

The Developing Brain and Young Children's Social and Emotional Learning: An Overview

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*Head & Shoulders, Knees & Toes: Laps to Landscapes
The 8th Annual Assessment Workshop
Assessing the Physical Development & Well-Being of Children*

Vancouver, July 9th, 2010

Overview

- ❖ Introduction
- ❖ The State of our Children?
- ❖ What is social emotional learning and social emotional competence? Why is social emotional competence important?
- ❖ The developing brain and young children's social and emotional learning.
- ❖ How can we nurture children's social and emotional competence?
- ❖ Conclusions

Part I Introduction

Reflection Question...



What knowledge, skills, and qualities do children need to have by the time they enter school and to be successful later in life?

Part II Why should we be concerned?

UNICEF 2007 Report Card

"The true measure of a nation's standing is how well it attends to its children – their health and safety, their material security, their sense of being loved, valued, and included in the families and societies into which they are born."

UNICEF Innocenti Report Card # 7,2007

Child Poverty in Perspective: An Overview of Child Well-Being in Rich Countries

A comprehensive assessment of the lives and well-being of children and adolescents in the economically advanced countries.

UNICEF Innocenti Report Card # 7,2007

The 2007 *Report Card* assessed the well-being of children in 21 nations of the industrialized world. It attempted to measure and compare child well-being under six dimensions:

1. Material well-being
2. Health and safety
3. Educational well-being
4. Family and Peer relationships
5. Behaviours and risks
6. Subjective well-being

UNICEF Innocenti Report Card # 7,2007

Average Ranking Position

- Netherlands 1st
- United States 18th
- Canada 11th

UNICEF Innocenti Report Card # 7,2007

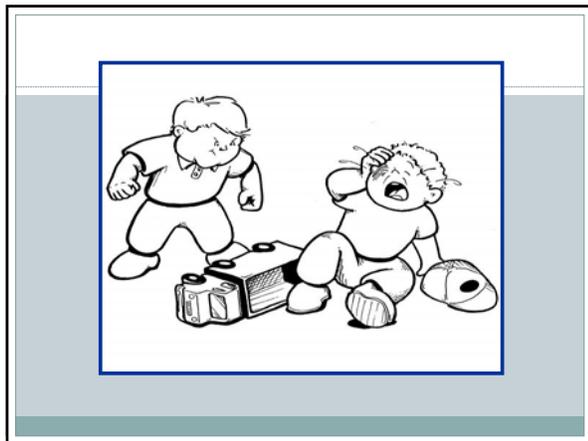
How are children in Canada doing?

- **Material Well-Being** Canada → 6th
- **Educational Well-Being** Canada → 2nd
- **Health and Safety** Canada → 16th
- **Relationships** Canada → 18th
- **Behaviours and Risks** Canada → 17th
- **Subjective Well-Being** Canada → 15th

Part III

The Current Research on Young
Children's Social and Emotional
Development





Looking for the Positive

A Focus Discerning Strengths

Seeing Young Children Thru a New Lens

Humans Really Are Born to be Good!

Warneken & Tomasello
British Journal of Psychology, 2009

- ❖ Young children help others attain their goals with no concern for reciprocation and reputation.
- ❖ Results suggest that human infants are naturally altruistic.

The roots of human altruism
Felix Warneken* and Michael Tomasello
Department of Developmental and Comparative Psychology Max Planck Institute for Evolutionary Anthropology, Leipzig, Germany

Human infants as young as 14 to 18 months of age help others attain their goals, for example, by helping them to reach over-obtained objects or opening cabinets for them. They do this irrespective of any reward from adults (beyond internal rewards, such as the pleasure and help they will receive for such things as reciprocation and reputation, which serve to maintain altruism in older children and adults), without expectation of any reward, obligation, or help others may eventually receive. These results suggest that human infants are naturally altruistic, and as emerging prosocial and they must have some independently with a well-developed sense of other's goals and needs for such prosocial behavior with other's help and cooperation, consistent of other's goals and needs.

Humans Really Are Born to be Good! (Cont'd)

Video Clips
Warneken Laboratory for Developmental Studies

Clothespin Task	Cabinet Task	Flap Task

Learned Optimism

Positive Psychology: An Introduction / Seligman, M. E. P., & Csikszentmihalyi, M. (2000)

- ❖ At the turn of this century: A shift to the study of the positive aspects of human experience
- ❖ Previous Focus: Pathology (not on the promotion of the positive features of individuals)
- ❖ A science of positive subjective experience, of positive individual traits, and of positive institutions promises to improve the quality of life and also to prevent the various pathologies that arise when life is barren and meaningless

TIME Special Issue on the Science of Happiness

Time Magazine
January 17, 2010



*What Makes Us Happy
Just How Happy Are We?
Measuring Your Mood
Can We Get Happier?
Eight Steps Towards a Happier Life*

Beneficial Outcomes of Happiness

- ❖ Research to date suggests that happy people often contribute more to their communities, have better relationships with others, and are more creative in some realms.
- ❖ Taken from: Lyubomirsky, S., King, L. A., & Diener, E. (2005). The benefits of frequent positive affect: Does happiness lead to success? *Psychological Bulletin*, 131, 803-855.
 - ✓ 225 studies on the benefits of happiness found that happy people:
 - Are more productive at work and more creative
 - Make more money and have superior jobs
 - Are better leaders and negotiators
 - Are more likely to marry and to have fulfilling marriages, and less likely to divorce
 - Have more friends and social support
 - Have stronger immune systems, are physically healthier, and even live longer
 - Are more helpful and philanthropic
 - Cope better with stress and trauma

THE HOW OF HAPPINESS

A New Approach to
Getting the Life You Want



Sonja Lyubomirsky

"A guide to nurturing your meaningful existence." - Psychology Today



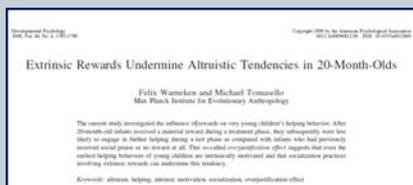
Happiness Boosters

- ❖ **Gratitude Journal**
 - ✓ Improves physical health, raises energy levels
- ❖ **Performing acts of altruism or kindness**
 - ✓ Visiting a nursing home
 - ✓ Helping a friend's child with homework
 - ✓ Mowing a neighbour's lawn
 - ✓ Writing a letter to a grandparent
- ❖ **Finding your strengths and ways to boost them**
 - ✓ Reflectivehappiness.com

Extrinsic Rewards and Altruism

Warneken, F. & Tomasello, M.
Developmental Psychology, 2008

- ❖ **Study:** Influence of rewards on very young children's helping behavior
- ❖ **Findings:** Extrinsic Rewards undermine altruistic tendencies in 20-month-olds



The Need for a Strengths-Based Approach

Resiliency Factors

- ✓ Individual characteristics
 - Intelligence
 - Personality (e.g., temperament, empathy, hope)
- ✓ Family and Peers
 - Social support
 - Cohesion)
- ✓ Schools and Communities
 - School belonging,
 - "Significant adult"

Educating the Mind & Heart

The Need to Balance Educating the Mind with Educating the Heart

Recently, Nobel Peace Prize Laureate, Archbishop Desmond Tutu said: "***Educating the mind without educating the heart has produced brilliant scientists who used their intelligence for evil.***"

Roundtable Dialogue, "Balancing Educating the Heart with Educating the Mind"
April 20, 2004, Chan Centre, University of British Columbia

Three Guiding Principles

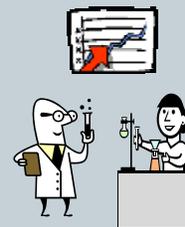
- ❖ Development of the ***whole child***.
- ❖ Attention to ***context***.
- ❖ ***Relationships*** as central.



