



Our role as educators in preventing Childhood Obesity

Jonathan McGavock, PhD
 Department of Pediatrics, Faculty of Medicine
 University of Manitoba
 Manitoba Institute of Child Health




Centre for Physical Activity and Cardiometabolic Health in Youth



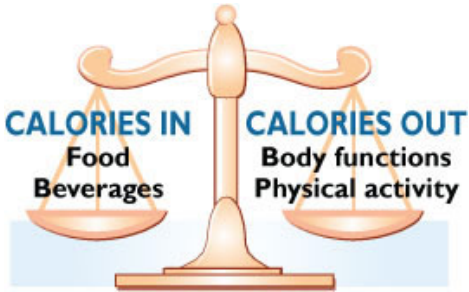
Summary of The Talk

- What factors and behaviours contribute to a child becoming overweight?
- When are children most susceptible to these factors or behaviours?
- What types of interventions have been successful in preventing these factors/behaviours?
- What role do schools play in addressing these factors and behaviours?

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Is it this Simple?



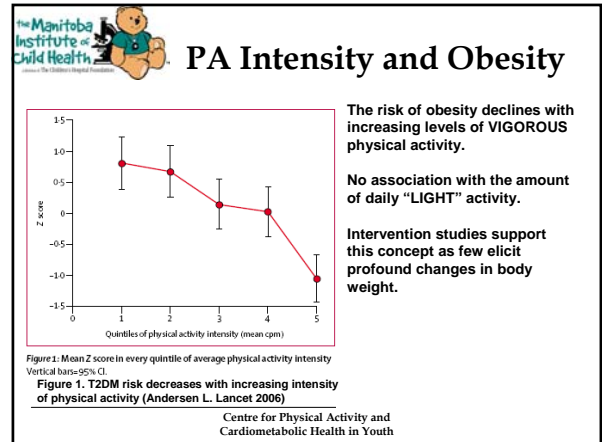
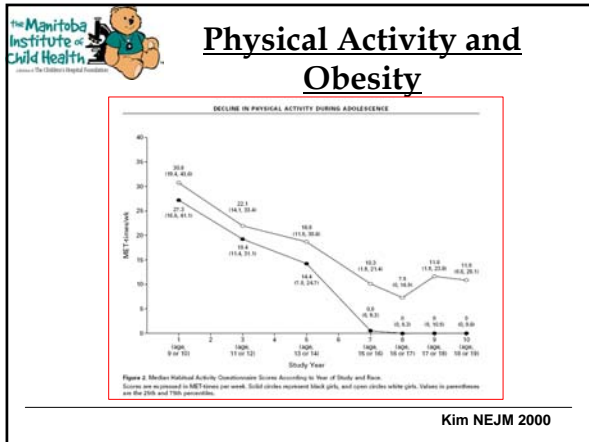
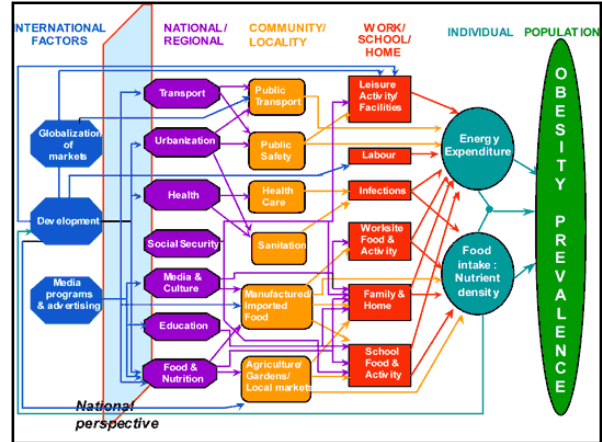
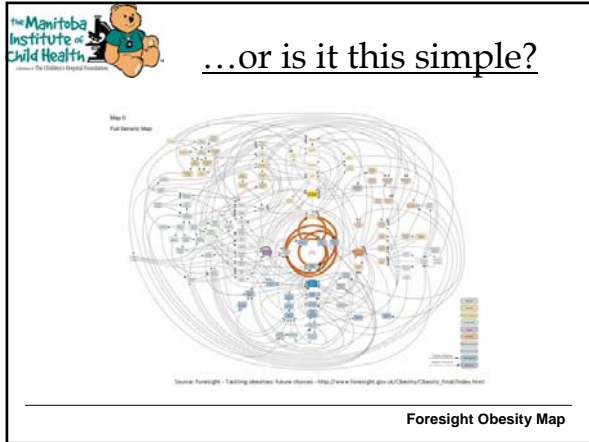
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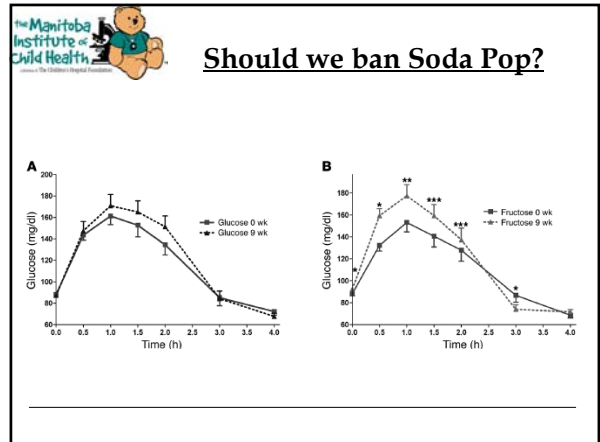
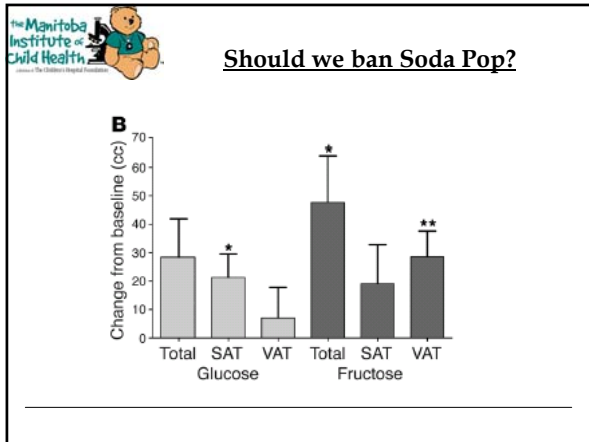
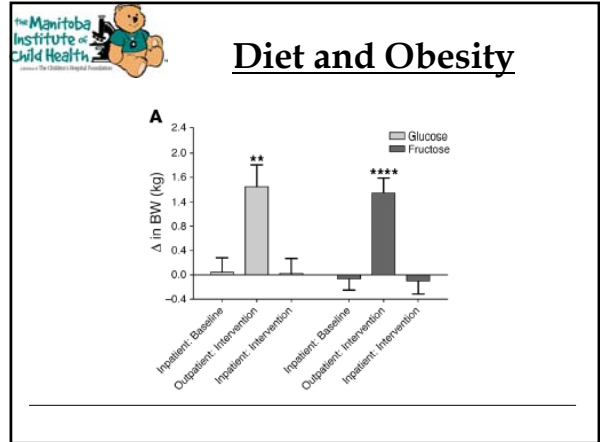
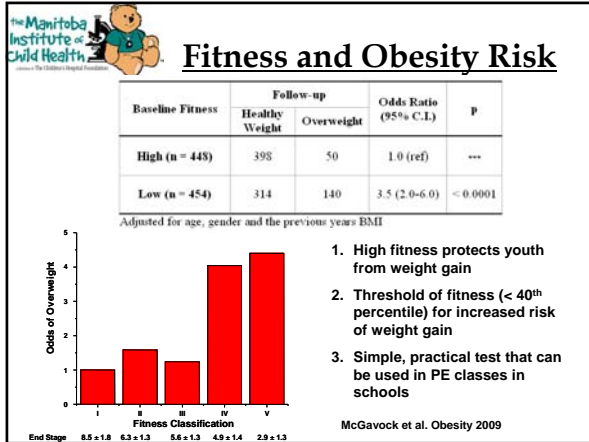


