

48<sup>th</sup> International Conference on Education



## WORKSHOP 4

# Inclusive Education Brain Development and Mental Health in Schools

Stan Kutcher



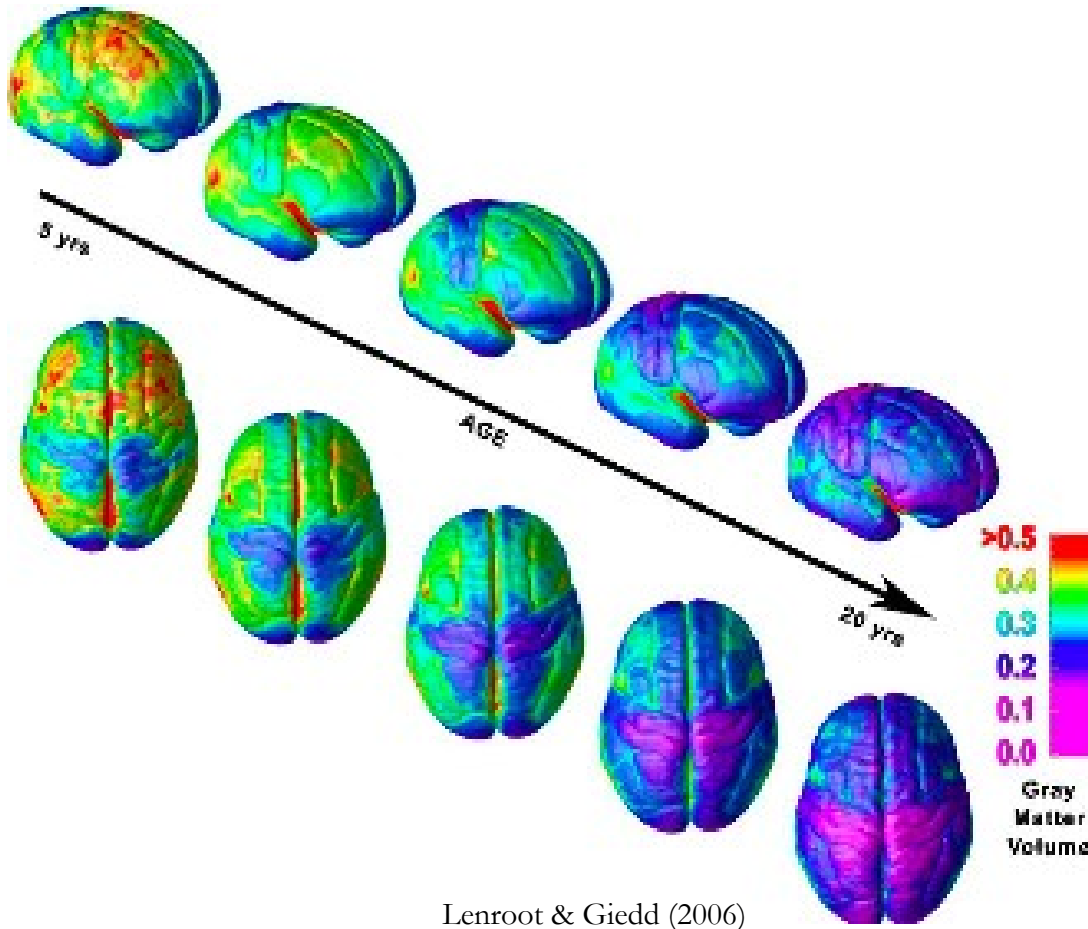
Inclusive Education

Brain Development and  
Mental Health in Schools

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November 27, 2008

# Proliferation: Grey Matter



Grey matter develops quickly during childhood, but slows during adolescence.

↓

Grey matter volume peaks at age 11 in **girls** and at age 13 in **boys**.

↓

Then, the volume of grey matter begins to decline.

# Pruning: Grey matter maturation

The maturation of grey matter is best described as a constant “push and pull”. New pathways grow, while others are pruned back.

Pruning is greatly influenced by experience, so it really is a case of “use it or lose it”!

This makes the adolescent brain extremely versatile, and able to make changes depending on the demands of the environment.