And also....

And also... Guided by Research

Rigorous science provides an essential foundation for effective policies and practices.



Major Goal of Developmental Psychology

- ❖ Finding early indicators of individual differences that facilitate or impede children's present and future adaptation.
- ❖ Examining the way in which context interacts with individual characteristics to yield outcomes.

Urie Bronfenbrenner

Urie Bronfenbrenner's Contextual Perspective

- ❖ A child's unique development cannot be viewed without *seeing the child in social and cultural context*.
- ❖ It is important to recognize the *multiple spheres* of influence on children's development.
 - Everyday environments
 - ✓ Families/Friends/Caregivers
 - Social Institutions
 - ✓ Schools/Neighborhoods/Communities
 - ✓ Social Welfare Services
 - Attitudes and ideologies of a culture

Bronfenbrenner's Ecological Model



Microsystem:
Family, School,
Peers, and
Neighbourhoods

Fostering Competence

“It is critical to the future of a society that its children become competent adults and productive citizens. Thus, society and parents are a stake in the development of competence and in understanding the processes that facilitate it and undermine it”

(Masten & Coatsworth, 1998, p. 205)

Fostering Positive Development During Early Childhood

Ecological Nutrients



Attachment Theory

“Human beings of all ages are happiest and able to deploy their talents to best advantage when they experience *trusted others* as ‘standing behind them.’”

(p.25, Bowlby, 1973)



JOHN BOWLBY (1907-1990) Attachment Theory

“Every child requires someone in his or her life who is absolutely crazy about them.”

Urie Bronfenbrenner

Significant Adults/Parent Involvement

- Child Development (SRCD)
- El Nokali, et al., (May-June, 2010)
- 1364 children from birth to fifth grade
- Parent involvement:
 - ✓ Fewer aggressive and disruptive behaviours
 - ✓ Less anxiety and depression
 - ✓ Higher prosocial behaviours: Co-operation, self-regulation



Making the Case for the Role of Emotions in Young Children



Making the Case for Emotions

- ❖ Children who begin school without age-appropriate social and emotional competencies are at greater risk for school failure (Raver, 2002) .
- ❖ Children who are accepted by their peers or display prosocial behaviors tend to be high achievers, whereas children who are rejected and aggressive tend to be at risk for school failure (Dishion, 1990).
- ❖ Antisocial/aggressive behaviours are associated with both short-term and long-term adjustment problems, such as criminality, unemployment, and mental health problems (Broidy et al., 2003).

Making the Case for Emotions (Cont'd)

“A growing body of literature suggests that a deliberate and comprehensive approach to teaching children social and emotional skills can:

- ❖ Raise their grades and test scores,
- ❖ Bolster their enthusiasm for learning,
- ❖ Reduce behavior problems,
- ❖ Enhance the brain's cognitive functions”

(Education Week, 2003).”

Emotional Competence

Emotional competence is central to children's ability to form relationships and interact with peers.

(Denham & Burton, 1996).

Emotional Development in Early Childhood: 2-5 years (Izard et al., 2002)

- ❖ **Rapid and remarkable advances during this age period: increases in emotion regulation, emotion vocabulary, feeling-thought connections.**
- ❖ **This age period represents a “sensitive period” for developing accurate perception of emotion in self and others.**
- ❖ **The latter part of the preschool years in particular may represent a sensitive period for emotion-induction techniques that foster the development of empathy, sympathy, and prosocial orientation.**

What are the Dimensions of Emotional Development?



Key Dimensions of Emotion Competence

❖ Three key dimensions of emotion management skills:

- ✓ Emotion encoding and decoding
- ✓ Emotional understanding
- ✓ Emotional regulation

Skills of Emotional Competence Functionalist Approach (Saarni, 1999)

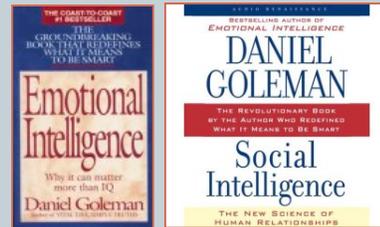
- ❖ Awareness of one's emotions
- ❖ Ability to discern others' emotions
- ❖ Ability to use a vocabulary of emotions
- ❖ Capacity for empathy and sympathy
- ❖ Ability to understand that one's emotional state may not be related to expression of emotions
- ❖ Emotion regulation
- ❖ Awareness that emotions are communicated in relationships
- ❖ Capacity for emotional self-efficacy

Emotional Intelligence

Emotional intelligence, "is a type of social intelligence that involves the ability to monitor one's own and others' emotions, to discriminate among them, and to use the information to guide one's thinking and actions"

(Mayer & Salovey, 1993).

Books by Daniel Goleman



The Importance of Peer Relationships



Peers Can Have a Positive Influence

❖ Predicting children's early school adjustment (Ladd, 1990):

- ✓ Children who begin kindergarten with a number of classroom friends during school entrance develop more favorable school perceptions by the second month.
- ✓ Making new friends in school is associated with gains in school performance.

Empathy: The Critical Dimension

- ❖ Empathy, in particular, plays a critical role in helping individuals desist aggressive behaviors, and is one of the most desirable of personality traits because:
 - ✓ Not only does it provide a buffer against antisocial and aggressive behaviors,
 - ✓ Empathy also is critical due to its positive association with prosocial behaviors (e.g., sharing, helping, cooperating).

SEL and the Relation to School Success

"Children's understanding of their emotions, their ability to talk about them, and their ability to read the emotion signals of others provide them with some very valuable skills that not only affect their personal and social adjustment but their academic performance, as well."
(Izard, 2005)

Early Emotional Adjustment Predicts Early School Success

- ❖ Research has found that children who act in antisocial ways are (Ladd et al., 1999):
 - ✓ Less likely to be accepted by classmates and teachers,
 - ✓ Participate less in classroom,
 - ✓ Do more poorly in school than their prosocial counterparts, net of the effects of children's pre-existing cognitive skills and family backgrounds

Early Emotional Adjustment Predicts Early School Success

- ❖ Children's emotional and social skills are linked to their early academic standing (Wentzel & Asher, 1995)
- ❖ **Casual Link:** Academic achievement during the first years of schooling appears to be built on a firm foundation of children's emotional and social skills (Ladd, Kochendorfer, & Coleman, 1997)



Early Emotional Adjustment Predicts Early School Success

- ❖ Specifically, research on early schooling suggests that the relationships that children build with peers and teachers are based on:
 - ✓ Children's ability to regulate emotions in prosocial vs. antisocial ways.
 - ✓ Then, those relationships serve as a "source of provisions" that either help or hurt children's chances of doing well academically.

Ladd, Birch & Bubs, 1999

Other Research Findings

- ❖ Social emotional literacy reduces violence and promotes prosocial behaviours (Schonert-Reichl, Smith, & Zaidman-Zait, 2002; Weissberg & Greenberg, 1998).
- ❖ Changes in academic achievement in Grade 8 could be better predicted from knowing children's social competence 5 years earlier than from knowing grade 3 academic achievement (Caprara et al., 2000).
- ❖ Prosocial behaviours exhibited by students in the classroom were found to be better predictors of academic achievement than were their standardized test scores (Wentzel, 1993).