Why is this happening?



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What Else?

We know that diet and exercise are the key.

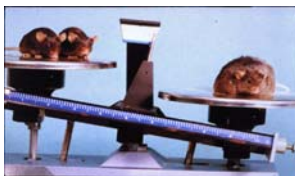
Why doesn't it work?

When is the last time logic convinced your students/children?

What makes your child Hungry?



Evidence for the Brain

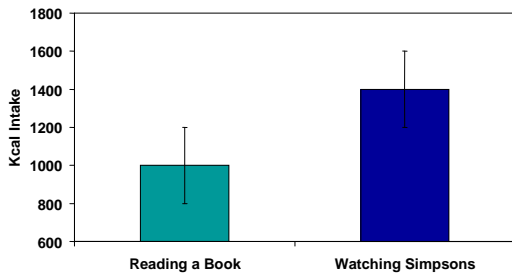


TV and Eating in Youth

- Youth studied in a dietary lab.
- Arrived at 11:00am after a morning breakfast.
- Watched the Simpsons for 45 minutes than fed pizza for lunch.
- Came back a few weeks later and were provided with 45 minutes of reading before the pizza lunch.
- Measurement of appetite and calorie intake after each condition



Why is TV Time so Bad?



Andersen H. Ped Res 2007



How did that happen?

- Children did not feel full after watching TV
- Signals for satiety were suppressed with TV.

Take Home Message: By playing with the brain, eating behaviour changed.



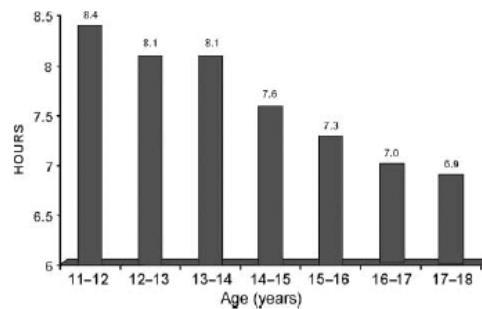
Sleep Habits

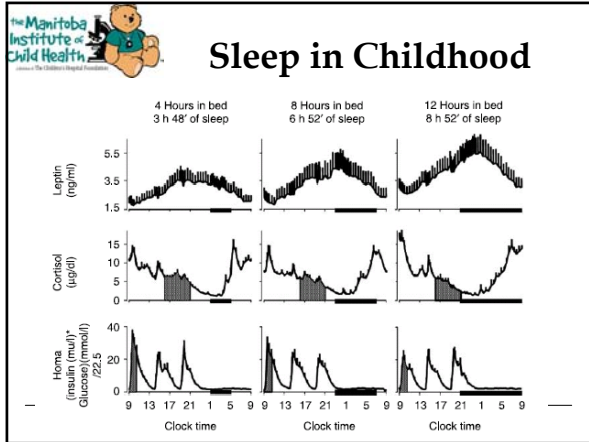


Adolescents sleep habits are disordered.
Affects eating habits and potentially hunger hormones



