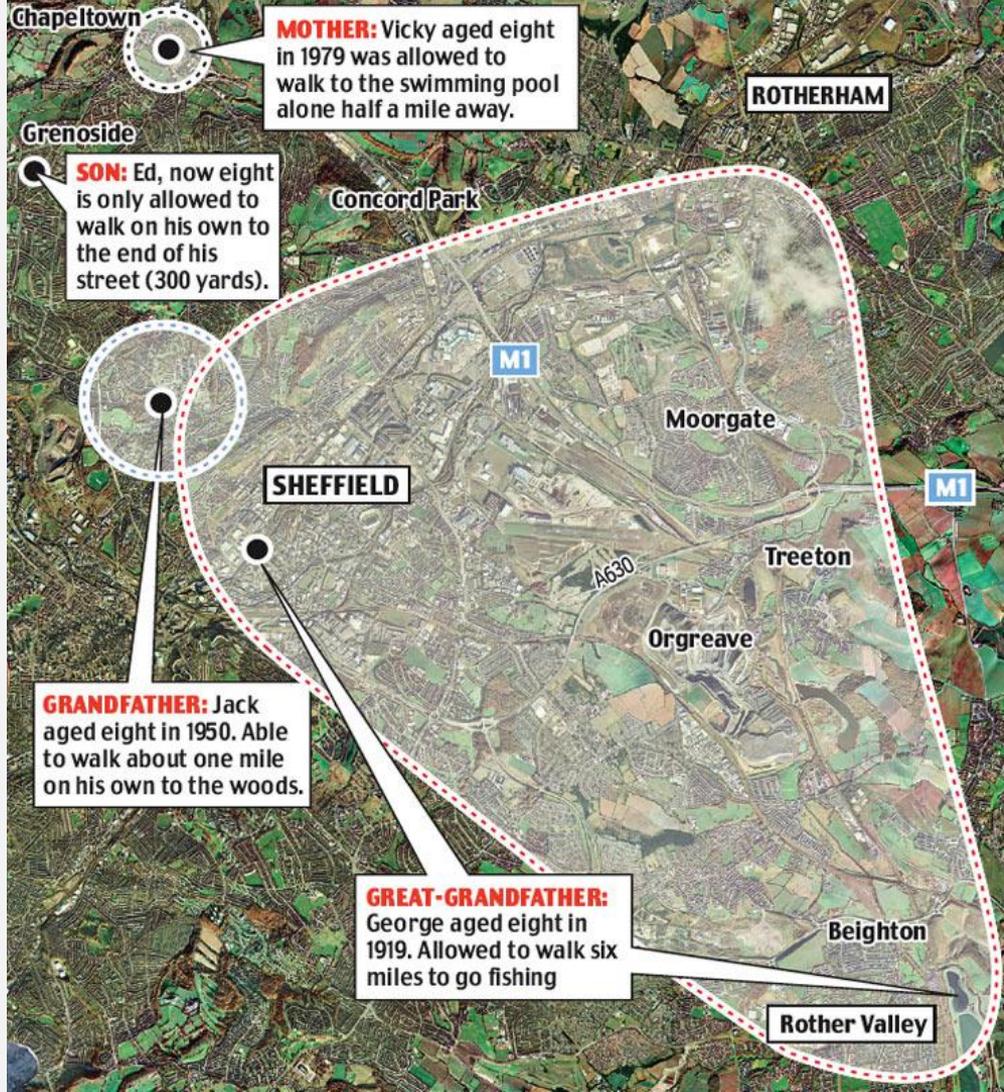
“Extinction of Experience”

- 1975 - Robert Pyle
- People losing direct contact with nature
- With that alienation from the natural world comes a host of problems with health and well-being



ROAM RANGE

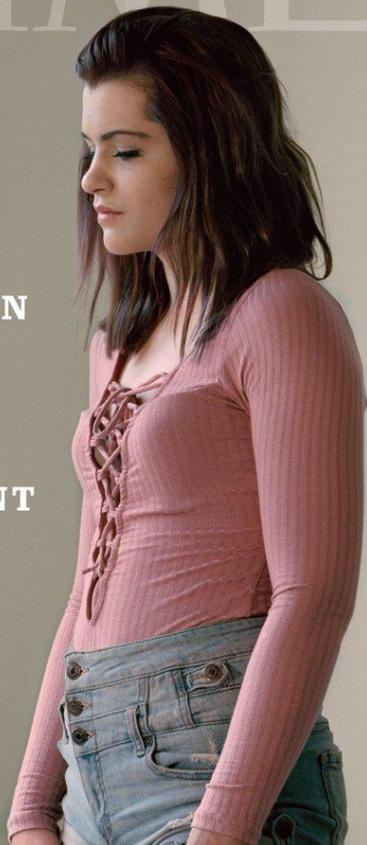
<https://www.dailymail.co.uk/news/article-462091/How-children-lost-right-roam-generations.html>



TIME

ANXIETY,
DEPRESSION
AND THE
MODERN
ADOLESCENT

By Susanna Schrobsdorff



André Picard ✓

@picardonhealth

Follow



#Loneliness: Society's silent epidemic, by @loannaCBC [cbc.ca/news/health/na ...](https://cbc.ca/news/health/na...)
[cbc.ca/player/play/14 ...](https://cbc.ca/player/play/14...) via @TheNationalCBC #sdoh

André Picard ✓ @picardonhealth

Ah look at all the lonely people: The health impacts of social isolation and #loneliness: #TEDxKelowna talk by @picardonhealth. And related music by The Beatles. youtube.com/watch?v=HuS5Nu... youtu.be/zEDz69q-KH0 via @TEDxKelowna #sdoh

Fifty Shades of Green

Pathway to Healthy Urban Living

*Mark J. Nieuwenhuijsen,^{a,b,c} Haneen Khreis,^d Margarita Triguero-Mas,^{a,b,c} Mireia Gascon,^{a,b,c}
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The Evidence Pyramid



Focus on causation today

Alternative Facts

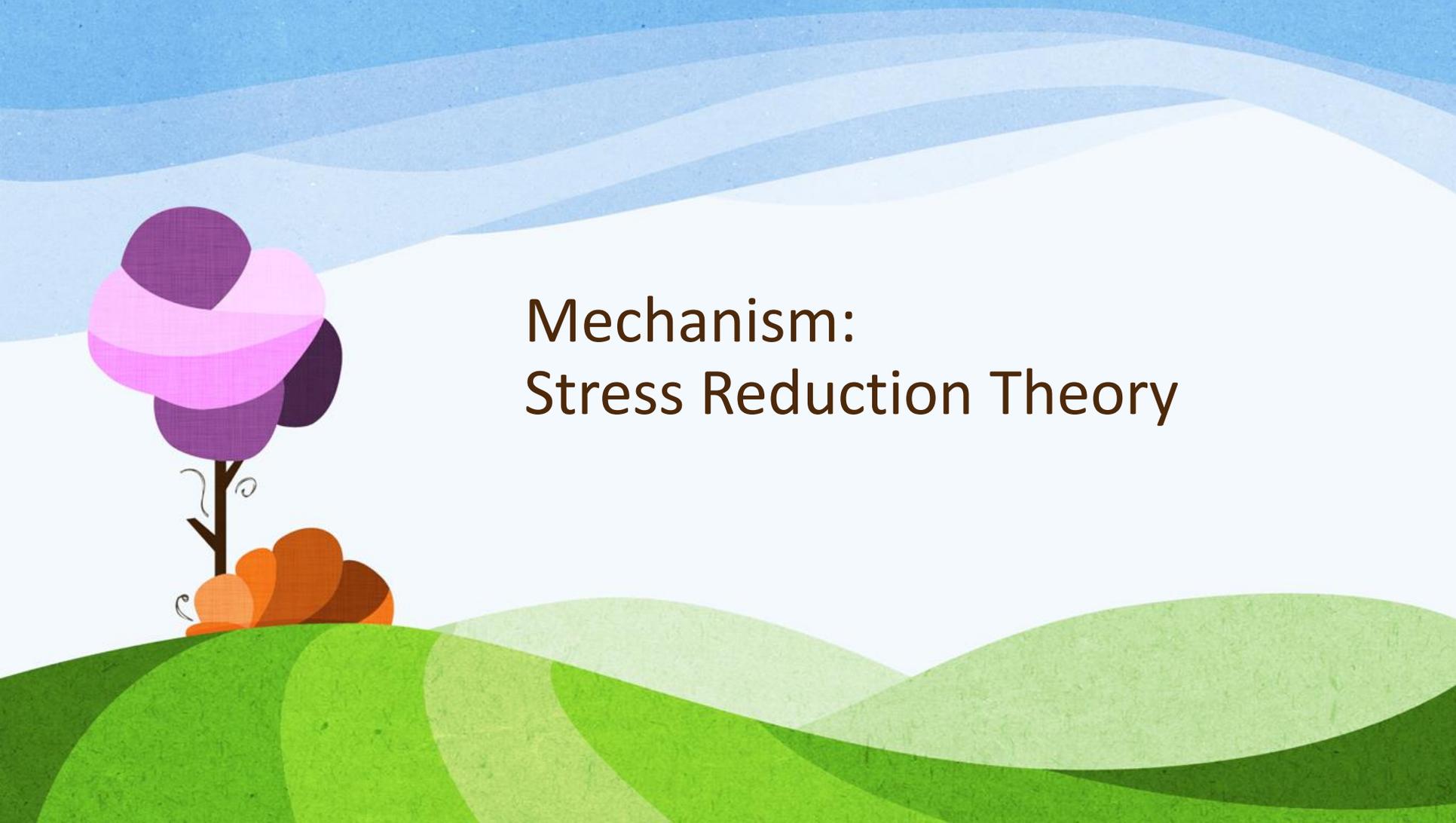


How Does Nature Affect Health?