# Mental Health is Brain Health

- Successful cognition
  - Productive daily activities
  - Fulfilling relationships with others
  - Ability to effectively adapt and accommodate
- 
- Mental Disorder is characterized by disordered brain function; functional impairment and difficulties in adaptation that meets internationally accepted diagnostic criteria

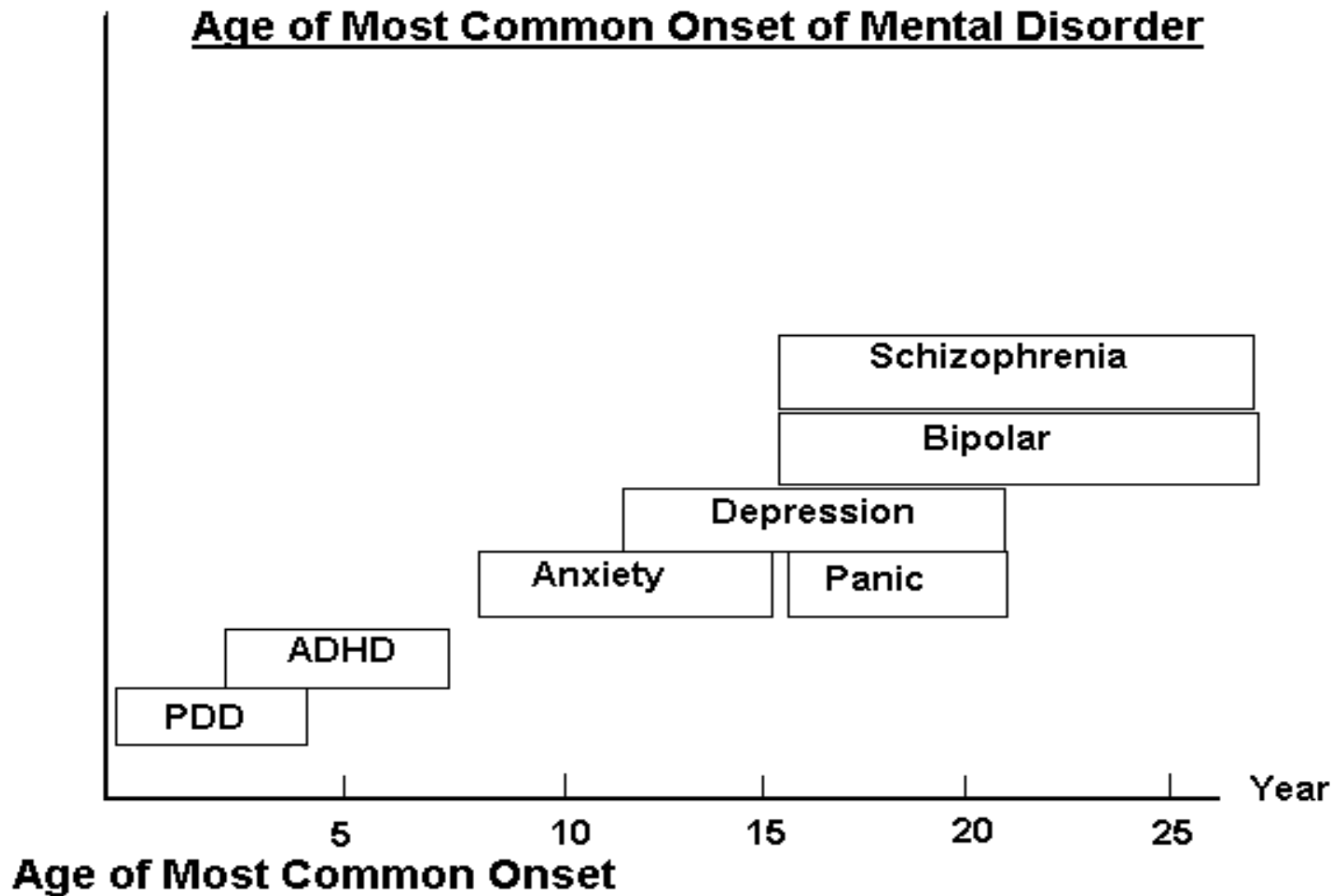
# Child and Adolescent Health Comparative Burden of Illness for Mental Illness

**Table: World: DALYs in 2000 attributable to selected causes by age**

	<b>Ages 0-9</b>	<b>Ages 10-19</b>
<b>Neuro-psychiatric conditions (including self-inflicted injuries)</b>	<b>12</b>	<b>29</b>
<b>Malignant Neoplasms</b>	<b>3</b>	<b>5</b>
<b>Cardiovascular Diseases</b>	<b>2</b>	<b>4</b>

*Adapted from: World Health Organization (2003). Caring for children and adolescents with mental disorders. Setting WHO directions. Page 3, Figure 1. World: DALYs in 2000 attributable to selected causes, by age and sex.*