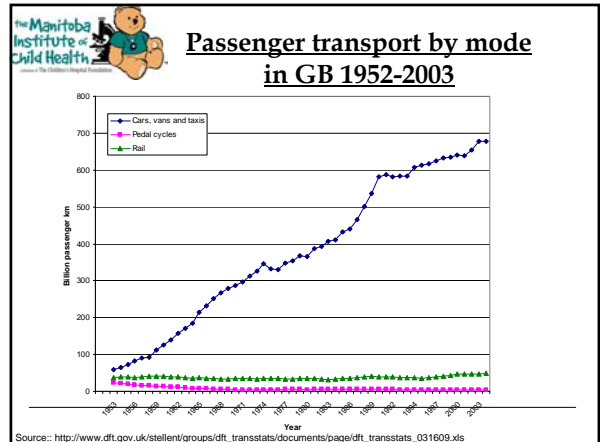
Sleep in Childhood





the Manitoba Institute of Child Health
...and The Children's Hospital Foundation

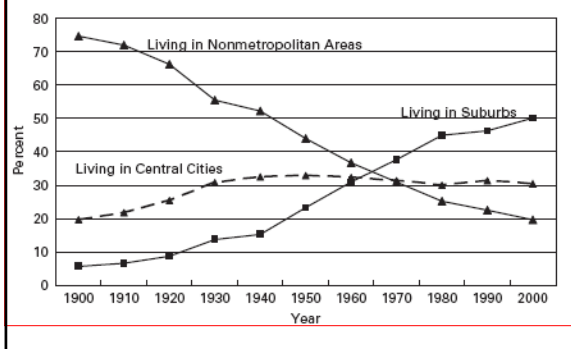
The environment as a determinant of physical activity behaviour



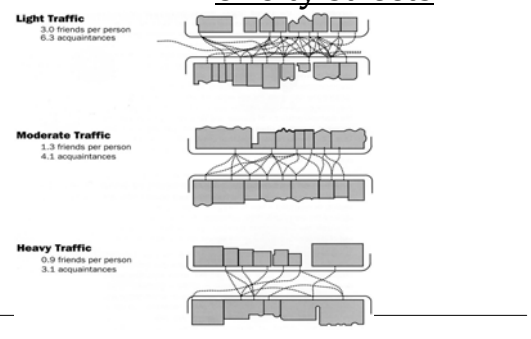
Why the increase in driving?



Urbanization



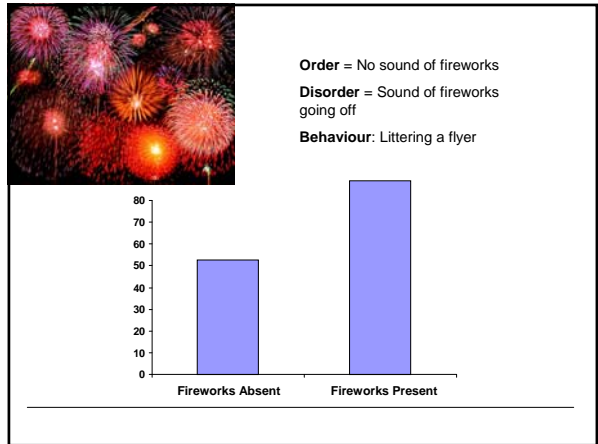
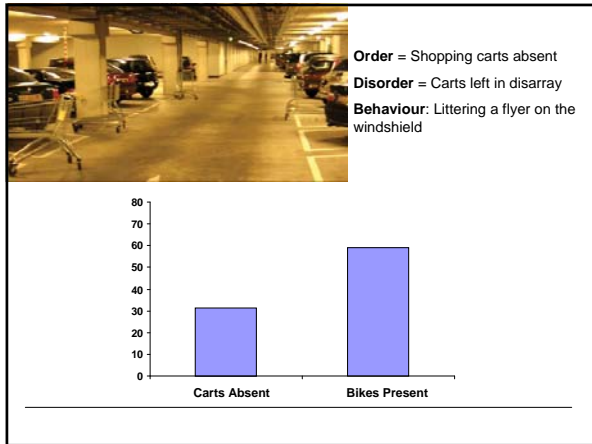
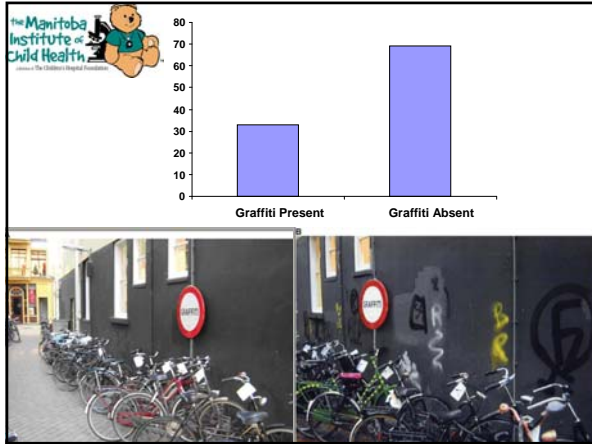
Environmental quality of city streets