Biophilia Hypothesis

- Popularized by Edward O. Wilson in book *Biophilia* (1984)
- Biophilia = “love of life or living systems”
- Nature as an evolutionary need
- Innate need to connect with nature
- Describes “connections that human beings subconsciously seek with the rest of life”
- Exposure to life and lifelike features has a positive effect on wellbeing



A stylized landscape illustration. In the foreground, a green hill is topped with a tree that has a brown trunk and several rounded, overlapping leaves in shades of purple and pink. To the right of the tree, a small orange and brown bush sits on the hill. The background consists of rolling hills in various shades of blue and white, suggesting a sky or distant terrain.

Mechanism: Stress Reduction Theory

Stress Reduction Theory (Ulrich 1981, 1991)

- Natural environments have a restorative advantage over artificial environments (evolutionary advantage)
- Nature scenes activate parasympathetic nervous system in ways that reduce stress and autonomic arousal

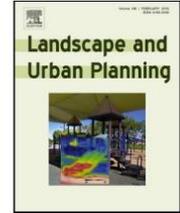


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Contents lists available at [ScienceDirect](#)

Landscape and Urban Planning

journal homepage: www.elsevier.com/locate/landurbplan



Research paper

Impact of views to school landscapes on recovery from stress and mental fatigue

Dongying Li*, William C. Sullivan¹

University of Illinois, Department of Landscape Architecture, 611 Taft Drive, Champaign, IL 61820, United States



Classroom with a View (Li & Sullivan 2016)

- n = 94 high school students at 5 schools
- Randomly assigned to classrooms with/out windows
 - If with a window, open on to built space or green space
- After class and a break period measured:
 - Attentional functioning
 - Physiological stress levels (skin conductance, temp, HR var)

Classroom With a View...or Not

Li & Sullivan 2016

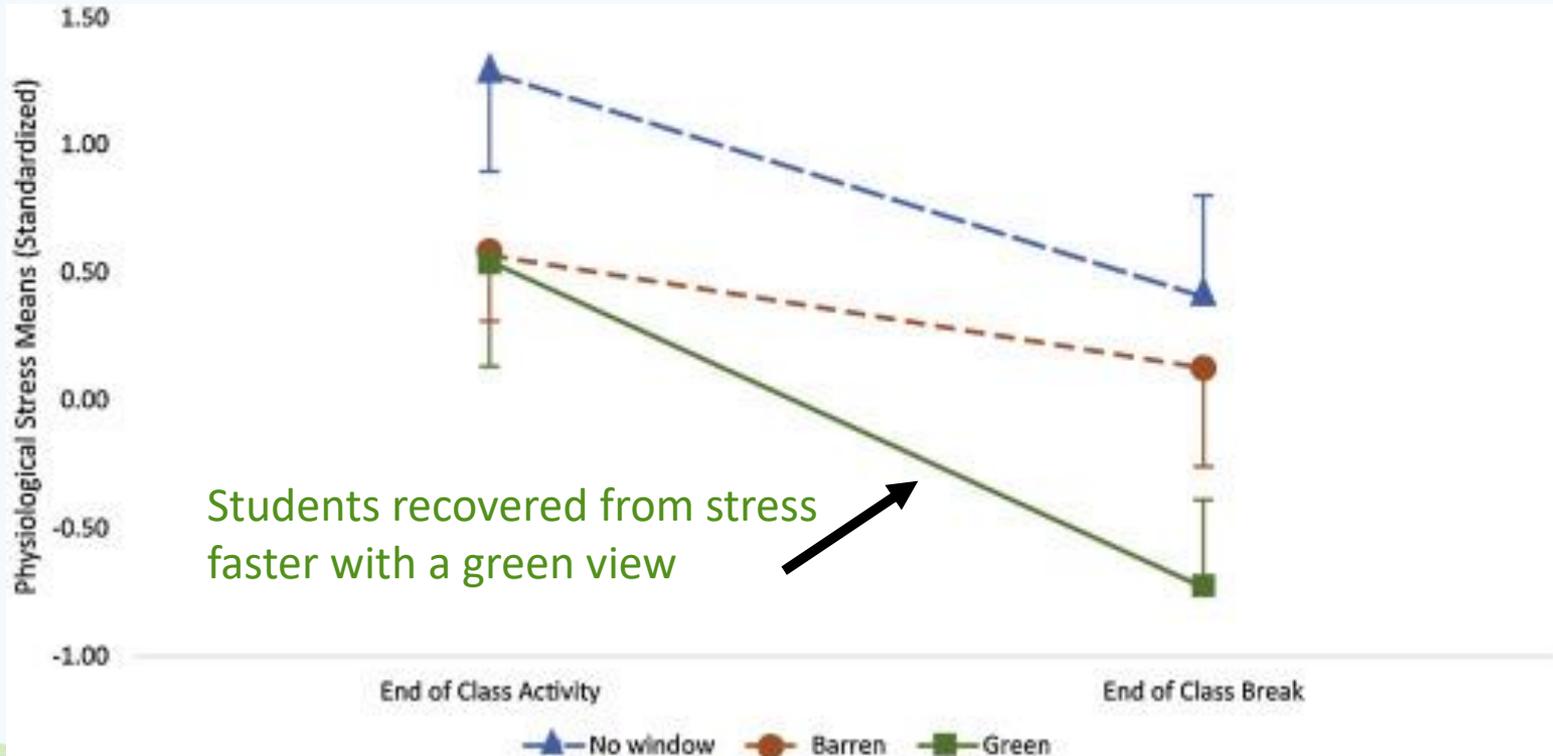


School No.1



School No.4

View from a Window - Physiologic Stress Response





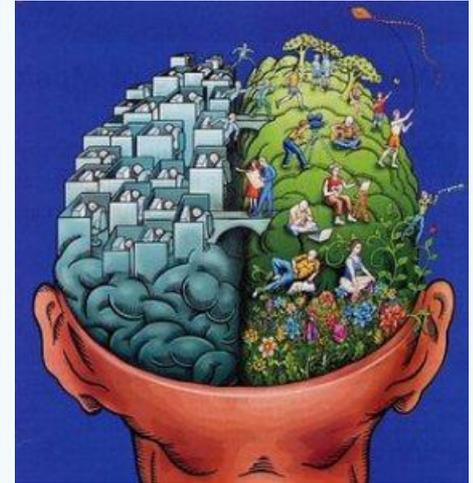


Mechanism: Attention Restoration

A Cognitive Pathway

Attention Restoration Theory

- Stephen Kaplan & Rachel Kaplan (1989, 1995)
- Directed Attention (Voluntary Attention)
 - Requires mental effort
 - Accomplish a Task
 - Ward off Competing Stimuli
- Effortless Attention (Involuntary Attention)
 - Captured effortlessly
 - Clouds in sky, leaves rustling in breeze



Attention Restoration Theory

- Directed Attention Fatigue
 - Occurs after prolonged use of Directed/Voluntary Attention
 - Symptoms: distracted, irritable, impatient, problems concentrating
- Attention "Restored" by changing tasks...or changing to Effortless Attention