Making the Case . . .

- ❖ "Young people who are socially and emotionally intelligent are happier, and fulfill their current and future roles in life more effectively. They become better students, family members, and friends-and later-better workers, parents, and citizens." Daniel Goleman, Author of Emotional Intelligence
- ❖ IQ can contribute about 20% of success in life, that means another 80% is left. There are many ways in which your destiny in life depends on having the skills that make up social and emotional intelligence.

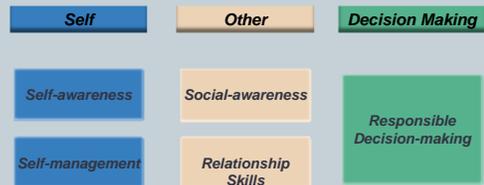
What is Social Emotional Learning (SEL)? (see www.casel.org)



What is Social and Emotional Learning?

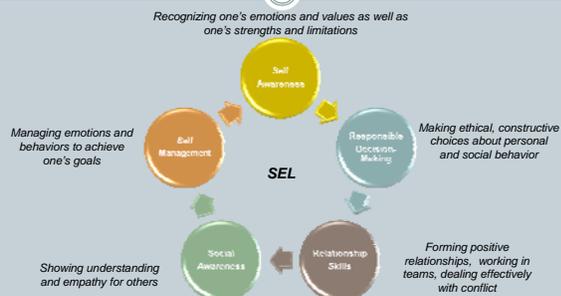
- ❖ "Social emotional competence measures the ability to understand, process, manage, and express social and emotional aspects of our lives" (Cohen, 2001).
- ❖ Social and emotional learning refers to the process and methods used to promote social and emotional competence.

5 Core Social and Emotional Competencies



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What is Social and Emotional Learning (SEL)?



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Self-Awareness

- Accurate self-perception
- Recognizing one's strengths, needs, and values
- Self-efficacy--sense of personal impact
- Identifying and recognizing emotions

Zins, Bloodworth, Weissberg, Wahlberg, 2004

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Self-Management

- Impulse control
- Stress management
- Self-motivation and discipline
- Goal setting
- Organizational skills

Zins, Bloodworth, Weissberg, Wahlberg, 2004

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Social Awareness

- Perspective taking
- Empathy
- Listening skills
- Appreciating diversity
- Respect for others

Zins, Bloodworth, Weissberg, Wahlberg, 2004

© CASEL 2008

Relationship Skills

- Communication
- Social engagement
- Building relationships
- Working cooperatively
- Negotiation skills
- Refusal skills
- Conflict management
- Help seeking and providing

Zins, Bloodworth, Weissberg, Wahlberg, 2004

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Responsible Decision Making

- Problem identification
- Situation analysis
- Problem solving
- Evaluation
- Reflection
- Personal, moral, and social responsibility

Zins, Bloodworth, Weissberg, Wahlberg, 2004

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Social and Emotional Learning Across the Globe



Canada United States Latin America (e.g., Colombia, Puerto Rico) United Kingdom (e.g., England, Ireland) Denmark Sweden Norway
Spain (e.g., Basque Region, Madrid) The Netherlands Germany Israel Turkey China Japan Timor-Leste
Singapore Philippines Cambodia Thailand New Zealand Australia Africa

How Do You Promote Social and Emotional Competency?

Skill development

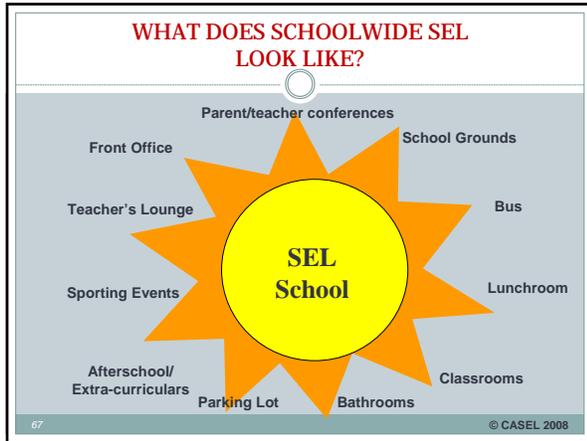
Providing explicit skills instruction for all students

Learning environment

Creating safe, caring, well-managed learning environments



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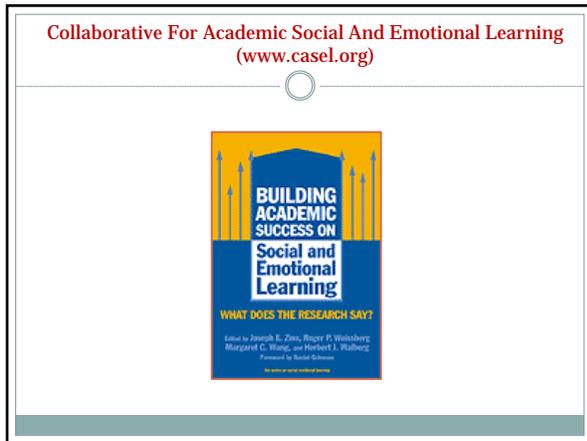


A Few Recent Books

Cohen, J. (Ed.) (2001). *Caring Classrooms /Intelligent Schools: The Social Emotional Education of Young Children*. New York, NY: Teacher's College Press.

Elias, M.J., Arnold, H., & Steiger C. (Eds.) (2002). *EQ + IQ: Best Leadership Practices for Caring and Successful Schools*. Corwin Press: Thousand Oaks, CA.

Zins, J., Weissberg, R., Wang, M., & Walberg, H. J. (Eds.). (2004). *Building Academic Success on Social and Emotional Learning: What Does the Research Say?* New York, NY: Teacher's College Press.



- ### Important Websites
- ❖ **Collaborative for Academic and Social and Emotional Learning (CASEL)**
www.case1.org
 - ❖ **Centre for Social and Emotional Education**
www.csee.net
 - ❖ **Developmental Studies Center (Caring School Communities Project)**
www.devstu.org

- ### Why Promoting SEL is Important?
- Students who receive SEL instruction are:*
- ❖ More connected to teachers and school
 - ❖ More engaged in learning
 - ❖ More motivated to learn
 - ❖ More well behaved/less likely to engage in problem behavior
 - ❖ Able to perform better on achievement tests and get better grades
-
- Source: Zins, Weissberg, Wang, & Walberg (2004). *Building Academic Success on Social and Emotional Learning (SEL): What Does the Research Say?*

Why is SEL Important?

"Children's understanding of their emotions, their ability to talk about them, and their ability to read the emotion signals of others provide them with some very valuable skills that not only affect their personal and social adjustment but their academic performance, as well."

Izard, 2005

Why Promoting SEL is Important? (Cont'd)

- ❖ Meta-analysis
- ❖ 213 school-based SEL programs
- ❖ 270,034 kindergarten through high school students
- ❖ SEL programs yielded significant positive effects on:
 - ❖ Social-emotional competencies and attitudes about self, others, and school
 - ❖ Increased prosocial behaviors and reduced conduct and internalizing problems
 - ❖ Improved academic performance on achievement tests and grades



Source: Durlak, Weissberg, Dymnick, Taylor, & Schellinger (In press). The Impact of Enhancing Students' Social and Emotional Learning: A Meta-analysis of School-based Universal Interventions

Why Promoting SEL is Important? (Cont'd)

- ❖ Effects: Statistically significant for a minimum of six months after the intervention.
- ❖ School staff effectively conducted SEL programs: Routine educational practices.
- ❖ Two variables moderated positive student outcomes: SAFE practices (Sequenced + Active + Focused + Explicit) and implementation problems.
- ❖ No additional benefits of multi-component programs over single-component (i.e., classroom-only) programs.