Source: Appleyard D, Lintell M. The environmental quality of city streets: The residents' viewpoint. *Am Inst Plan J* 1972;38:84-101

Environment and Youth

Google search: Children's Artwork





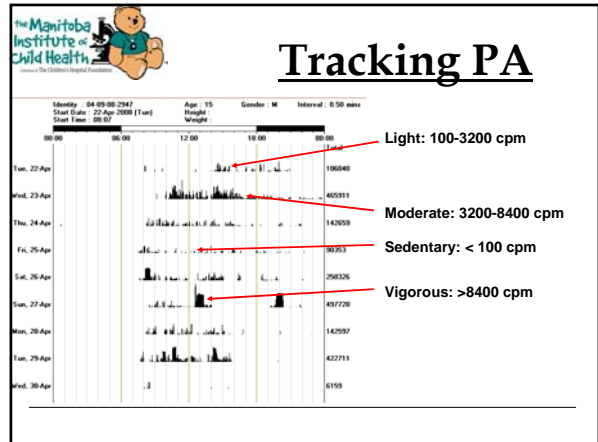
Summary

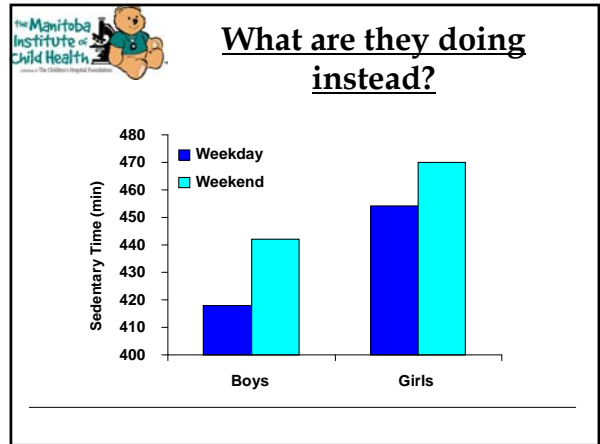
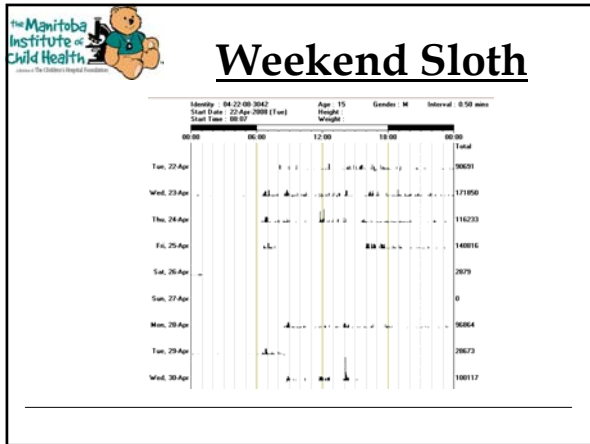
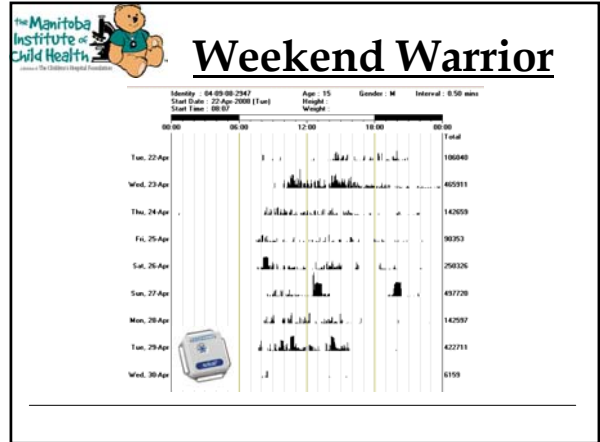
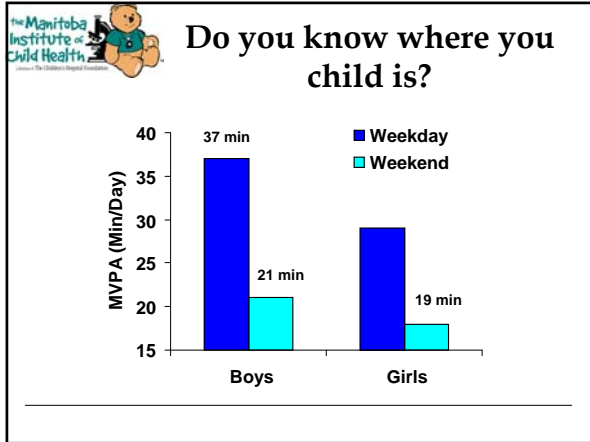
- Factors within our control affect our child's behaviour
- TV induces eating behaviour and "non-physiologic" calorie intake
- Lack of sleep regulates appetite hormones and food intake
- The environment can significantly affect physical activity behaviour