Classroom With a View...or Not

Li & Sullivan 2016

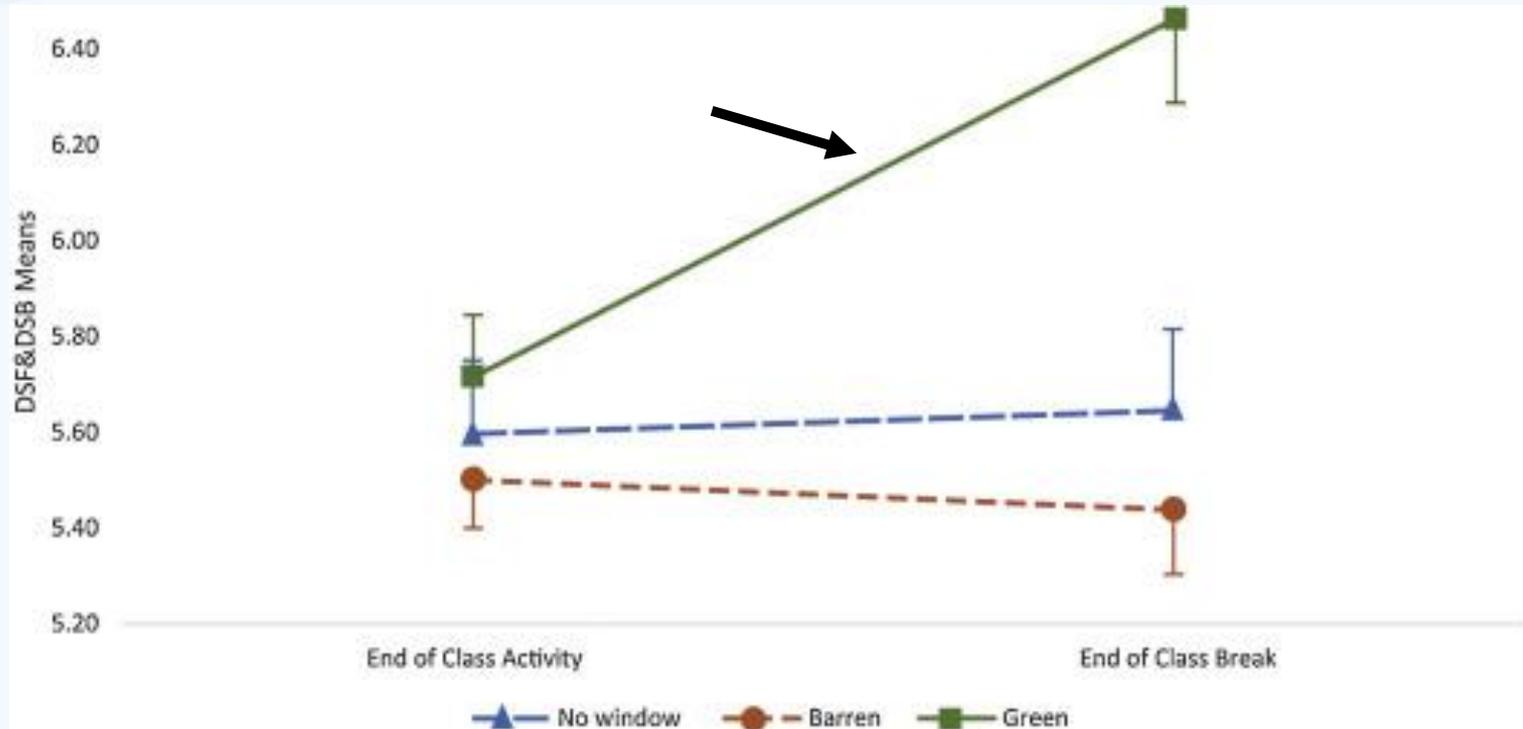


School No.1



School No.4

Attention Restored with Green View

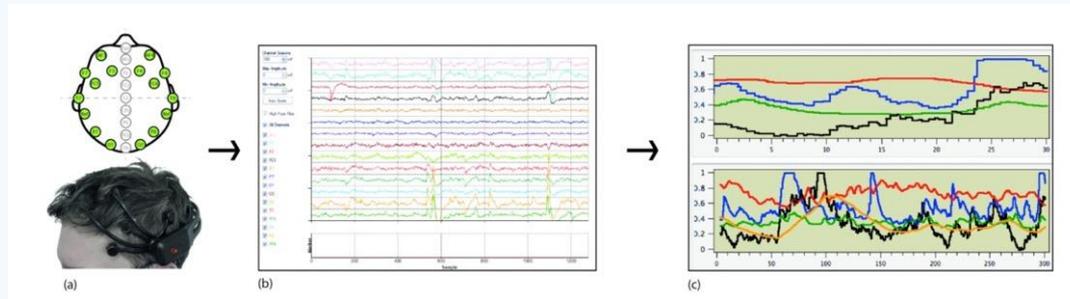


Brain Waves in Outdoor Physical Activity

- n = 12 University Students (8M, 4F)
- Mean age 30
- Walk through 3 consecutive zones of equal length
- Electroencephalography (EEG)

The urban brain: analysing outdoor physical activity with mobile EEG

Peter Aspinall,¹ Panagiotis Mavros,^{2,3} Richard Coyne,² Jenny Roe¹



Walking Zones

(a)



(b)



(c)



Attention Restored! And Less Frustration!

- Transitions were key
- From Zone 1 to Zone 2 (Moving in to green space)
 - Reductions in frustration and engagement/alertness (i.e. decrease in directed attention)
 - Increase in meditation
- From Zone 2 to Zone 3 (Moving out of green space)
 - Increase in engagement/alertness (i.e. increase in directed attention)



Children With Attention Deficits Concentrate Better After Walk in the Park

Andrea Faber Taylor

Frances E. Kuo

University of Illinois, Urbana-Champaign

Journal of Attention Disorders

Volume 12 Number 5

March 2009 402-409

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10.1177/1087054708323000

<http://jad.sagepub.com>

hosted at

<http://online.sagepub.com>

Evidence in Children – ADHD RCT

- Children (n = 17) aged 7 to 12 years old assigned to a nature walk, neighbourhood walk, or downtown walk
- Professional Diagnosis of ADHD
- Environments experienced 1 week apart, randomized assignment to treatment order
- Cognitive Test: Digit Span Backwards test
- Performed better after the nature walk (ES 0.52 to 0.74), to levels comparable with medical stimulant treatment

Evidence in Children – ADHD RCTs

- Questions:
 - Length of Effect?
 - Impulse control?
 - Actual academic/social function?



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Journal of Environmental Psychology

journal homepage: www.elsevier.com/locate/jep



Let's go outside! Environmental restoration amongst adolescents and the impact of friends and phones

Alison Greenwood, Birgitta Gatersleben*

School of Psychology, University of Surrey, Guildford, Surrey, GU2 7XH, United Kingdom



Restoration with Friends, not Phones

- RCT Tested effect of nature on stress/attention restoration
- n = 120 (66F) 16 – 18 yr old
- Stressor Tasks:
 - Give a speech in front of your peers
 - Memory, Mental arithmetic, Shape sorting
- Outcomes
 - HR, BP
 - Attention and Mood scales



Restoration with Friends, not Phones

Outside with

- Alone
- Friend
- Phone



Inside with

- Alone
- Friend
- Phone



Restoration with Friends, not Phones

- Results:
 - **Improved concentration outside**
 - **Mood improved only after being with a friend outside**
 - **No affect of the phone**
 - No major HR/BP effects



Come forth into the light of things,
Let Nature be your teacher.

- William Wordsworth

A stylized landscape illustration featuring rolling green hills in the foreground, a white and light blue sky with wavy patterns, and a tree with purple and pink foliage on the left. The text 'Psychological Well-Being' is centered in the middle ground.

Psychological Well-Being

J Affect Disord. 2012 November ; 140(3): 300–305. doi:10.1016/j.jad.2012.03.012.

Interacting with Nature Improves Cognition and Affect for Individuals with Depression

Marc G. Berman^{1,2}, Ethan Kross², Katherine M. Krpan², Mary K. Askren², Aleah Burson², Patricia J. Deldin², Stephen Kaplan², Lindsey Sherdell³, Ian H. Gotlib³, and John Jonides²

¹Rotman Research Institute at Baycrest

²University of Michigan

³Stanford University

Effect on Major Depressive Disorder (MDD)

- Walk in nature with people having formal MDD Dx (n = 20, 12F, ave. age 26)
- Mix of medications and co-morbidities
- Asked to think about "unresolved negative autobiographical event to prime rumination"
- 50-min walk in urban or natural setting

Berman et al. 2012



psychologyandbehavior.com

Key Findings - MDD

- No change in rumination
- Significant increases in memory span after the nature walk relative to the urban walk ($p < .001$, $ES = .53$).
- Participants also showed increases in mood (positive affect), but not correlated to memory

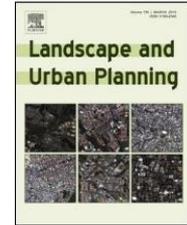


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Contents lists available at [ScienceDirect](#)

Landscape and Urban Planning

journal homepage: www.elsevier.com/locate/landurbplan



Research Paper

The benefits of nature experience: Improved affect and cognition

Gregory N. Bratman^{a,*}, Gretchen C. Daily^b, Benjamin J. Levy^c, James J. Gross^d

^a *Emmett Interdisciplinary Program in Environment and Resources, Stanford University, 473 Via Ortega, Suite 226, Stanford, CA 94305, United States*

^b *Center for Conservation Biology (Department of Biology) and Woods Institute for the Environment, Jerry Yang & Akiko Yamazaki Environment & Energy Building – MC 4205, Stanford University, 473 Via Ortega, Stanford, CA 94305, United States*

^c *Department of Psychology, College of Arts and Sciences, University of San Francisco, 2130 Fulton Street, San Francisco, CA 94117, United States*

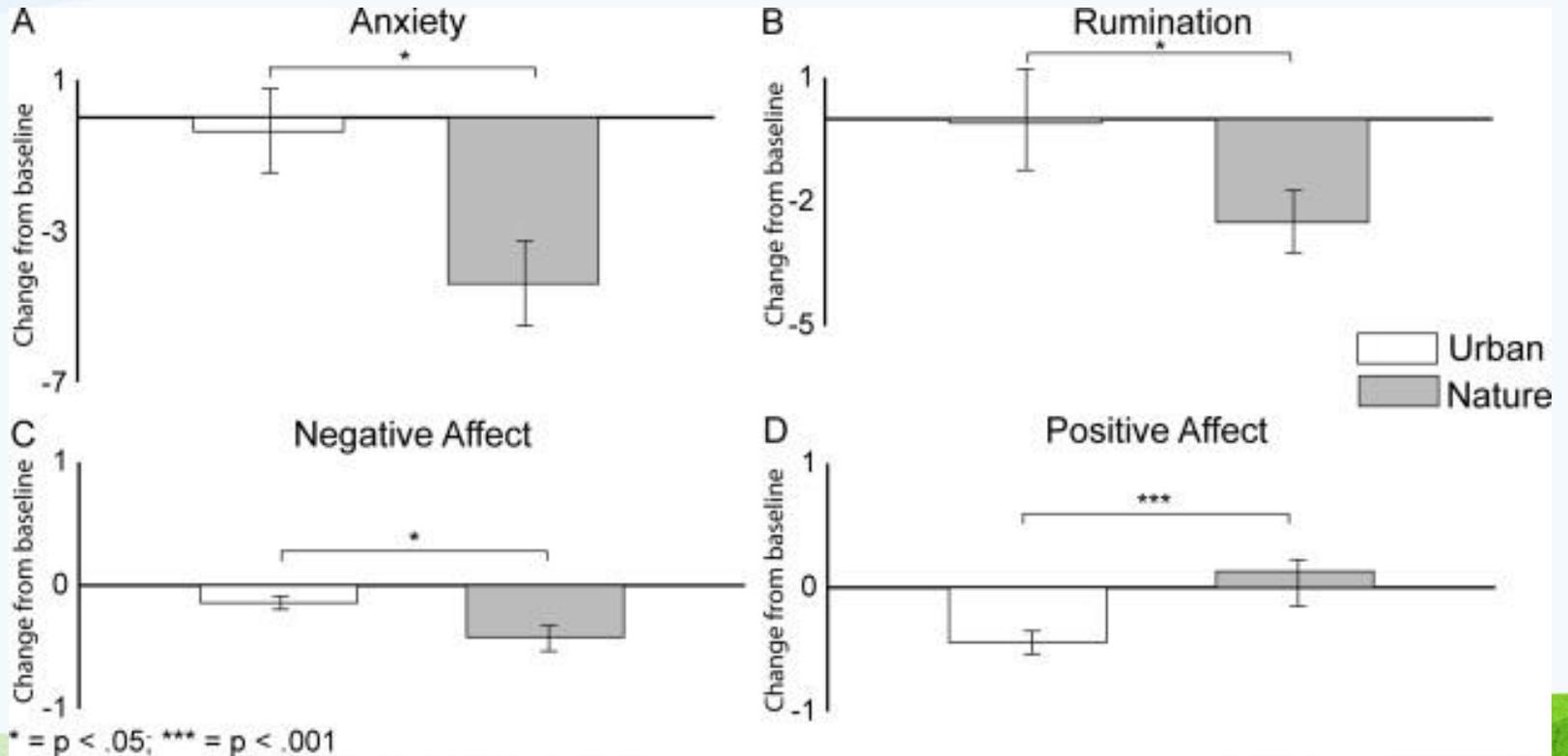
^d *Department of Psychology, Stanford University, 450 Serra Mall, Stanford, CA 94305, United States*