Source: Durlak, Weissberg, Dymnick, Taylor, & Schellinger (In press). The Impact of Enhancing Students' Social and Emotional Learning: A Meta-analysis of School-based Universal Interventions

Early Experience is Important

- Increasing evidence about the significance of the first 5 years of life for early brain and behavioural development
- Research studies suggest that early experiences and early social/emotional adjustment directly influence later school experiences and progress (Ramey & Ramey, 1999) and health outcomes.



Early Experience is Important

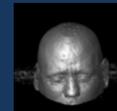
- Child Development (SRCD)
- Lowe Vandell, et al., (May-June, 2010)
- 1300 children from birth to age 15
- Compared to teens who attended low-quality care, teens who attended high-quality child care centres:
 - ✓ Score better on tests of cognitive and academic achievement
 - ✓ Fewer behavioural problems (e.g., rule breaking)
- Findings consistent among children from middle-class, low income, two-parent as well as single-parent families.



Part IV

The Developing Brain and Young Children's Social and Emotional Learning.

Understanding the human mind in biological terms has emerged as the central challenge for science in the 21st century!



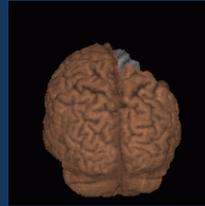
"We want to understand the biological nature of perception, learning, memory, thought, consciousness, and the limits of free will."

E.R. Kandel, 2006

Objectives

- ❖ Overview of the structure (**Anatomy**) and function (**Physiology**) of the **Nervous System**.
- ❖ Fundamental Processes of **Brain Development**
- ❖ **Neurobiological bases** of Emotions and their Connection to **Social and Emotional Learning**

Why do we Need a Nervous System?



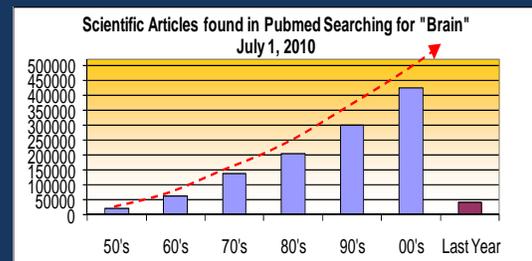
The primary function of the nervous system is: **BEHAVIOUR**

- Internal regulatory functions
- Perception of environmental events

Why do we Need to Study the Brain?

*The task of Neuroscience is to understand the mental processes by which we: **Perceive, Think, Create, Predict, Plan, Act, Remember, Learn, Feel, and Love...***

Scientific Publications About the **Brain** in the Last 60 Years



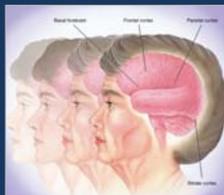
Last Year: average of 150 publications per day!!

Biology merged with other fields and turned its attention to the ultimate challenge:
To understand the biological nature of the human mind

This new science of mind is based on five principles:

1. **Mind and brain are inseparable:**

- **The brain** constructs our sensory experiences, regulates our thoughts & emotions, and controls our actions
- **The brain** is responsible for the actions that characterize us as humans



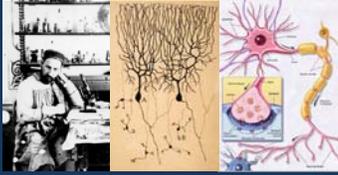
This New Science of Mind is Based on Five Principles (Cont'd):

2. **Each mental function in the brain (from a simple reflex to language, music or art) is carried out by specialized neural circuits in different areas of the brain**



This New Science of Mind is Based on Five Principles (Cont'd):

3. All of the neural circuits are made up of the same elementary signaling units: *the nerve cells (neurons)*



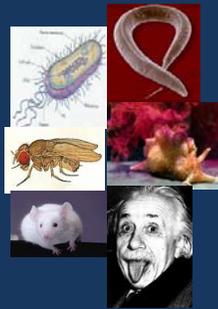
This New Science of Mind is Based on Five Principles (Cont'd):

4. The neural circuits use specific molecules to generate *signals within & between* nerve cells.



This New Science of Mind is Based on Five Principles (Cont'd):

5. These specific signaling molecules have been conserved though millions of years of evolution, from bacteria and yeast, to worms, flies, snails, rodents and humans



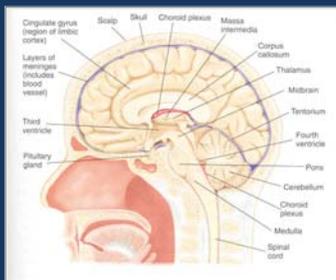
Divisions of the Nervous System

Table 3.1
The Major Divisions of the Nervous System

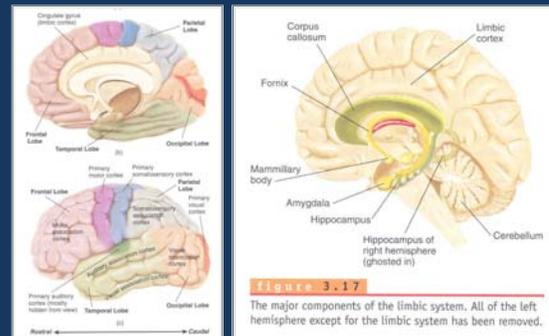
CENTRAL NERVOUS SYSTEM (CNS)	PERIPHERAL NERVOUS SYSTEM (PNS)
Brain	Nerves
Spinal cord	Peripheral ganglia



Central Nervous System (CNS)



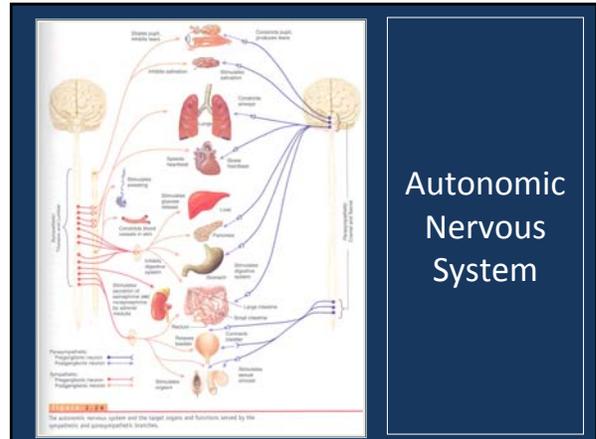
Central Nervous System



Peripheral Nervous System (PNS)

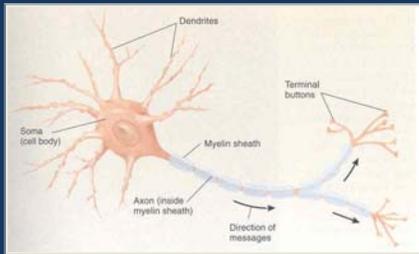
Table 3.3
The Major Divisions of the Peripheral Nervous System

SOMATIC NERVOUS SYSTEM	AUTONOMIC NERVOUS SYSTEM (ANS)
Spinal nerves Afferents from sense organs Efferents to muscles	Sympathetic branch Spinal nerves (from thoracic and lumbar regions) Sympathetic ganglia
Cranial nerves Afferents from sense organs Efferents to muscles	Parasympathetic branch Cranial nerves (3rd, 7th, 9th, and 10th) Spinal nerves (from sacral region) Parasympathetic ganglia (adjacent to target organs)

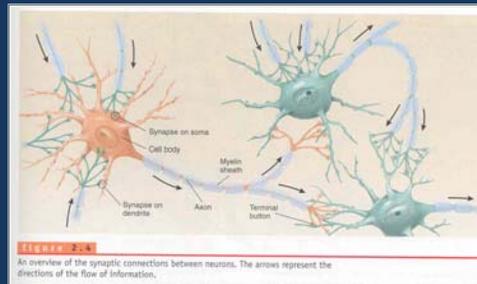


What is the Nervous System Made Out of?