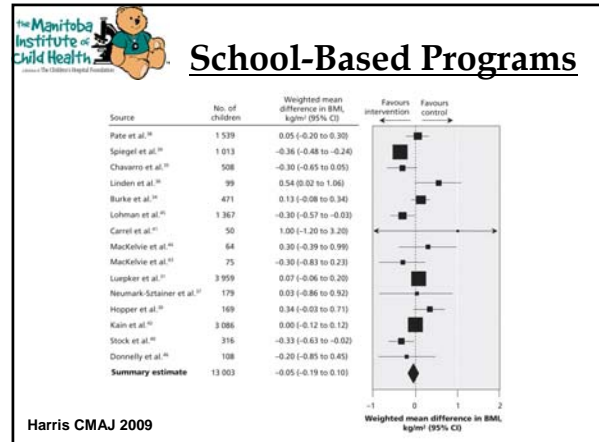
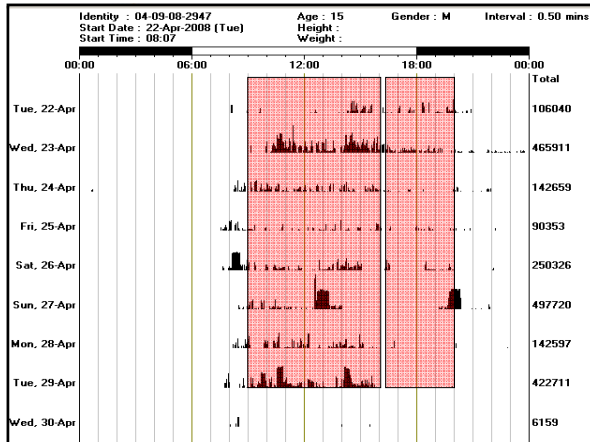
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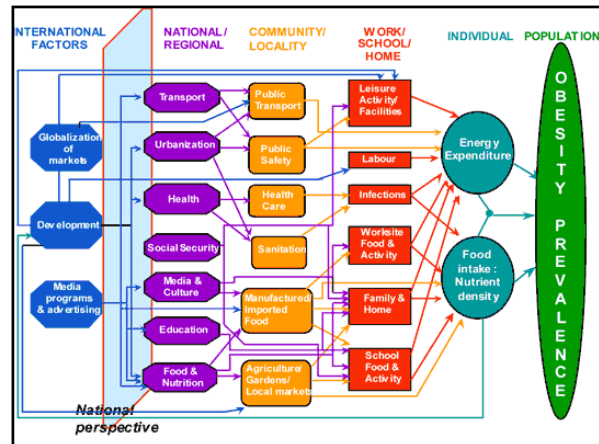




Section Summary

- Children, in particular girls are getting the majority of their activity at school.
- Very little activity on the weekends
- Weekday PA is replaced by sedentary time, which we know increases food intake
- Our initiatives need to extend beyond the classroom

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Summary of The Talk

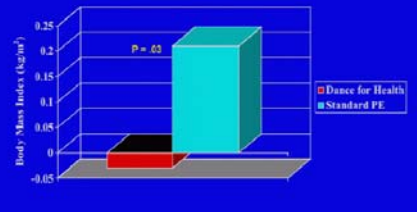
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Stealth Interventions