Mood-Nature RCT (Bratman et al. 2015)

- n = 70 healthy adults (37F), no prior psych/neuro Dx
- Mean age 24 yrs old
- Factorial design for powerful statistical analysis
- ****Cover story to disguise study intention****

Affective impact of nature experience



Key Findings: Mood-Nature RCT

- Nature Walk:
 - Greater decrease in anxiety, rumination, and negative affect
 - Maintained positive affect
- Urban Walk:
 - Decrease in positive affect
- Looks like some cause-effect nature influence here!



Original Investigation | Public Health

Effect of Greening Vacant Land on Mental Health of Community-Dwelling Adults A Cluster Randomized Trial

Eugenia C. South, MD, MS; Bernadette C. Hohl, PhD; Michelle C. Kondo, PhD; John M. MacDonald, PhD; Charles C. Branas, PhD

Figure 2. Vacant Lot Main Greening Intervention

A Greening intervention



Before



During



After

B Greening intervention



Before



During



After

Images show blighted preperiod conditions and remediated postperiod restorations. A, The image shows the grass seeding method used to rapidly complete the treatment process. B, The after image shows the low wooden perimeter fence. Vacant lots shown

here are representative of those in the study, although for purposes of confidentiality are not actual study lots.

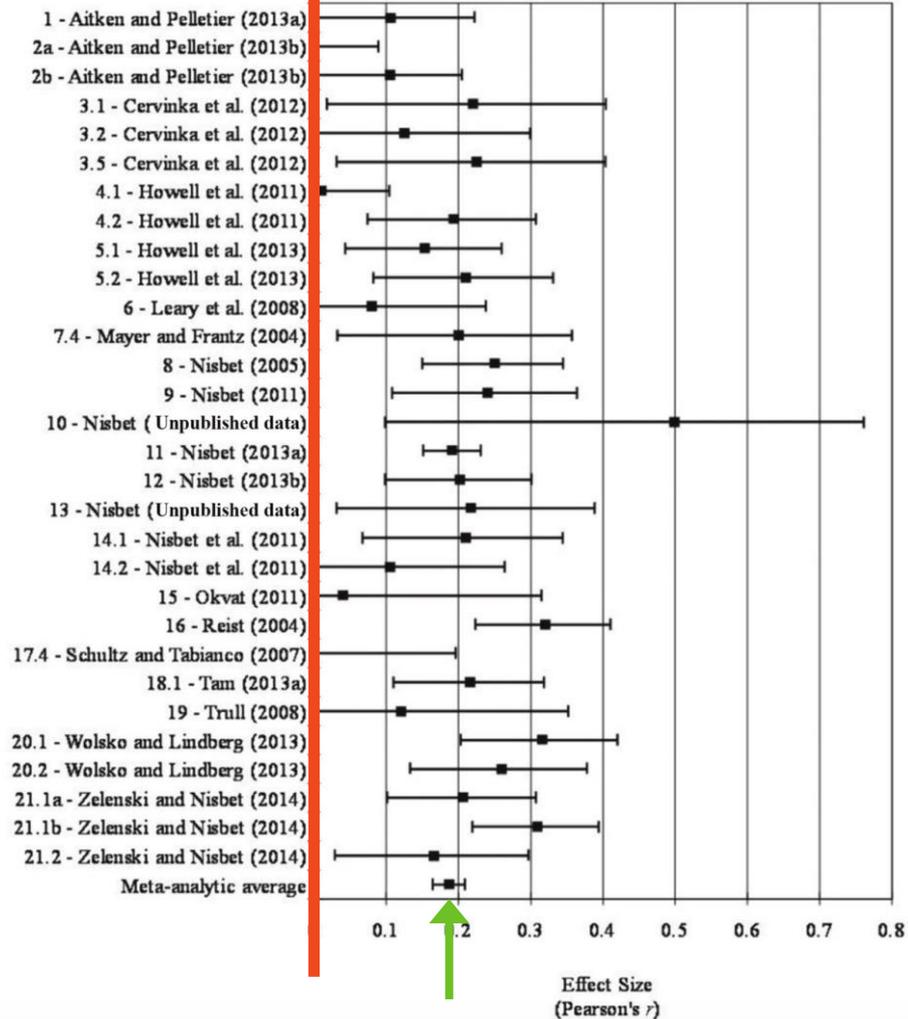
Greening Vacant Lots Improves Mental Health

- Cluster RCT
- 110 randomly sampled vacant lot clusters
- Randomly assigned to 3 study groups.
- 342 participants included in the analysis
- For those living near greened vacant lots compared with controls:
 - feeling depressed significantly decreased by 41.5%
 - self-reported poor mental health decreased by 62.8%

Meta-Analysis...of Happiness in Nature

- Capaldi et al. 2014
- 30 studies included
- Various measures of nature and happiness
- Moderate Heterogeneity ($I^2 = 55\%$)





Preferences for Nature (Capaldi et al. 2014)

“Those who are more connected to nature tended to experience more positive affect, vitality, and life satisfaction compared to those less connected to nature.”



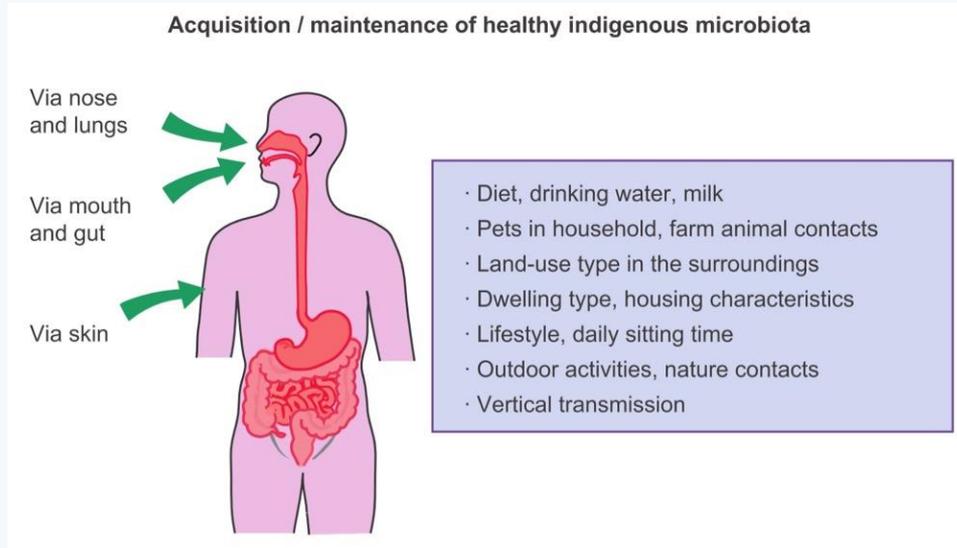
Adopt the pace of nature: her secret is
patience.

- Ralph Waldo Emerson

Biodiversity Hypotheses



Biodiversity Hypothesis



- Reduced contact with natural environmental features and biodiversity leads to inadequate stimulation of immune circuits
- Urbanization decreases biodiversity...

Spurious Correlations?