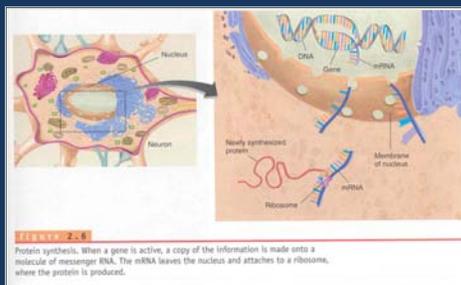
100 billion neurons and supporting (glial) cells.



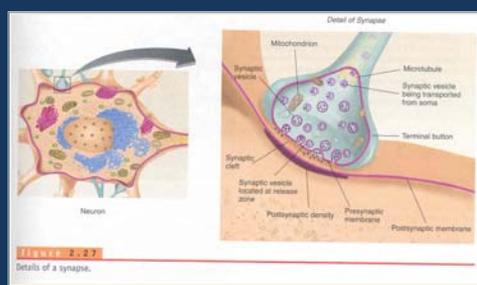
Synaptic Connections



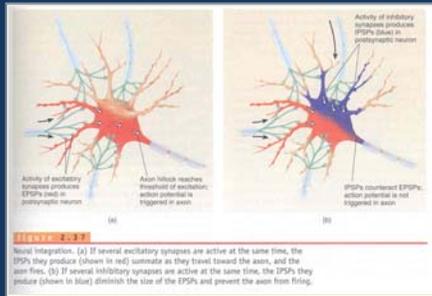
Where do Neurotransmitters Come From?



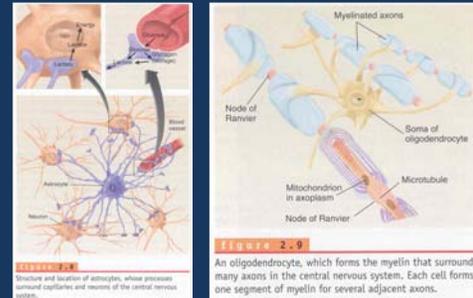
Neurotransmitters are Released at the Synapse



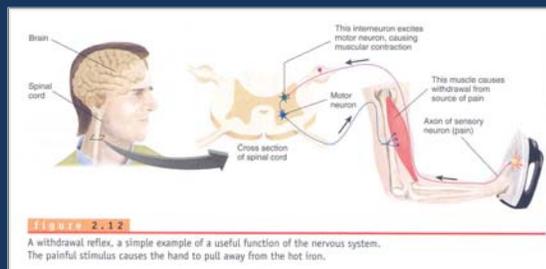
Signal Integration



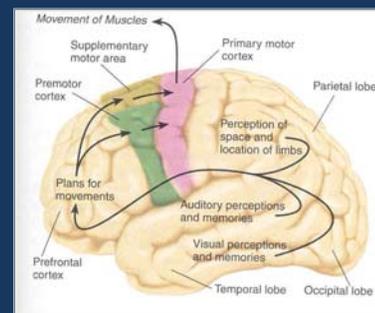
Glial Cells



Reflex: The Simplest Behaviour



Control of Complex Behaviours



The Human Brain

- Weights ~ 3 pounds (1300-1400g)
- Represents ~2% of body weight
- Reaches 90% adult weight at age 5 years
- Utilizes ~20% of total glucose at rest
- Utilizes ~25% of oxygen consumption
- At rest, the brain uses oxygen and glucose at ~10 times the rate of the rest of the body
- Is made out of 100 billion neurons (~same number of stars in the Milky Way)
- There are 10 to 50 times more glial cells
- Each neuron makes between 1 and 150,000 connections
- More genes (out of the 23,000) are active in the brain cells than in any other tissue of the body (the function of ~6,000 genes is unknown)



Which force plays a stronger developmental role:

Genes or Environment?

“Nature vs. Nurture Debate”

In reality, there is no debate.

“Most of what we are is the result of the interaction of our genes and our experiences. Genes set boundaries for human behaviour, but within these boundaries there are immense room for variation determined by experience, personal choice and even chance”

J.J. Ratey, 2001

A Structure for Deoxyribose Nucleic Acid
J. D. Watson and F. H. C. Crick
 April 25, 1953 (2), *Nature* (3), 171, 737-738

In 1962 Watson, Crick and Wilkins received the Nobel Prize in Physiology or Medicine

"for their discoveries concerning the molecular structure of nucleic acids and its significance for information transfer in living material"

DNA: The Secret of Life!

1953

Homo sapiens: 23,000 genes

Neurogenesis in the adult human hippocampus

Nature Medicine (1998) Editorial: Take comfort in human neurogenesis

The adult human brain is able to generate new neurons!

Newborn Neurons Like to Hang with the In-Crowd

May 7, 2007 Nature Neuroscience

- **Newly born neurons** in the hippocampus were marked by a **green dye** enabling the Salk researchers to follow their fate.
- **Between 3 and 4 weeks**, newborn neurons sent out dendritic filopodia.
- **Only about 50%** of all newly born neurons manage to successfully **integrate** into the existing network of brain cells, in mice living in bare standard cages.
- **Providing the mice with a stimulating, enriched environment—large cages filled with running wheels, colored tunnels and playmates—boosts the number of neurons that manage to hook up with the existing network to 80%.**

Using one's brain cells is the best way to optimize brain function throughout one's lifetime!

2006 SB Half Marathon (21.1 Km)
 Vancouver, Canada

© 1997 Randy Glasbergen. E-mail: randy@glasbergen.com www.glasbergen.com

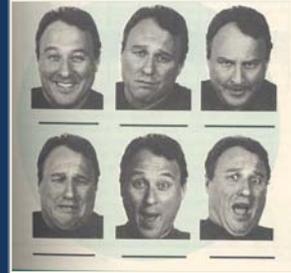
GLASBERGEN

"You always complain that I don't know how to show my emotions, so I made these signs."

Brain & Emotion

- ❖ An **emotional state** has two components:
 1. One evident in a characteristic physical sensation: **emotion** (to move)
 2. The other as a conscious sensation **feeling**.
- ❖ Emotions are adaptive.

Basic Emotions

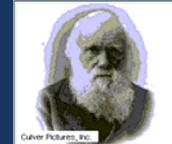
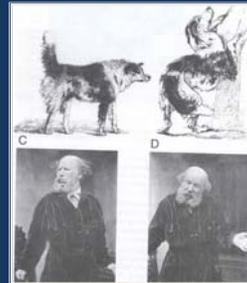


- ❖ **Happiness**
- ❖ **Sadness**
- ❖ **Anger**
- ❖ **Disgust**
- ❖ **Surprise**
- ❖ **Fear**

How are Feelings and Emotion Represented in the Brain?