Dance for Health (Girls) 12-Week Changes in BMI



Tom Robinson Stanford Childhood Obesity Network

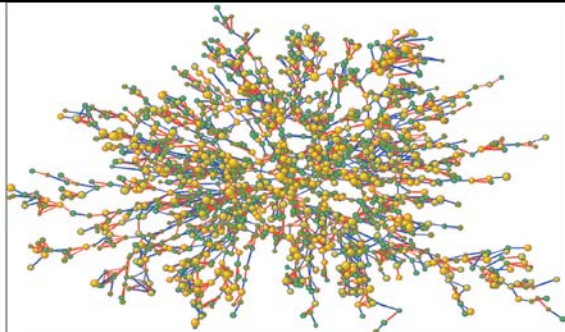
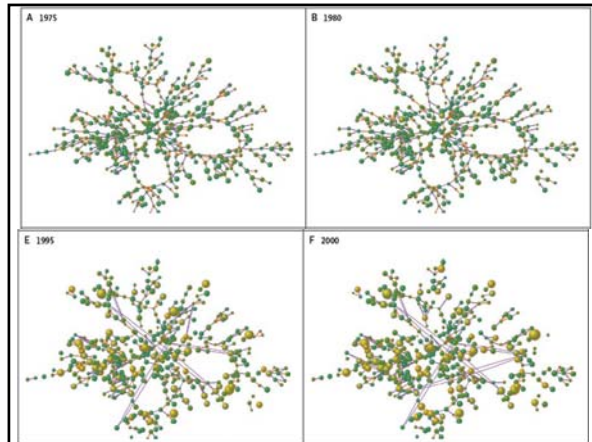
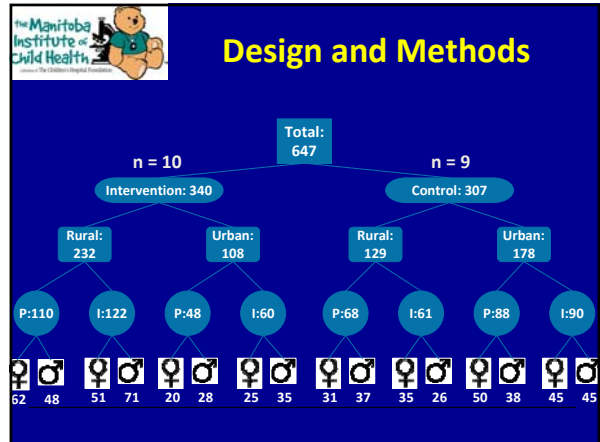
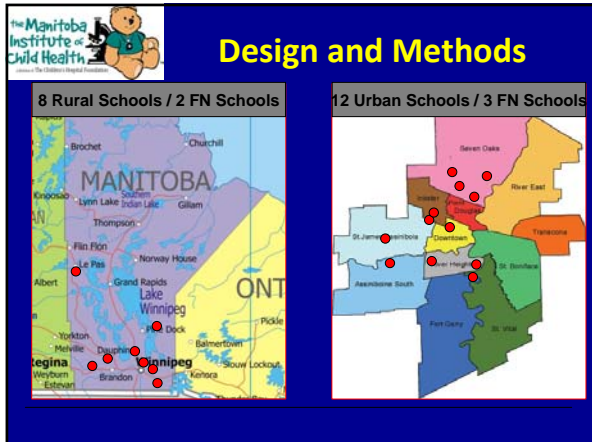
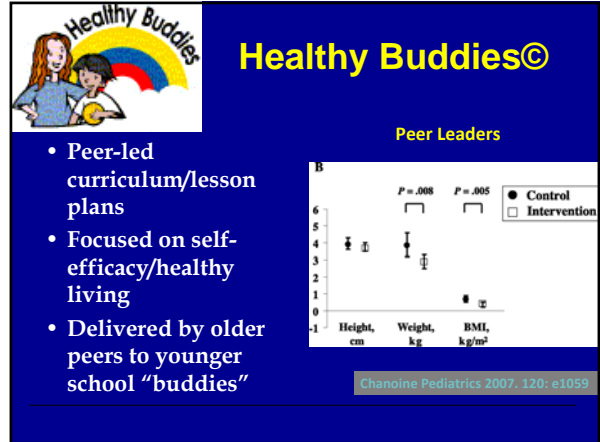