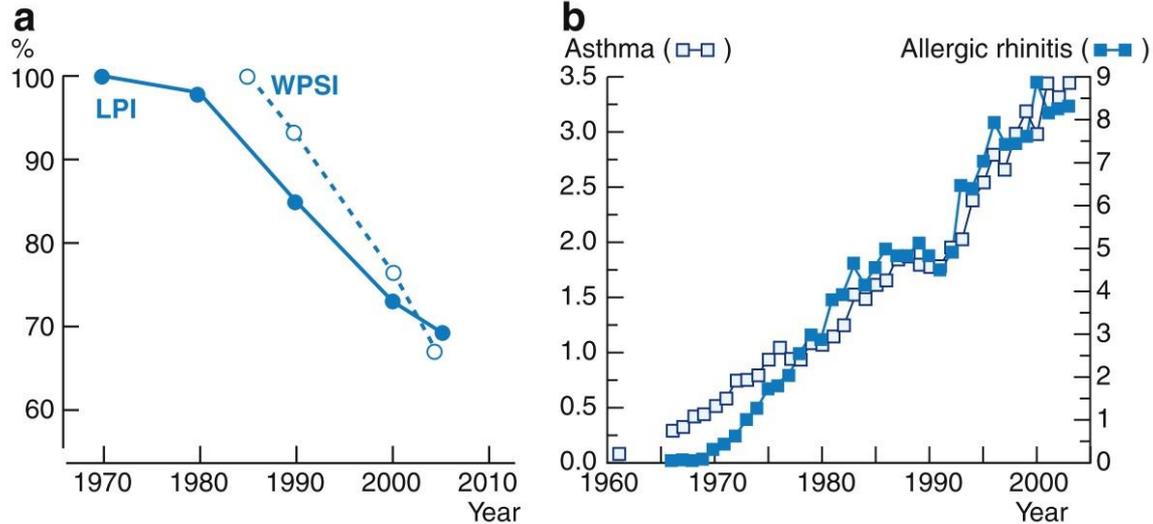
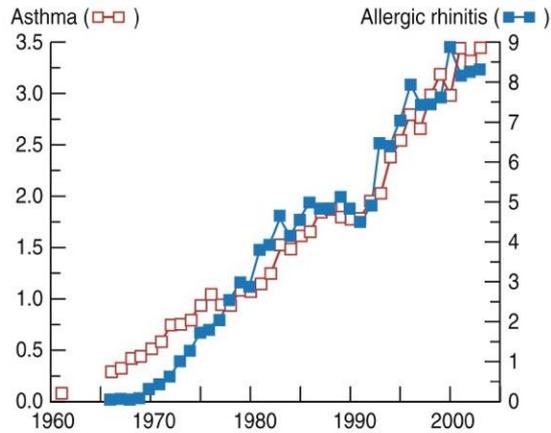


Figure 1 Two global megatrends in biodiversity and public health. (a) Declining biodiversity (percentage change) since 1970 as measured by two indices. WPSI=Waterbird Population Status Index; LPI=Living Planet Index [14]. (b) Increasing trends in the prevalence of inflammatory civilization diseases, asthma and allergic rhinitis among military conscripts in 1966-2003 [165] as an example (modified from ref. [14]).

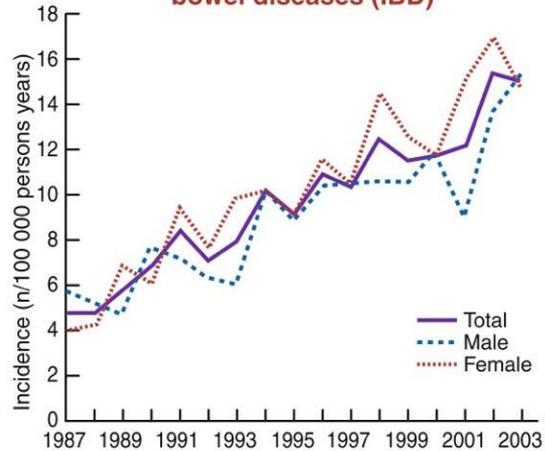
Other Trends

a)



b)

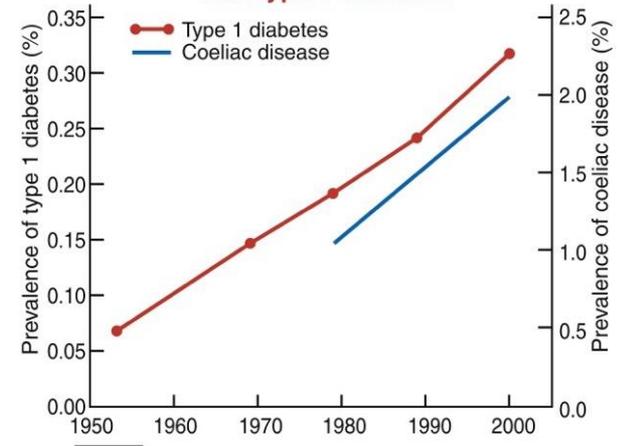
Incidence of pediatric inflammatory bowel diseases (IBD)



Lehtinen P, et al. Inflamm Bowel Dis 2010

d)

Prevalences of coeliac disease and type 1 diabetes



Lohi S, et al. Aliment Pharmacol Ther 2007

Helsinki Alert on Biodiversity and Health

**ANN
MED**

Annals of Medicine, 2015; 47: 218–225
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DOI: 10.3109/07853890.2015.1010226

informa
healthcare

REVIEW ARTICLE

Helsinki alert of biodiversity and health

Leena von Hertzen^{1,8}, Bruce Beutler², John Bienenstock³, Martin Blaser⁴, Patrice D. Cani⁵, Johan Eriksson⁶, Martti Färkkilä⁷, Tari Haahtela⁸, Ilkka Hanski⁹, Maria C. Jenmalm¹⁰, Juha Kere^{11a}, Mikael Knip¹², Kimmo Kontula¹³, Markku Koskenvuo¹⁴, Charlotte Ling¹⁵, Thomas Mandrup-Poulsen^{16,11b}, Erika von Mutius¹⁷, Mika J. Mäkelä⁸, Tiina Paunio^{18,22}, Göran Pershagen^{11c}, Harald Renz¹⁹, Graham Rook²⁰, Maria Saarela²¹, Outi Vaarala²², Marc Veldhoen²³ & Willem M. de Vos²⁴

Experts linking loss of biodiversity to increases in inflammatory diseases

Helsinki Alert on Biodiversity and Health

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Biodiversity is reflected in the diversity of human skin and mucosal microbiota

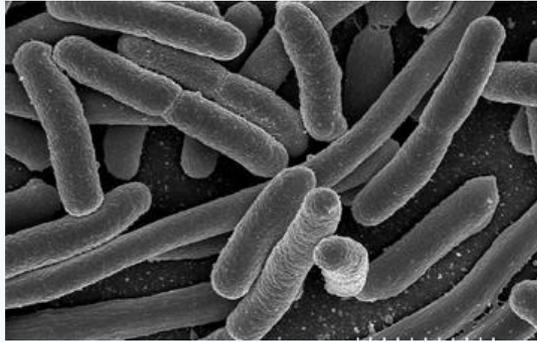
Environmental Biodiversity, Human Microbiota, and Allergy are Interrelated

(Hanski et al. 2012)

- Random sample of 118 Adolescents
- Known allergic disposition (confirmed biochemically)
- Measured variables at every step of the causal pathway:
 - Plant and landscape diversity
 - Microbial diversity in soil and on skin
 - Immune function
 - Allergic response

Bottom Line (Hanski et al. 2012)

- Certain skin bacteria would seem to induce protective immune function against allergic disposition
- This skin bacteria is only abundant when there is lots of biological diversity around the home







Social Cohesion

Positive Relationships in Families and Neighbourhoods

The “Natural” Experiment

Coley, Kuo, and Sullivan 1997; Faber Taylor et al. 1998)

- Public Housing Development in Chicago, Illinois
- Contains 110 low-rise apartment buildings
- Common outdoor spaces classified as high/low vegetation
- “Semi”-RCT, Observation Studies



The “Natural” Experiment

Coley, Kuo, and Sullivan 1997; Faber Taylor et al. 1998)

- Treed urban spaces encourages greater use of outdoor areas by more mixed groups (youth and adults)
- Green spaces increased children’s play and interaction with adults (about 2x as much)
- Green spaces encouraged creative child play



Change of School Playground Environment on Bullying: A Randomized Controlled Trial

Victoria L. Farmer, PhD,^a Sheila M. Williams, DSc,^b Jim I. Mann, MB ChB, PhD, FRACP,^{a,c}
Grant Schofield, PhD,^d Julia C. McPhee, MPH,^d Rachael W. Taylor, PhD^a

- Cluster RCT in New Zealand
- 8 control schools were asked to not change their play environment
- 8 intervention schools increased opportunities for risk and challenge (eg, rough-and-tumble play), reduced rules, and added loose parts (eg, tires)

Adding mounds to play area



Happier and More Social Cohesion...and More Resiliency?

- Intervention children (compared to control):
 - reported **higher odds of being happy at school** (at 2 years, odds ratio [OR]: 1.64; 95% confidence interval [CI]: 1.20–2.25)
 - **played with more children** (at 1 year, OR: 1.66; 95% CI: 1.29–2.15)
- Intervention children indicated they were pushed/shoved more (OR: 1.33; 95% CI: 1.03–1.71)
- BUT...they were less likely to tell a teacher (OR: 0.69; 95% CI: 0.52–0.92).



Nature at the End of Life



Nature at the End of Life (Jakubec, Carruthers Den Hoed, et al. 2016)

- Mount Royal University
- Mixed Methods, two-phase study
 - Online survey (N = 118)
 - Individual narrative interviews (N = 15)
- 3% were palliative patients
- 97% were caregivers

1. Death Brings People to Nature

- Risk and Loss are reminders of vitality
- Nature provides a container for grief and a place to tell stories
- There is mystery, eternity, finality...whatever the belief, it connects us to nature.

“in an annual pilgrimage to that secret place...I play my bagpipes, we tell stories, sit in silence, and raise a scotch to Dad”

2. Nature Teaches People to Grieve

- Nothing more natural than grief and loss
- Nature's unconditional acceptance and forgiveness teach us to grieve
- Nature provides endless companions and teachers in animals, birds, trees, and other living organisms

“We even snuck a baby goat into grandma's hospice room”

3. Parks and Nature Reveal Death and Life

- Cycles of life and death, the “monuments of decay,” surround us
- There is a profound hopefulness in nature

“If the park could withstand the fires and floods, maybe I, too, could endure.”