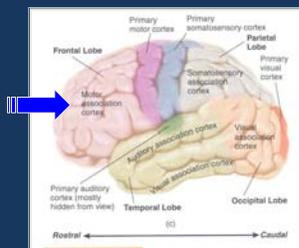
- **Affective Neuroscience** studies this question
- Psychologists, psychiatrist, neurologists, philosophers, and biologists bring together their knowledge to seek a better **understanding of emotions and feelings at the neurobiological and psychological levels**
- Techniques: functional neuroimaging, behavioural experiments, electrophysiological recordings, etc., (Dalgleish, 2004).

138 years ago... *The Expression of the Emotions in Man and Animals* by **Charles Darwin**, are the foundations for the now: Affective Neuroscience



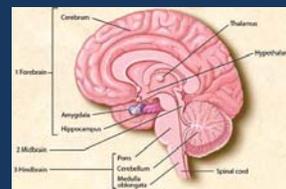
- Emotions are **not unique** to humans
- A limited set of basic emotions are present across **species** and across **cultures**

Where Emotions Come From?



- ❖ **Distinct** nerve cell **circuits** within the brain mediate emotional states and feelings
- ❖ Conscious feeling is mediated mainly by the **cerebral cortex** of the **frontal lobes**

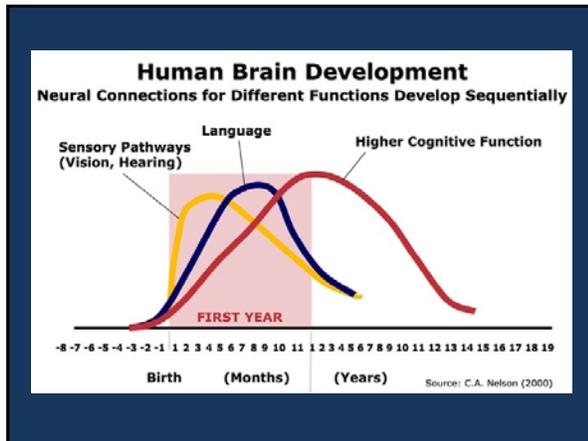
Where Emotions Come From (Cont'd)?



Emotional states are mediated by a family of peripheral, autonomic, hormonal, and muscular responses controlled by:

- ❖ the **amygdala**,
- ❖ the **hypothalamus**,
- ❖ and the **brain stem**.

These automatic (unconscious) components of emotion **prepare** the body for action and **communicate** our emotional states to other people.



Fundamental Processes of Brain Development and their Connection to SEL

- **Inadequate social and emotional experiences** in the **early** environment could result in compromised higher level neural systems whose task is to provide information necessary to **bond, imitate, and respond in socially appropriate ways**
- The best current strategy **to prevent** these difficulties is to create sufficient **enriched environments** so that critical period developments proceed optimally

Importance of Neuroplasticity for Research on Social-Emotional Learning

- **Environmental factors**, particularly the affective environment in early life, produce experience-dependent **changes** in brain structure and function
- The brains of our children are **constantly being shaped**, literally molded by experience, both of a negative and positive sort
- We must take the reins and **promote positive brain changes** by cultivating healthy social-emotional habits.

Brain Plasticity

- Brain structure is constantly modified, **chemical synapses can be modified** during development, **through experience and learning** (Kandel et al., 2000).
- **Emotional experiences** have the potential to **generate plastic changes** in brain circuits that not only influence how children respond to emotional signals form their social environment, but also how they perceive, interpret and understand these signals (Goldsmith, Pollak, & Davidson, 2008).

Environment Effects on Brain Development

- An **enriched environment** provides optimal conditions for enhanced exploration, cognitive activity, social interaction and physical exercise (Sale, Berardi, & Maffei, 2009).
- This kind of stimulation has a variety of effects on the brain, which have been documented in several species of mammals from mice and rats up to cats and monkeys.

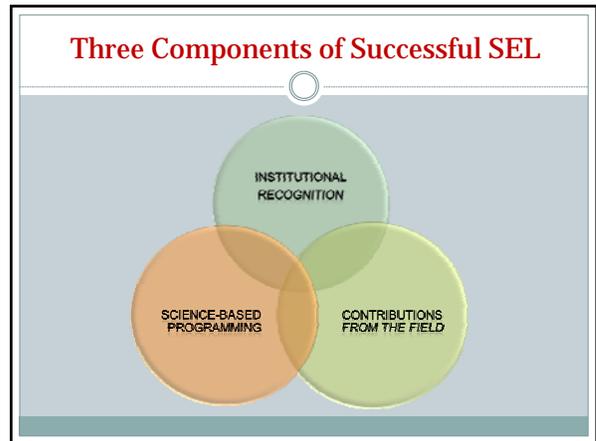
Development of Emotion Regulation and Prevention

New advances in affective and cognitive neuroscience will help to explain **how affective environment** (e.g., social and emotional learning preventive interventions) **in early life produces experience-dependent changes in brain structure and function** that underlie behavioural outcomes.

(Goldsmith et al., 2008); (Diamond et al., 2007; Greenberg, 2006)

Part V

How Can We Nurture Social and Emotional Learning's Growth?



BC's Performance Standards for Social Responsibility

"Provides a framework that schools and families can use to focus and monitor their efforts to enhance social responsibility among students and to improve the social climate of their schools."

Social and Emotional Teaching Strategies: Some Examples

(Center on the Social and Emotional Foundations for Early Learning)
<http://www.vanderbilt.edu/csefel/>

- ### Strategies for Developing Friendship Skills
- 
- ❖ Modeling
 - ❖ Modeling with video
 - ❖ Modeling with puppets
 - ❖ Preparing peer partners
 - ❖ Buddy system
 - ❖ Direct modeling
- Taken from: Center on the Social and Emotional Foundations for Early Learning

- ### Activities to Support the Development of Friendship Skills
- 
- ❖ Friendship Can
 - ❖ Planting Seeds of Friendship
 - ❖ Friendship Tree/Compliment Tree
 - ❖ Books about Friendships
 - ❖ Friendship Quilt
 - ❖ Friendship Journal
 - ❖ Music/Songs
- Taken from: Center on the Social and Emotional Foundations for Early Learning

Activity "Table Talk"

With your table mates...

Write a list of feeling words that you would most want to teach the children you work with

Taken from: Center on the Social and Emotional Foundations for Early Learning

Enhancing Emotional Literacy...

- ❖ Direct Teaching
- ❖ Indirect Teaching
- ❖ Use of Songs and Games
- ❖ How would you feel if...?
- ❖ Checking In
- ❖ Use of Children's Literature

Taken from: Center on the Social and Emotional Foundations for Early Learning

Direct Teaching of Feeling Vocabulary



Taken from: Center on the Social and Emotional Foundations for Early Learning

Classroom Example



Taken from: Center on the Social and Emotional Foundations for Early Learning

Example



Taken from: Center on the Social and Emotional Foundations for Early Learning

Indirect Teaching



Provide emotional labels as children experience various affective states

Taken from: Center on the Social and Emotional Foundations for Early Learning

Use of Songs and Games Sample Song

❖ *If you are happy and you know it...add new verses to teach feelings*

- *If you're sad and you know it, cry a tear.. "boo hoo"*
- *If you're mad and you know it, use your words "I'm mad"*
- *If you're scared and you know it ask for help, "help me"*
- *If you're happy and you know it, hug a friend*
- *If you're tired and you know it, give a yawn.*

Taken from: Center on the Social and Emotional Foundations for Early Learning

Sample Game

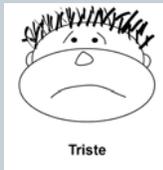
- ❖ **How does your face look when you feel proud?**
- ❖ **What makes you feel proud?**



Taken from: Center on the Social and Emotional Foundations for Early Learning

Sample Game

Make a _____ face.