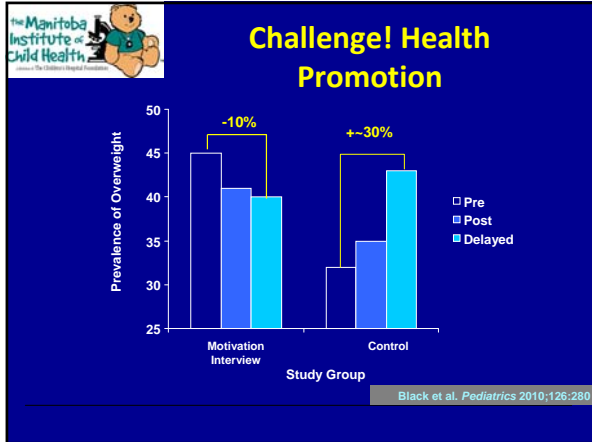
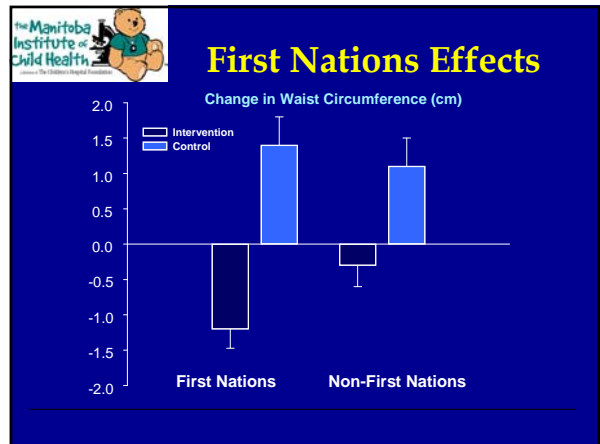
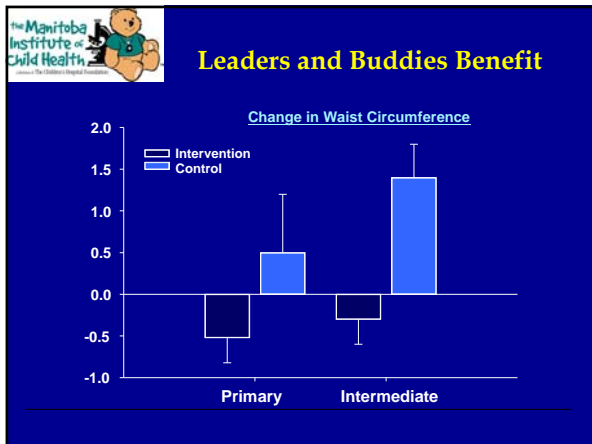
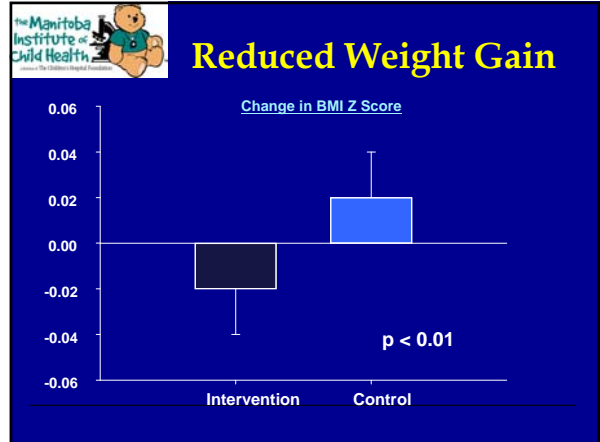
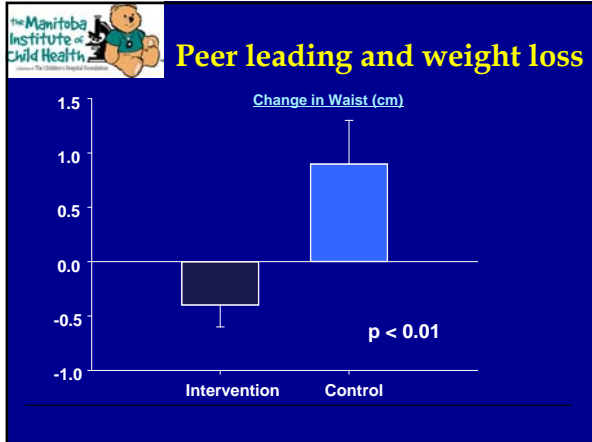
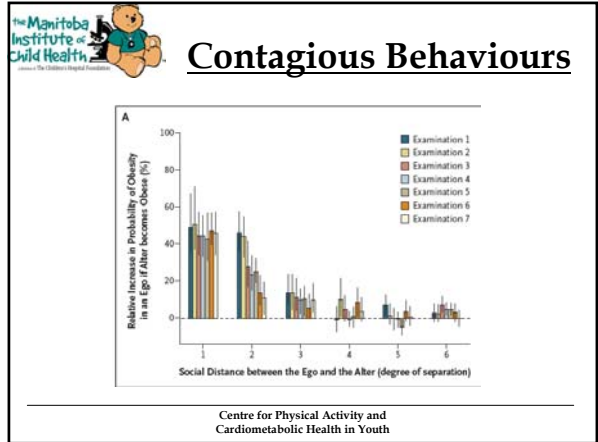
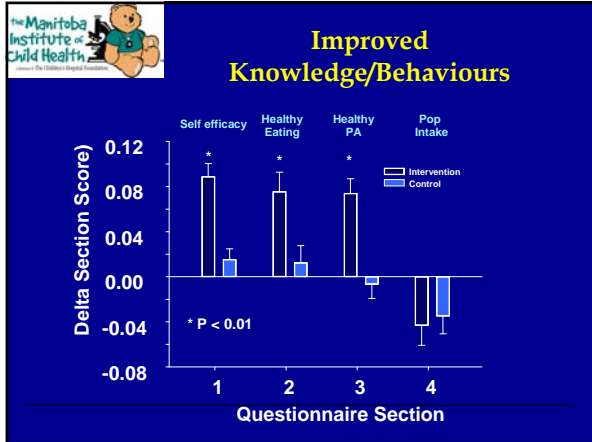