## Age of Most Common Onset of Mental Disorder



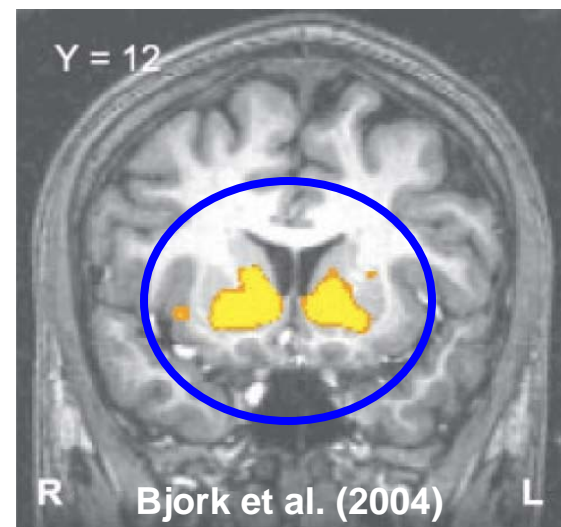
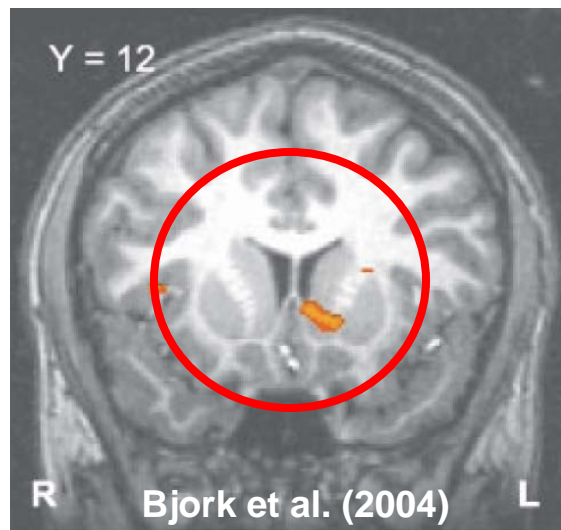


## Human Rights-Based Education & Mental Health

1. Part of the **basic human rights** framework for children and youth
2. Integral component of **enhancing learning** through the promotion of mental health, the identification of and accommodation to mental disorders in the learning environment and facilitating the development and application of a mental health friendly learning environment

# MOTIVATION: Adults vs. teens

- One study looked at the differences in motivation between adults and teenagers. The researchers compared the brain activation of adults and teenagers while they were performing the same task for a reward.



- Compared to **adults**, **teenagers** under-use the brain circuits that are involved in motivation!

Bjork et al. (2004)

# MOTIVATION: “Get moving, kid!”

- This under-use of the motivational system might be the reason why teenagers need extreme reward to achieve the same level of brain activity as adults.
- AND... the difference in brain activity between teenagers and adults can be even LARGER when the reward is not instant.

## What does this mean for me??

- Most teenagers are more likely to do their homework for a \$5 reward TONIGHT than for a \$50 reward next week!



# Zzzzzzzzzzzz....

Sleep is very important during periods of brain maturation!

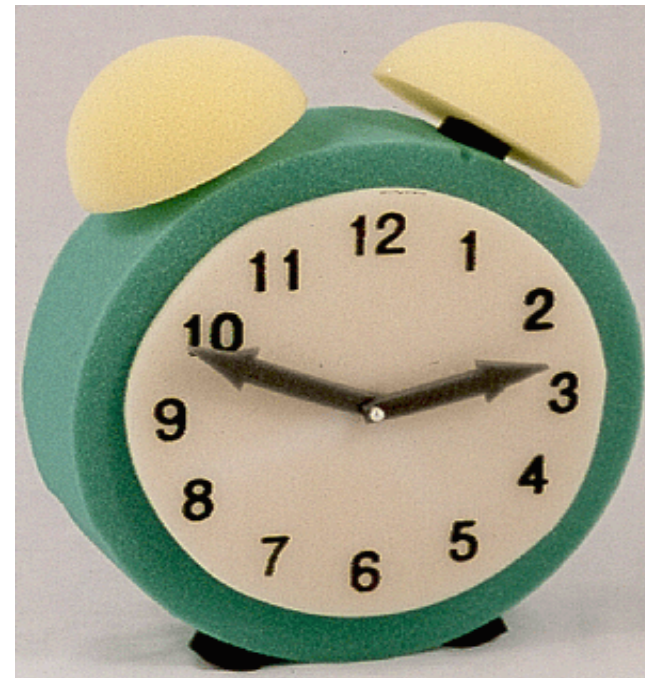
Phase shift – lark to owl

Increased sleep need

Increased daytime sleepiness

Less total sleep time

While many teenagers get less sleep than younger children, there is actually an increase in sleep needs during the teenage years! – sleep debt