Selected Quotes (Jakubec, Carruthers Den Hoed, et al. 2016)

“Time with family, friends (who often stop visiting) in nature is often more comfortable. For us, being outdoors, in personal conversation with lots of silence space works. It resets the context of conversation and human life.”

“illegally spreading ashes at our favourite spots in a national park...it was a great experience both times.”





A Sense of Place

Article

Benefits of Nature Contact for Children

Louise Chawla¹

Journal of Planning Literature
2015, Vol. 30(4) 433-452
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DOI: 10.1177/0885412215595441
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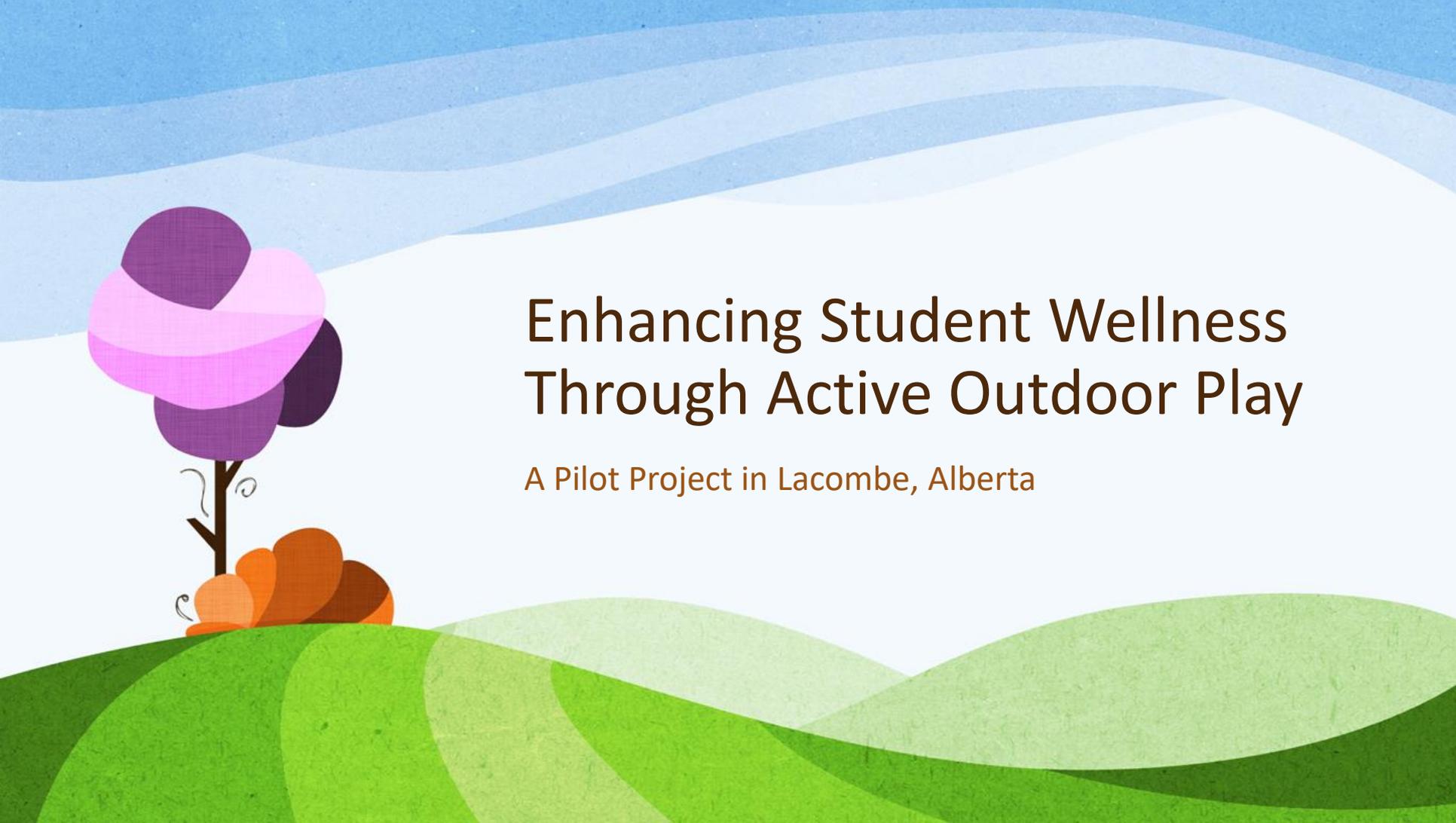
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The Earth has music for those who listen.

- George Santayana(?)

A stylized landscape illustration featuring rolling green hills in the foreground, a blue sky with wavy bands of light blue, and a tree with purple and pink foliage on the left. The text is positioned on the right side of the image.

Enhancing Student Wellness Through Active Outdoor Play

A Pilot Project in Lacombe, Alberta



Project Partners and Funder



Friends of the Environment Foundation

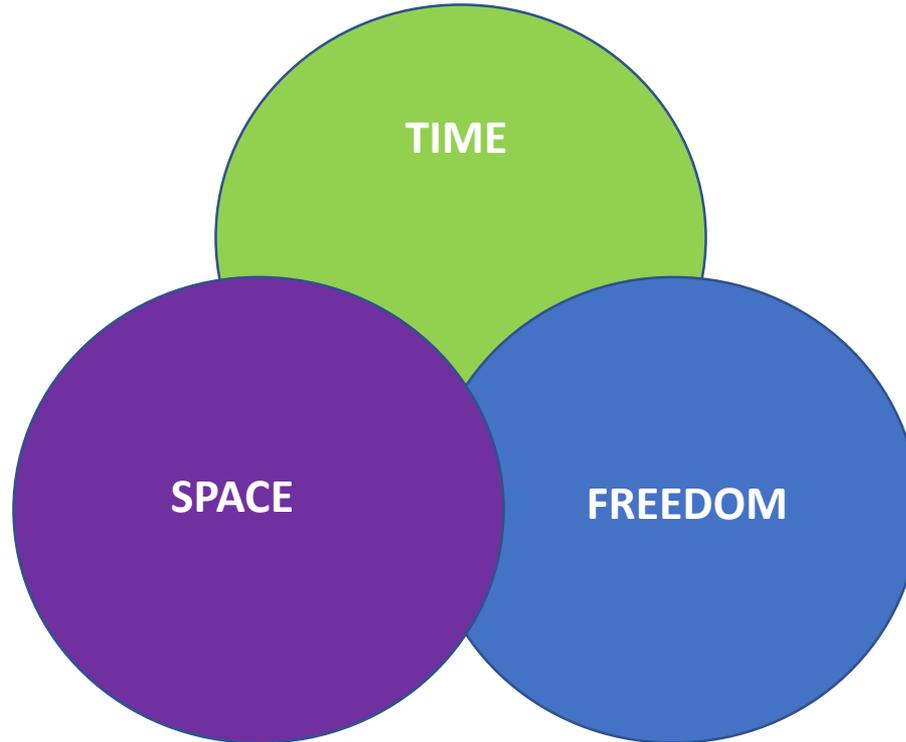
Project Goals

- Active, outdoor nature play as the core tool
- Enhance provincial curriculum
- Foster physical literacy
- Improve student mental health and social wellbeing
- Develop environmental stewardship



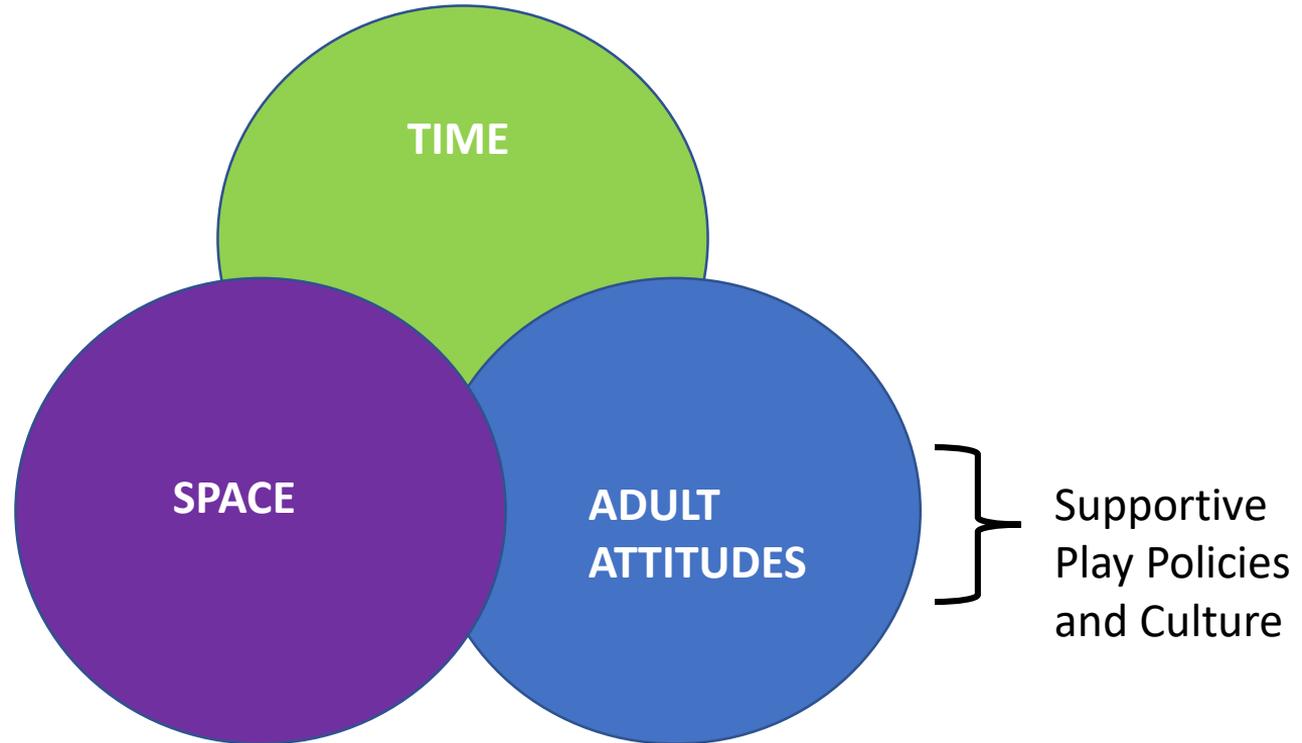
Outdoor Play Supportive Environments

Mariana Brussoni



Outdoor Play Supportive Environments

Mariana Brussoni



The Project

Logistics

- “Train the Trainer” delivery model
- Three sessions in three seasons
- Focus on guiding the adults to better understand how to fully utilize the natural features in their outdoor environment towards optimal child development

Measureables

- Teacher Demographic survey (baseline info)
- Pre/Post-session surveys on adult confidence of delivery
- Post-session classroom surveys
- School data (absenteeism rates, injury rates, etc.)

