

# Early Childhood and Poverty

## Summary of Research

### June 2012

The following report was developed by the NWT Literacy Council with assistance from Alternatives North. It presents an overview of recent research findings in the area of early childhood including how early childhood is affected by poverty and the importance of supporting families during early childhood years. The report is prepared as a resource for the first roundtable for an NWT Anti-poverty strategy in June 2012.

The report is divided into several areas:

- Brain Development in the Early Years
- Impact of Stress on Developing Brain
- Importance of Relationships
- Impact of Chronic Parental Stress
- Impact of Poverty
- Importance of Building a Strong Foundation
- Greater equality improves the well-being of the whole population
- Quebec as a Model
- References

Format: A summary of main points starts each section. This is followed by a main quote that helps to summarize the issue. After this, other significant statements are presented. Quotes are marked in quotation marks. Referenced statements without quote marks are a summary or paraphrase of a section of a referenced document. Statements without a reference represent our summary. References are provided at the end of the report. There are many themes in this summary that could be further developed. Hopefully this introduction will help to stimulate interest in early childhood and build a conviction about its importance.

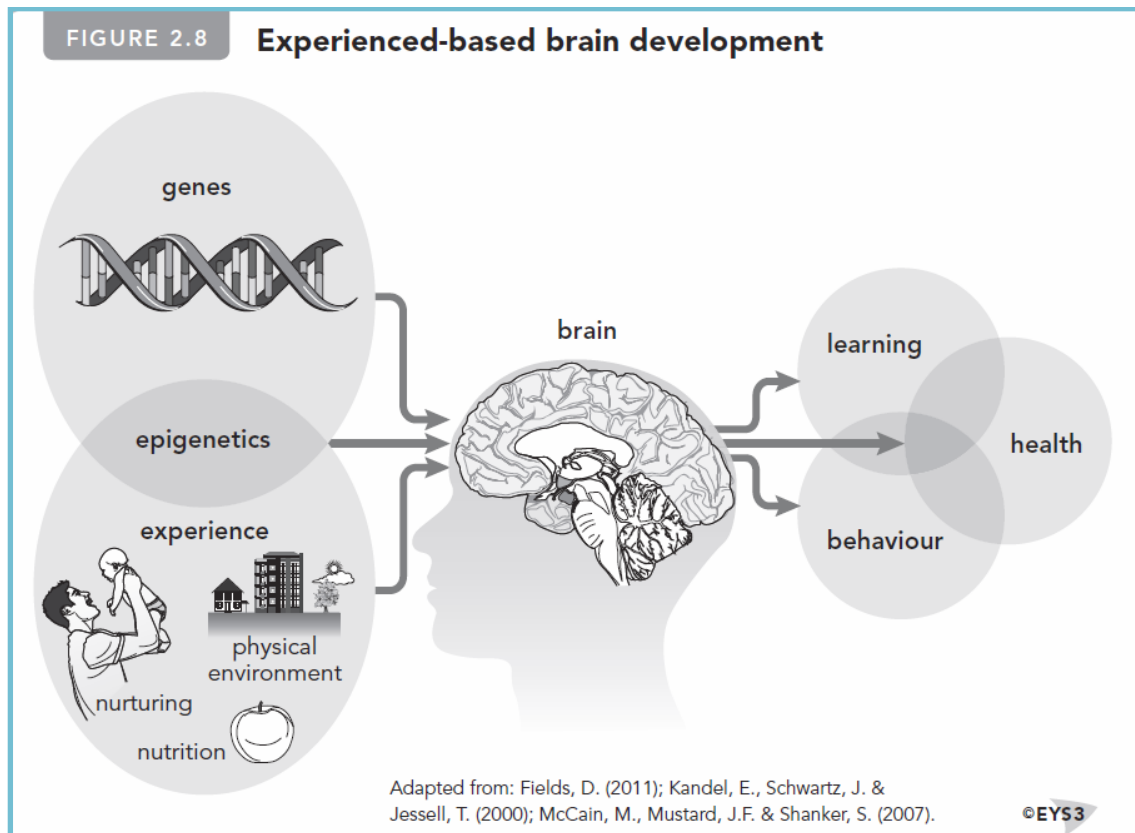


## Importance of Brain Development in the Early Years

- Brains are, quite literally, being built during the early years, especially the first three years.
- The brain is built by making connections and “pathways” between brain cells. Everything we experience makes connections and “sculpts” the brain.
- Epigenetics describes how environmental factors - experiences and relationships – affect the expression of genes.

"From the prenatal period for the first years of life, the brain undergoes its most rapid development and early experiences determine whether its architecture is sturdy or fragile. During early sensitive periods of development the brain's circuitry is most open to the influence of external experiences for better or worse.