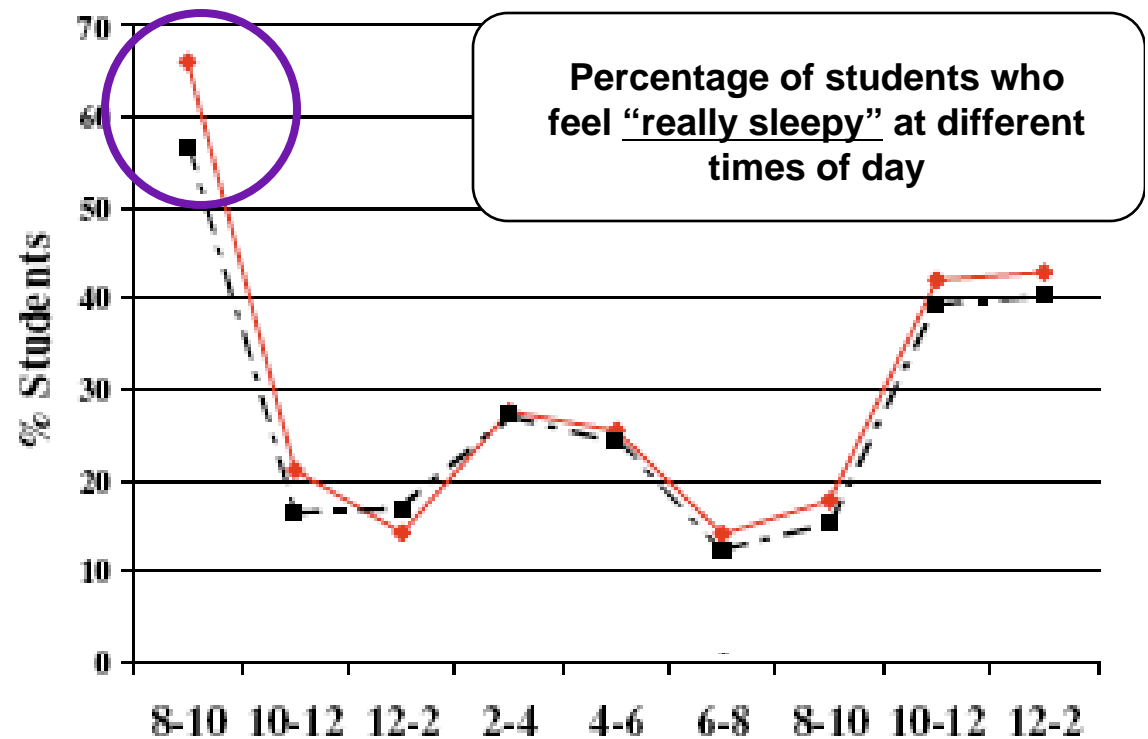


# Excessive Sleepiness?

**YES!**

In one survey of Canadian high school students:

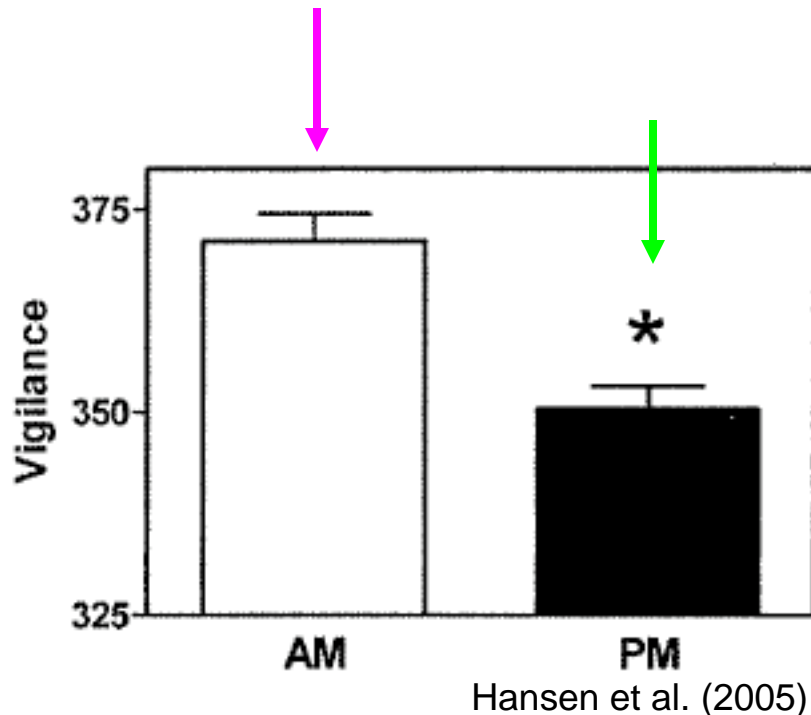
- 70% reported getting less than 8.5 hrs of sleep per night.
- 58-68% reported being “really sleepy” between 8 and 10 a.m.