Triste



Alegre



Frustrado

Taken from: Center on the Social and Emotional Foundations for Early Learning

Play: How Would You Feel If?

❖ *Discuss typical situations that happen when children are together: "How would you feel if this happened to you?"*

- *Example: James wanted to play ball with Katie and Stephen today, but they wouldn't let him. How do you think that made him feel? How do you think you would feel if that happened to you? What could James try next time?*

Taken from: Center on the Social and Emotional Foundations for Early Learning

Checking In...

❖ **Teachers and children can "check in" each morning by choosing a feeling face that best describes their affective state and putting it next to their name. Children can be encouraged to change their feeling faces throughout the day as their feelings change.**

How do you feel today?



Taken from: Center on the Social and Emotional Foundations for Early Learning

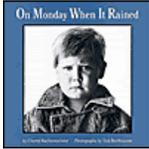
Use of Children's Literature



Taken from: Center on the Social and Emotional Foundations for Early Learning

Book Examples...

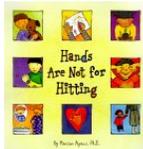
*On Monday
When
it Rained*



*Glad Monster
Sad Monster*



*Hands Are Not
for Hitting*



Taken from: Center on the Social and Emotional Foundations for Early Learning

Characteristics of Early Childhood Settings That Foster Emotional Literacy

- ❖ Books about feelings are read and are available in the story center
- ❖ Photos of people with various emotional expressions are displayed
- ❖ Teachers label their own feelings
- ❖ Teachers notice and label children's feelings
- ❖ Activities are planned to teach and reinforce emotional literacy
- ❖ Children are reinforced for using feeling words
- ❖ Efforts occur daily

Taken from: Center on the Social and Emotional Foundations for Early Learning

Teaching Empathy

- ❖ *Model empathy*
- ❖ *"Alike" & "different" activities*
- ❖ *Draw children's attention to how others are feeling*
- ❖ *Reinforce empathy behaviors*

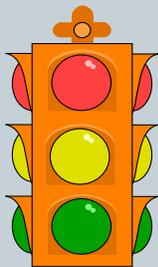
Taken from: Center on the Social and Emotional Foundations for Early Learning

Controlling Anger and Impulse

- ❖ Recognizing that anger can interfere with problem solving
- ❖ Learning how to recognize anger in oneself and others
- ❖ Learning how to calm down
- ❖ Understanding appropriate ways to express anger

Taken from: Center on the Social and Emotional Foundations for Early Learning

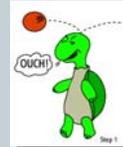
When You Have A Problem



- **STOP, CALM DOWN, & THINK** before you act
- Say the **PROBLEM** and how you **FEEL**
- Set a **POSITIVE GOAL**
- Think of lots of **SOLUTIONS**
- Think ahead to the **CONSEQUENCES**
- **GO** ahead and **TRY** the **BEST PLAN**

Turtle Technique

Recognize that you feel angry.



"Think" Stop.

Go into shell. Take 3 deep breathes. And think calm, coping thoughts.



Come out of shell when calm and think of a solution.

Problem Solving Steps

What is my problem?

Step 1

Think, think, think of some solutions.

What would happen?

Step 3

Give it a try!

Step 4

Would it be safe?
 Would it be fair?
 How would everyone feel?

The Solution Kit...Some ideas!

Get a Teacher

Wait and take turns.

Taken from: Center on the Social and Emotional Foundations for Early Learning

Happiness Boosters

The Breakfast Club

Breakfast Club 'heroes without the spotlight'

Students aren't just bringing their ABC's to school. They are also bringing their desire to help, with incredible results. And it's not just about the school. It's about the community.

By Melissa Strassman
LOS ANGELES

CARING KIDS, CARING SCHOOLS

A 7th-grader's desire to help others led to the creation of a club that has become a model for other schools.

It's been long known that kindness and compassion are important to a child's development. Last Christmas, the club managed to raise \$100,000 for a charity that helps children in need.

And it's still growing. The club has a list of about 100 members that are all active in their own ways.

It's been long known that kindness and compassion are important to a child's development. Last Christmas, the club managed to raise \$100,000 for a charity that helps children in need.

And it's still growing. The club has a list of about 100 members that are all active in their own ways.

Universal Social Competence Promotion Programs: Some Examples

Safe and Sound: An Educational Leader's Guide to Social and Emotional Learning Programs

Safe and Sound: Ratings of 80 Nationally Available SEL Programs

Ratings on Five key SEL competencies:

- ❖ Program effectiveness: Provides evidence of impact on student behaviors from well-designed studies
- ❖ Provides on-going support for professional development
- ❖ Promotes consistent use of student assessment tools
- ❖ Promotes use of classroom implementation supports to assess progress and guide improvement
- ❖ School-wide coordination, family partnerships, community partnerships

Program Name	Year	Program Type	Program Duration	Program Objectives										Program Evaluation		
				1	2	3	4	5	6	7	8	9	10			
Aban Aga Youth Project: 1996-97	9-8	VF	1000	●	●	●	●	●	●	●	●	●	●	●	●	●
A's For Kids Making Healthy Choices: 1998, 1999	9-10	VF	1000	●	●	●	●	●	●	●	●	●	●	●	●	●
Americans At: 1992	9-10	VF	1000	●	●	●	●	●	●	●	●	●	●	●	●	●
BrainWare™: 2002	9-10	VF	1000	●	●	●	●	●	●	●	●	●	●	●	●	●
Caring School Community (Child Development Project): 1994-99	9-10	VF	1000	●	●	●	●	●	●	●	●	●	●	●	●	●
Community of Caring (Growing Up Caring): 1999	9-10	VF	1000	●	●	●	●	●	●	●	●	●	●	●	●	●
Comprehensive Health for the Middle Grades: 1998	9-10	VF	1000	●	●	●	●	●	●	●	●	●	●	●	●	●

Representative Programs

- ❖ **Link between theory and practice:** Theoretical framework that is based in what we know about risk and protective factors
- ❖ **Developmental evaluation methodology:** Consider the developmental tasks of children face as well as the varying contexts that will challenge social and emotional competence
- ❖ Assessment of **implementation** promotion and integrity.
- ❖ Have **empirical support**
- ❖ Examine the link between **exposure (dosage)** to outcomes.

Social and Emotional Learning Programs

SEL Programs

- ❖ Examples of universal prevention programming in the SEL area.
- ❖ Curriculum for preschool-aged children.
- ❖ Have been selected based on the guidelines developed by CASEL for effective social and emotional learning programs.
- ❖ Guidelines for the evaluation of other SEL Program.
- ❖ Empirical evidence of program effectiveness and program implementation is required.