3 Sessions Planned

- Christmas Tree forts
- Schoolyard Gardening
- Unstructured Play

Christmas Tree Forts – January, 2019



Christmas Tree Forts – January, 2019



Christmas Tree Forts – January, 2019



Christmas Tree Forts – January, 2019



Kids' Responses

- Best part about today's activity? Building a Fort.
- In the future I hope we can Build a bigger Fort.

Nature holds the key to our aesthetic, intellectual, cognitive and even spiritual satisfaction.
- E. O. Wilson





A stylized, colorful illustration of a landscape. The background features wavy, horizontal bands of light blue and white, suggesting a sky or water. In the foreground, there are rolling green hills with varying shades of green. A brown path winds through the hills. On the left side, there are several stylized plants: a green tree with rounded foliage, a purple flower with a pink center, and a cluster of orange flowers. A small red bird is flying in the upper left area, leaving a white trail.

CHANGE Adventure Camp

Fueling Your Adventure

Doug Klein, MD, CCFP, FCFP, M.Sc.

Clark Svrcek, MD, CCFP, P.Eng., M.Eng.

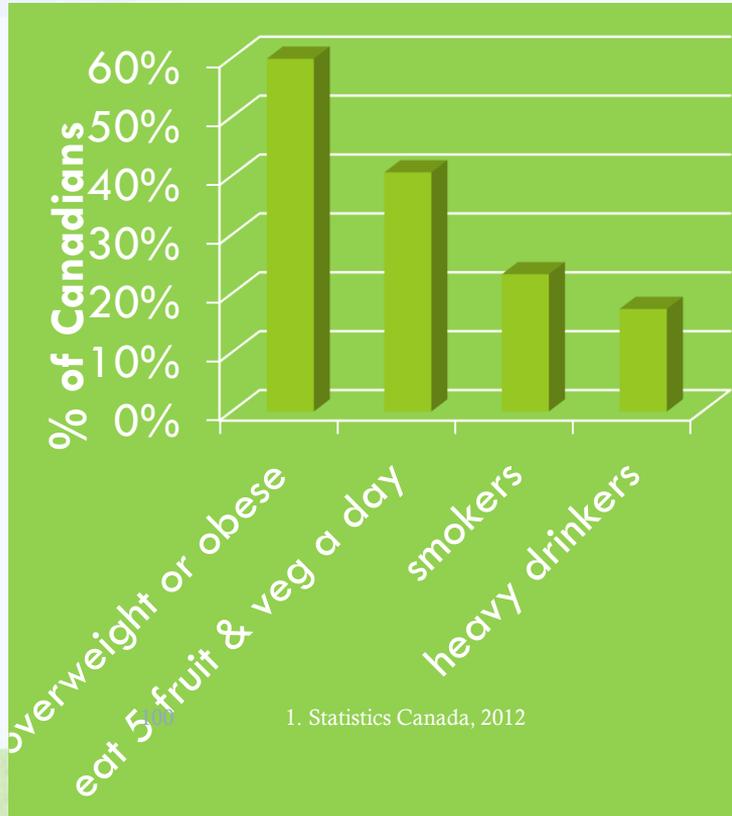
Key Messages

- We need to ensure our children grow up with Important Life Skills
- Adventure can be in the kitchen, in the classroom or just outside
- Never Stop Creating Adventure

Statistics

- 33% of children eat 5 servings of fruit and vegetables daily
- Sugar sweetened beverages are common
- Children are not getting the recommended 60 min of exercise daily
- 10-20% of children experience mental illness
- 1/3 students do not get enough sleep

How Healthy Are We?



- 2/3 of Canadians are overweight or obese
- 85% of Canadians fall short of the current physical activity recommendations.²
- 60% of Canadians report eating less than 5 daily servings of fruits and vegetables.³
- On any given day, 25% of Canadians will eat from a fast food outlet.⁴



Time for **CHANGE**

Canadian **H**ealth **A**dvanced by
Nutrition and **G**raded **E**xercise

CHANGE Adventure Camp

- Building Life Skills among children and families.
 - Meal preparation
 - Nutrition
 - Physical Literacy
 - Connecting with nature
- Plus
 - Mental health
 - Social Connection

www.campchange.ca

CHANGE Adventure Camp



CHANGE Adventure Camp



CHANGE Adventure Camp



One Community: Central McDougall

- Inner City Edmonton region with large immigrant population: ~40% non-Caucasian, non-Aboriginal background (compared to 27% city-wide)
- Proportion of residents who moved from outside Canada in the last 5 years (15%) is double the city average (7%).
- Average household income of \$44 000 and 92% of properties consisting of rentals.
- Nearly half of the workforce does not commute via car transport, with an above-average use of public transit and walking



Project Partners

- CHANGE Adventure Camp (campchange.ca): builds life skills in families through meal preparation, physical activity, and connecting with nature. Provides summer camps for low-income children and families in the summer.
- Multicultural Family Resource Society: identifies and recruits families to the program
- John A. McDougall School: provides venue every Thursday evening free of rent, also helps to recruit families of children attending the school
- Central McDougall Community: ongoing feedback as to the community's needs, and promotion of the program.

Family Program

- Average attendance: 13 (adults + children)
- Total number of families: ~10
- Children's feedback: end-of-session surveys
 - 40% of the time had not eaten the food before
 - Of those, 64% said they would make it again at home
- Mothers' feedback: end-of-term survey

Date: / / 2018



My Adventure Today:

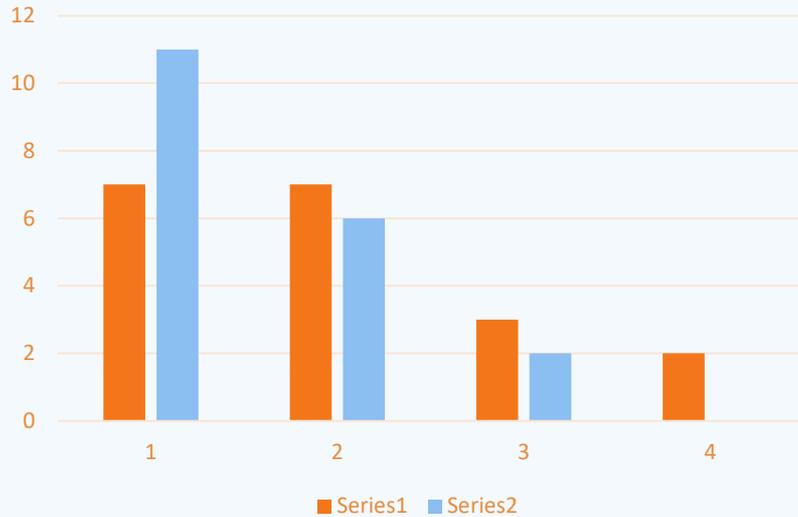
What I ate (food): _____	Have you ever eaten this food before? _____	Would you make this food again at home? 
Did you like what you ate?  Not at all Not really A bit I liked it I loved it!!	Yes / No (Circle one)	Yes / No (Circle one)
What I did (activity/game): _____	Have you done this activity before? _____	Would you do it again? 
Did you like what you did?  Not at all Not really A bit I liked it I loved it!!	Yes / No (Circle one)	Yes / No (Circle one)
The best part of today's event was:  _____	One new thing I learned here today:  _____	
In future events I hope that we can... (your ideas or suggestions go here!) _____		

Results

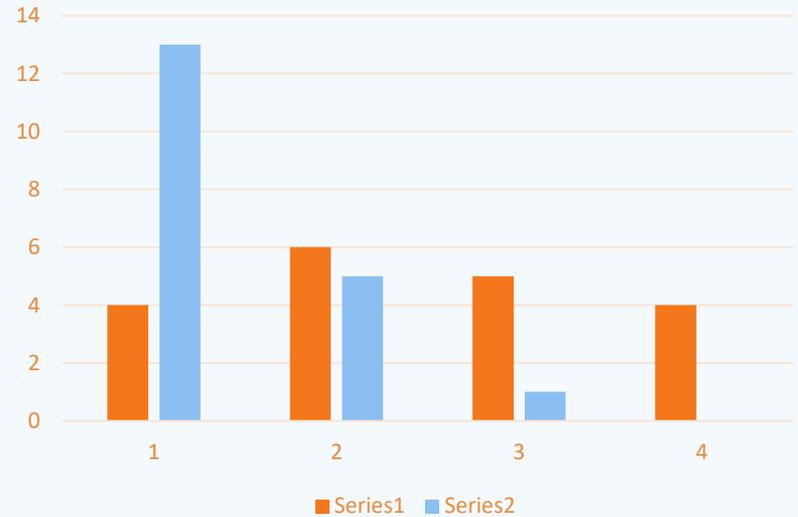
- Over 90% indicating that they would recommend the camp to friends.
- 41% of children's responses favoured the acquisition of nutrition and food preparation-related skills.
- 100% of parents indicated their children were excited about the camp after attending, and all parents responded that they were generally satisfied with the camp.
- nearly 100% indicated that they would recommend the camp to others and consider having their child attend next year
- 60% of respondents now indicated that their family prepared school lunches together at home at least sometimes, compared to the majority of respondents who stated this was never the case prior to camp.