Gibson et al. (2006)

# Morning sleepiness...

Students also perform better in the afternoon than in the morning.



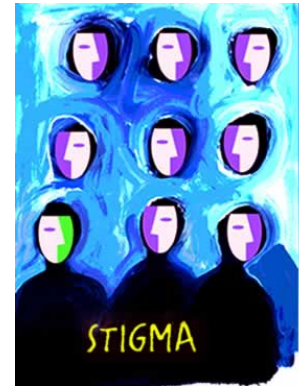
Reaction times of adolescents are much better in the **afternoon** than they are in the **morning** (lower means better)!

Students in early morning classes report being less alert, more weary, and having to expend greater effort. So, scheduling all of the important tests first thing in the morning doesn't make much sense!

# Why should we address mental health in schools?



**More dropouts**



**Difficulties  
in performance**



**Difficulties in  
learning**



**More truancy**



**Behavioural difficulties**

**School failure**



Schools can be a great location for mental health promotion, early identification and intervention, combating stigma associated with mental illness and possibly interventions and ongoing care – including teachers



# Sun Life Financial Chair In Adolescent Mental Health

For more information visit

[WWW.TEENMENTALHEALTH.ORG](http://WWW.TEENMENTALHEALTH.ORG)





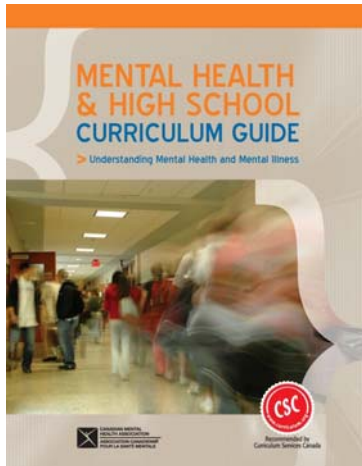
## Address Mental Health Needs to **Improve Learning and Educational Outcomes**

- Mental disorders severely impact learning
- Schools are the ideal place to address the linkage between mental disorder and learning
- Education for all requires attention to mental health as a learning enabler

# Schools as a Vehicle for Stigma Reduction: A Method for Addressing Social Exclusion

- Stigma against the mentally ill recognized as one of the greatest barriers to social justice, appropriate health care and development of civic society
- Stigma pervades entire social structure
- School based anti-stigma activities may reach all social elements – parents and communities





# School Curriculum Development and Application as **Health Promotion**

- Student education + normalization of mental health problems (anti-stigma)
- Teacher training – knowledge and basic counseling skills
- Proactive mental health in the learning environment
- Self and Peer identification and help seeking behaviour

# Schools as Vehicles for Mental Health Support for Teachers

- Mental health needs of teachers may be substantial and may negatively impact student success
- Issues similar to those faced by students are also faced by teachers
- “On-site” mental health models can also provide teacher support – more effective teacher, more effective teaching, more effective learner



# Schools as Vehicles for the Provision of Mental Health Care – on site or facilitated

- Role of school in delivery of basic physical health care well known – various models applied
- Integration of mental health care delivery (including case identification/followup) into existing care delivery frameworks (may require health human resource training or program modifications)



# What is needed to create mental health integration in schools?? - Surprisingly little



- Policies and plan that recognize integration of mental health into educational institutions across a variety of domains – to enhance learning outcomes
- Mental health curriculum (building promotion and addressing stigma thru scientific knowledge)
- Teacher training – knowledge and understanding
- Location appropriate infrastructures and supports (gatekeepers, student services expertise, community links, etc.)



# Keys to Success

- Promotion and Prevention
- Early identification
- Early intervention
- Ongoing collaborative care

**Stop Exclusion – Promote Inclusion – Dare to Care**