Figure 1. Largest Connected Subcomponent of the Social Network in the Framingham Heart Study in the Year 2000.
Each circle (node) represents one person in the data set. There are 2200 persons in this subcomponent of the social network. Circles with red borders denote women, and circles with blue borders denote men. The size of each circle is proportional to the person's body-mass index. The interior color of the circles indicates the person's obesity status: yellow denotes an obese person (body-mass index, ≥ 30) and green denotes a nonobese person. The colors of the ties between the nodes indicate the relationship between them: purple denotes a friendship or marital tie and orange denotes a familial tie.









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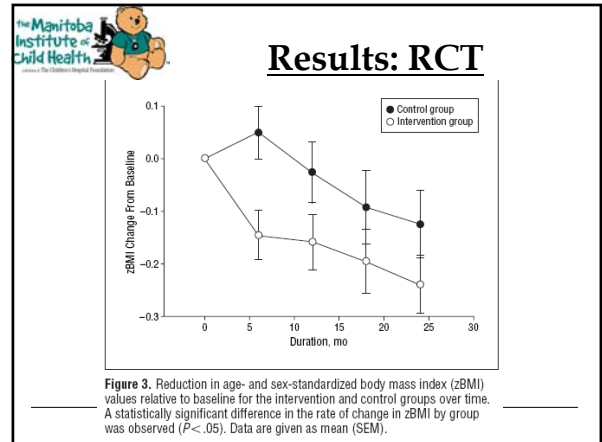
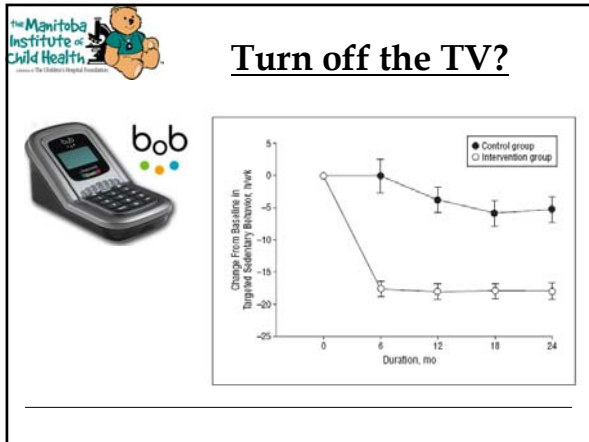
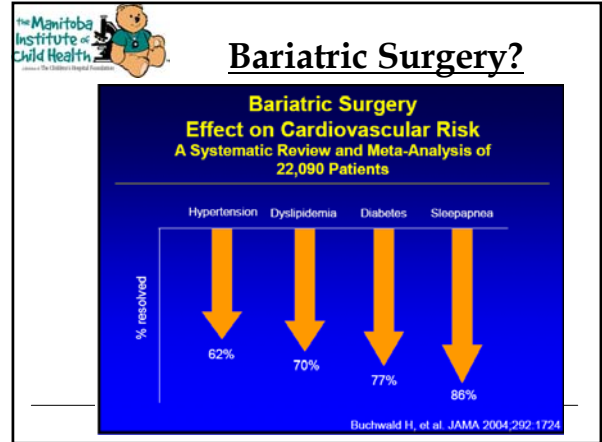
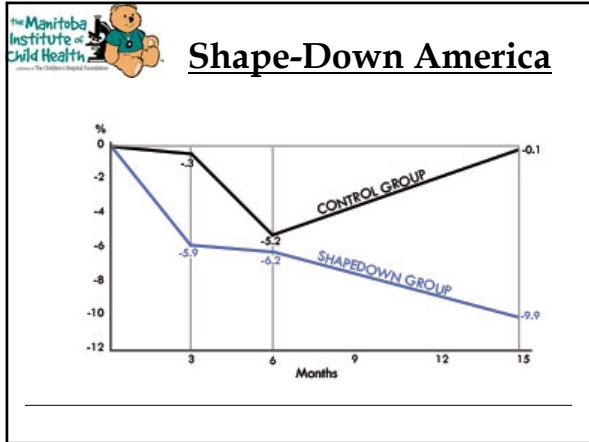
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Motivational Interviewing

- Identifying and mobilising intrinsic values and goals to stimulate behaviour change.
- Motivation to change is elicited from the client and not imposed from without.
- Designed to resolve ambivalence



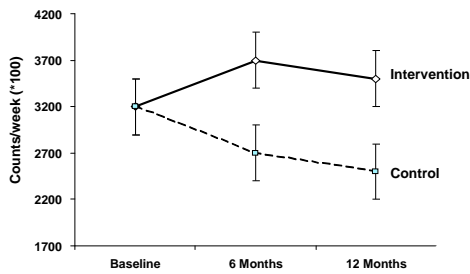
Rollnick & Miller *Behavioural and Cognitive Psychotherapy*, 1995 23, 325-334

Does MI Work?

Outcome	n	Effect	p
BMI	1140	0.72	0.0001
HbA1c	243	0.43	0.155
Total Chol	1358	0.27	0.001
SBP	316	4.22	0.038
Cigs/Day	190	1.32	0.099
Alcohol	278	72.9	0.001

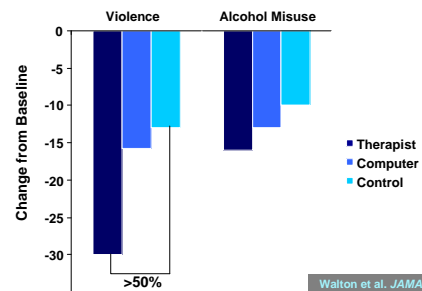
British Journal of General Practice 2005; 55: 305-312

MI and PA Change



Kirk et al. *Diabetologia* 2004

Motivational Interviewing in Adolescents



Walton et al. *JAMA* 2010;304:527-35



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Discussion Topic

- Educate parents
- Partnering schools with community resources
- Develop afterschool programs/weekend
- Explore peer-led strategies in high-risk communities.
- Bariatric surgery at lunch?



Overall Summary

- 1 - Obesity and T2DM are rising and causing severe disease
- 2 - Unfit, inactive, TV watching, soda-pop drinking, breakfast skipping youth are at the highest risk
- 3 - Factors that regulate food intake and physical activity are attractive targets for prevention
- 4 - Strategies are emerging to prevent weight gain and T2DM in kids

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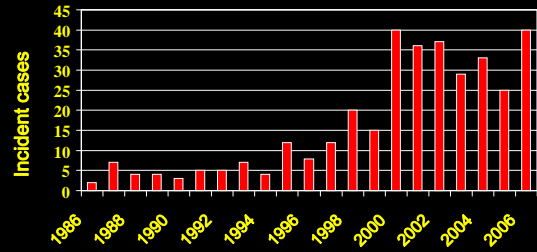
Questions?

www.mich.ca/dr_mcgavock

E-mail: jmcgavock@mich.ca



Type 2 Diabetes in Manitoba

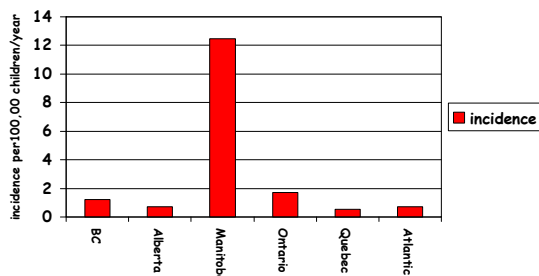


DER-CA annual report 2008

Year



Local Crisis



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