Nutrition Knowledge

I understand Food Labels

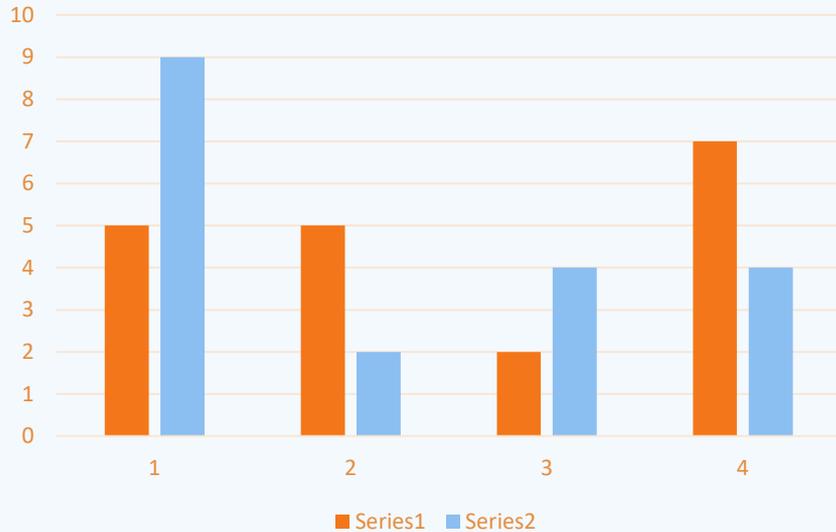


I know the Sugar content of Foods

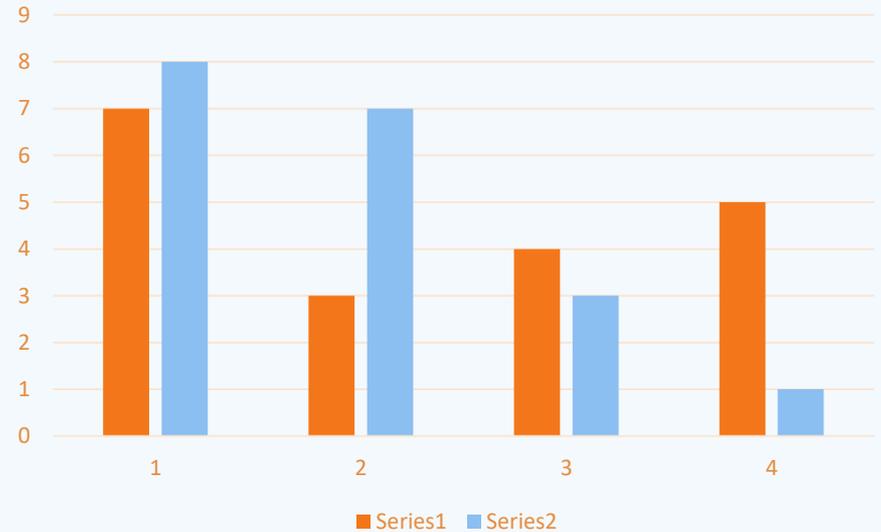


Meal Prep - Skills

I can make my own Lunch



I can make a meal for my Family



Children's comments

- The best part of today's event was...

“seeing my friends”

“playing with my friends”

“cutting and preparing the food”

“when we were cooking”

“running”

“gym games”

“playing outside”

“learning about water”

“we can make our own yogurt”

“jumping up and down”

Children's comments

- One new thing I learned here today...

“that you're supposed to eat breakfast every morning”

“that water is good”

“somehow you could add spinach with eggs”

“eating fruit”

“playing basketball”

“eat healthy”

“portions”

Mothers' comments

- What is your favourite thing / one important thing you have learned from the program?

“recipes, English”

“English”

“sports/exercise”

“new Canadian foods”

“teaching my children cooking and food preparation”

“different foods (new to us), nutrition and label reading”

“English names about Canadian foods”

“tasting and eating ‘raw’ foods – veggies with dips. Very new taste!”

“we as a family learned to eat, prepare vegetables and eat them in different and new ways!”

Memorial Composite High School

- Nutrition
 - Cooking Classes
 - Grocery Store Tours
 - Dietitian Support
- Physical Activity
 - MOVE Memorial
 - Use the School gym facilities
 - Drop in programs
 - Evening Classes
- CHANGE Health Clinic in the school
 - Grants
 - In-kind Support
- Mental health
 - Information sessions
 - Community Partners
 - Access to therapy when appropriate
- Social Connections

BEFORE



NOW



CHANGE Adventure Club

- Partnership with Big Brothers Big Sisters
- Involves 12-15 Grade 6 students
- Variety of Adventures
 - Nutrition and Meal Preparation,
 - Physical Activity,
 - Develop Community Connections
- Now expanded to 3 local schools

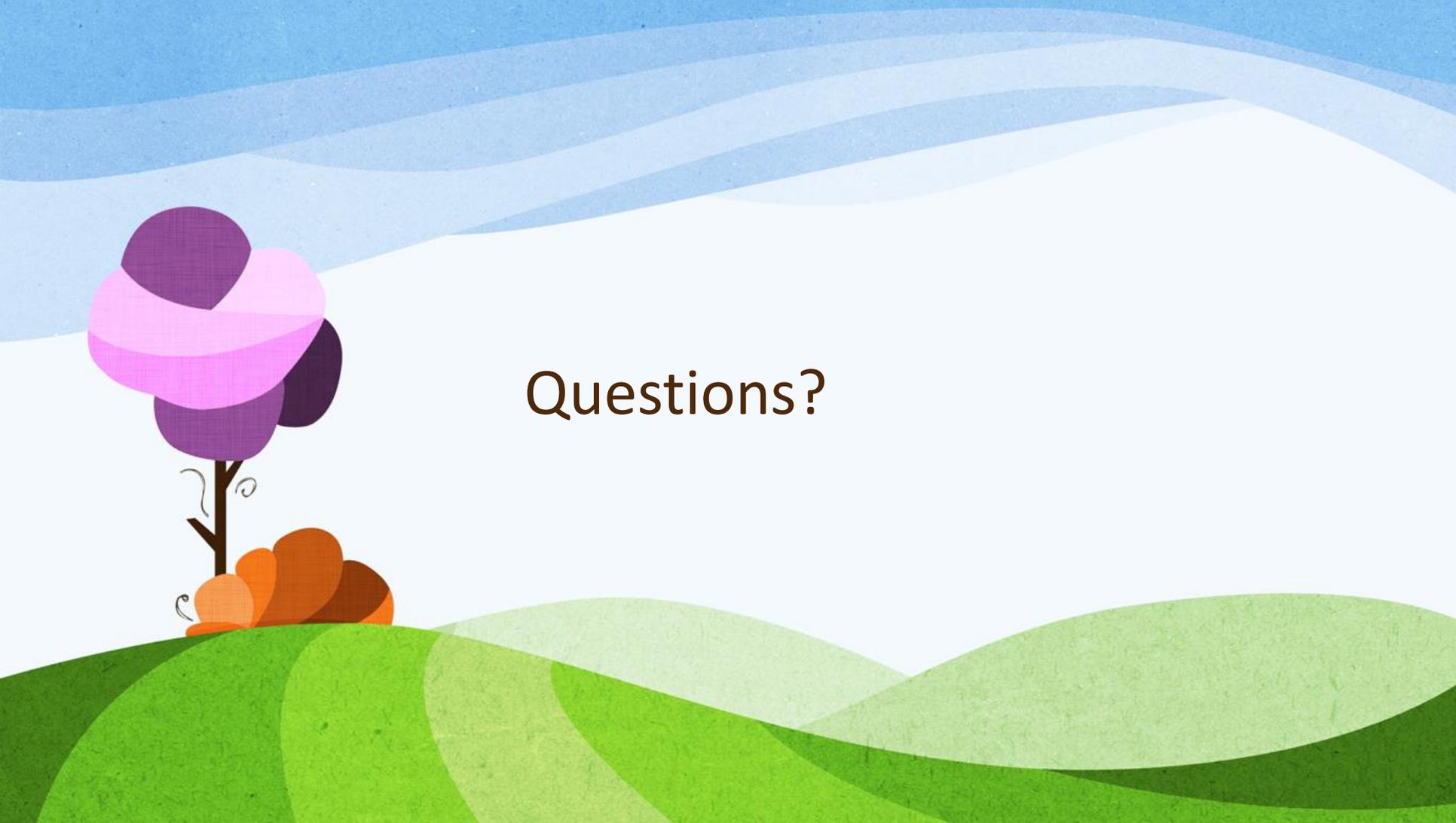


CHANGE Health Community Program

- Interdisciplinary Team that is Community Based
- Customized to Individual Family's Goals and Needs
- Help Families Build Life Skills
 - Nutrition and Meal Preparation,
 - Physical Activity and Lifelong Fitness,
 - Mental Health and Wellbeing,
 - Strong Partner and Family Relationships, and
 - Develop Strong Community Connections.

Key Messages

- We need to ensure our children grow up with important Life Skills
- Adventure can be in the kitchen, in the classroom or just outside
- Never Stop Creating Adventure



Questions?