PATHS/Preschool PATHS

- **Areas Targeted:** Emotional awareness, self-control, interpersonal problem solving, peer relationships
- **Preschool PATHS:** Adaptation of the Promoting Alternative Thinking Strategies curriculum (PATHS) – universal, teacher-taught SEL curriculum designed to improve children's social competence and reduce problem behaviours.
- **Based on the ABCD (Affective-Behavioural-Cognitive-Dynamic)** model of development (Greenberg & Kusche, 1993; Greenberg, Kusche, & Speltz, 1991).
- **Age Group:** Preschool/K-6
- **Components:**
 - 30-45 lessons, main areas:
 - ID feelings
 - Relaxation through deep breathing
 - Perspective taking
 - Study skills



(Conduct Problems Prevention Research Group, 1999/Greenberg & Kusche, 1998)

PATHS/Preschool PATHS Evidence-Based and Proven Effectiveness!

Domitrovich, Cortes, & Greenberg
The Journal of Primary Prevention, 2007

- ❖ Randomized clinical trial with a wait-list control group – 246 preschool children in Head Start.
- ❖ Child assessments and teacher and parent reports of child behaviour assessments.
- ❖ Students exposed to the **PATHS Preschool** program scored significantly higher on standardized tests of emotional and social competence than students not exposed to the program

Improving Young Children's Social and Emotional Competence: A Randomized Trial of the Preschool "PATHS" Curriculum
 Robert E. Domitrovich, Rebecca C. Cortes, and Mark S. Greenberg
 Submitted: 10/2007

This paper reports the results from a randomized clinical trial evaluating an adaptation of the Promoting Alternative Thinking Strategies curriculum (PATHS) for preschool-age children in Head Start. PATHS is a universal, teacher-rated SEL curriculum designed to improve children's social competence and reduce problem behaviours. Results demonstrate that the PATHS curriculum, compared to the wait-list control, had a significant positive impact on children's social and emotional competence. Results also indicate that the PATHS curriculum had a significant positive impact on children's social and emotional competence. Results also indicate that the PATHS curriculum had a significant positive impact on children's social and emotional competence. Results also indicate that the PATHS curriculum had a significant positive impact on children's social and emotional competence.

Tools of the Mind

- ❖ **Areas Targeted:** Children's Executive Function Skills (EFs) (inhibitory control of attention and action (i.e., resisting habits, temptations, or distractions), working memory (i.e., mentally holding and using information), and cognitive flexibility (i.e., adjusting to change):
- ❖ EFs: Critical for success in school and life.
- ❖ **Age Group:** Preschool
- ❖ **Components:**
 - 40 activities
 - Children working in pairs or engaging in pretend play
 - Applies theories of Luria and Vygotsky



(Bodrova & Leong, 2007)

Tools of the Mind Evidence-Based and Proven Effectiveness!

Diamond, Steven-Barnett, Thomas, & Munro
Science, 2007

- ❖ Evaluation for the first time of the effectiveness on EFs of the "Tools of the Mind".
- ❖ 147 five-year-olds in a low-income, urban school district in the Northeast
- ❖ Comparison of the "Tools of the Mind" to another curriculum – that covered the same academic content but did not address EFs.
- ❖ Participants were well-matched and differed only in exposure.
- ❖ The "Tools of the Mind" program improves EFs in preschoolers in regular classrooms with regular teachers at minimal expense.
- ❖ Exposure to program accounted for more variance in executive functions that age or gender and reminded significant when controlled for those.
- ❖ Improving cognitive control improves academic performance.



Conclusions

- ❖ It is critical to the future of our society that we identify the factors that assist children to become competent, caring adults and productive citizens.
- ❖ We all share a stake in the development of children's emotional and social competence and in identifying the processes that facilitate or undermine it.
- ❖ The research supports the need for coordinated efforts that attend to the promotion of children's positive academic and social-emotional development.

Take Home Messages

- ❖ The preschool years are a **transitional point in development** – one in which there is an increased time of risk – as well as an opportunity for intervention and prevention.
- ❖ There is an inextricable link between **social emotional competence and school success** – this link becomes particularly salient during the transition to kindergarten.
- ❖ All research points to the **importance of fostering young children's social and emotional development**.

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A Few Useful Websites

- ❖ www.casel.org Centre for Academic and Social and Emotional Learning
- ❖ <http://www.goodcharacter.com/> (some good teaching guides)
- ❖ <http://www.esrnational.org/> Educators for Social Responsibility
- ❖ <http://www.uic.edu/orgs/ame/> Association for Moral Education
- ❖ <http://www.casel.org/PromotingAcademicAchievement.pdf> (a paper linking social - emotional learning to achievement)
- ❖ <http://www.whitehouse.gov/infocus/character/character-community-conf.pdf> (papers presented at a conference on character and community presented at the Whitehouse in June, 2002)
- ❖ <http://www.prevention.psu.edu/> (prevention programs and research)
- ❖ <http://www.colorado.edu/cspv/blueprints/Default.htm> (Model programs)
- ❖ <http://tiger.uic.edu/~lucchi/MoralEd/> (Resources and research in moral education)

Useful Websites (cont'd)

- ❖ **Development Studies Center** (<http://www.devstu.org/>)
This center is dedicated to children's intellectual, ethical and social development. This site is a great resource for teachers. It outlines the center's school-based program as well as after school programs. Parents should check it out too. The center's website gives parents some direction in terms of their involvement in their children's development. It's a very comprehensive site.
- ❖ **Studies in Moral Development and Education** (<http://www.uic.edu/~lucchi/MoralEd/>)
This provides a very in-depth look at moral development. There are links to the latest practices and activities in the area of moral development. It highlights featured articles on issues of moral development and books of interest. You can also visit this site to see some of the classroom practices that are associated with moral development or join the mailing list. It's all here!
- ❖ **Center for the Fourth and Fifth Rs: Respect and Responsibility** (<http://www.conf4and5r.edu/www/c4r5r/>)
This center serves as regional, state, and national resource in character education. A growing national movement, character education is essential to the task of building a moral society and developing schools which are civil and caring communities. THE CENTER disseminates articles on character education, sponsors an annual summer institute in character education, publishes a Fourth and Fifth Rs newsletter, and is building a network of "Fourth and Fifth Rs Schools" committed to teaching respect, responsibility and other core ethical virtues as the basis of good character. Character education holds that there are universally important ethical virtues such as respect, responsibility, trustworthiness, fairness, caring, courage, self-control, and diligence. Character means living by these core virtues – understanding them, caring about them, and acting upon them.
- ❖ **Roots of Empathy: Primary Prevention Program** (<http://www.roots-of-empathy.org/>)
This website provides detailed information about a classroom-based prevention program designed to foster empathy and prevent antisocial/aggressive in children in grades Kindergarten to grade 8. What is Roots of Empathy™? It's a rich, vital, and highly rewarding classroom parenting Roots of Empathy™ that teaches human development and nurtures the growth of empathy. A baby and parent(s) visit a classroom once a month for a 10-month period. A Roots of Empathy™ instructor works with students before, during, and after each visit. Students learn about parenting, about themselves, about how others feel, and teachers almost always learn something new about their students. All the learnings springboard from visits with the baby.
- ❖ **The Search Institute** (<http://www.search-institute.org/>)
(From the description on the web) Search Institute is an independent, nonprofit, nonsectarian organization whose mission is to advance the well-being of adolescents and children by generating knowledge and promoting its application. Search Institute conducts research and evaluation, develops publications and practical tools, and provides training and technical assistance. The institute collaborates with others to promote long-term organizational, and cultural change that supports the healthy development of all children and adolescents.



Thank you!

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