(1)



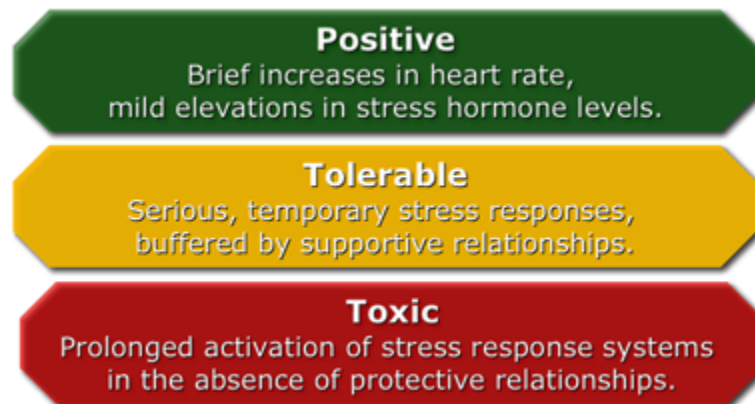
- The brain is sculpted by a lifetime of experiences. ..The most important time for the effect of experience on the brain is the first years of life. (10)
- “Everything in the infant environment contributes to her experience and brain development.” (11)

- “...the brain ...continues to develop long after birth. During the first few years of life this development takes place at an incredible rate, with the brain tripling in size by the time a child reaches three.” (11)
- “...brain development is not determined solely by either genes or the environment, but rather through an interaction between the two.” (11)
- “Early experiences affect how genes are expressed and how brain connections are built.” (11) (this is called epigenetics)

## Impact of Stress on Developing Brain

- **Excessive stress disrupts the architecture of the developing brain.**
- **Toxic stress (bad stress) affects a child’s development including ability to learn, and physical and mental health.**
- **Early childhood stress is linked to later diabetes, obesity, addictions and heart disease.**

"Toxic stress can damage developing brain architecture and create a short fuse for the body’s stress response systems that leads to lifelong problems in learning, behavior, and both physical and mental health." (8)

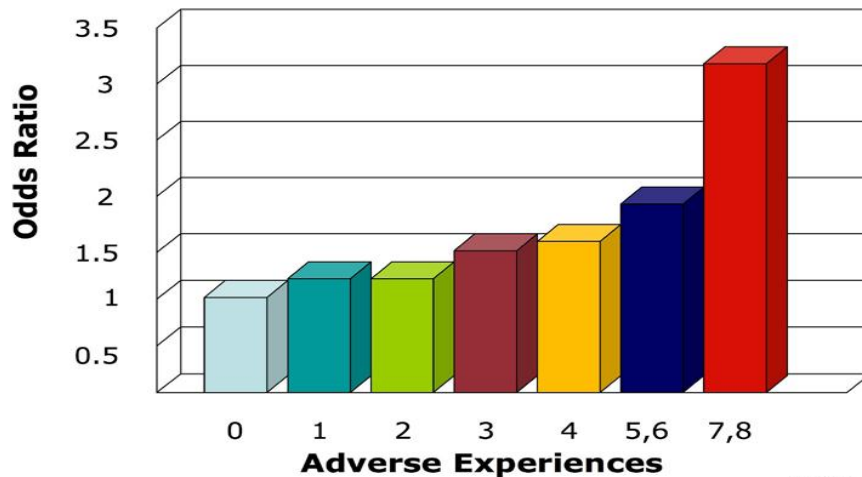


- "Toxic stress response can occur when a child experiences strong, frequent, and /or prolonged adversity—such as physical or emotional abuse, chronic neglect, caregiver substance abuse or mental illness, exposure to violence, and/or the accumulated burdens of family economic hardship—without adequate adult support... The more adverse experiences in childhood, the greater the likelihood of developmental delays and later health problems, including heart disease, diabetes, substance abuse, and depression. Research also shows that supportive, responsive relationships with caring adults as early in life as possible can prevent or reverse the damaging effect of toxic stress response." (4)

- "Children who grow up in families facing economic hardship are more likely to experience fear-inducing events, and commonly show elevated cortisol (stress hormone) levels." Long-lasting or frequent activation of body's stress-response systems can have serious developmental consequences, which can affect learning, mental health, and physical health throughout life. (3)
- "...one of the largest studies ever conducted on the links between childhood maltreatment and health in later life...revealed that negative early childhood experiences, including child abuse and household dysfunction, are associated with higher incidence of mental health problems, addiction, obesity, type 2 diabetes, high blood pressure and heart disease in adolescence and adulthood." (2:44)
- "Though our brains retain the capacity to change and adapt even as we age, once it develops, the exaggerated response to toxic stress never goes away, with costly consequences for both children and society." (5)



### Risk Factors for Adult Heart Disease are Embedded in Adverse Childhood Experiences



Source: Dong et al, 2004

### Importance of Relationships

- **Caring relationships are crucial to a child's development.**
- **Families play the key role.**

Healthy development occurs in the context of a relationship. Those relationships, for good or ill, will tell the story of how the child develops. Development in the first few years lays the foundation for everything that follows. (12)



- In order to develop properly, all children, from birth, need at least one continuous, caring relationship with an adult who will respond when the child is distressed, and provide the security a child needs to explore her environment.
- "The absence of supportive family environments harms child outcomes." (9:50)
- "In shaping adult outcomes, the family plays a powerful role that is not fully appreciated in current policies around the world. Any proposed program should respect the primacy of the family." (9:56)

### **Impact of Chronic Parental Stress**

- **Stress affects pregnant mothers and hinders prenatal and early development.**
- **In order to raise healthy children, parents and caregivers must be healthy and free from too much stress.**
- **Families need support to raise their children.**
- **Poverty puts families and children at risk for higher stress level.**

"The more harried parents are, the less likely they are able to engage positively with their children. Chronic parental stress “drips down” on children; researchers have connected chronic parent stress to the poor academic record of their children." (2:19)



- “Researchers now believe that the pregnant mother’s stress level and emotional well-being are potent influences on how genes are expressed and on brain and biological development at birth and beyond.” (2:36)
- “Most new mothers, and up to 25 percent of new fathers, experience depressive symptoms that range from very mild to quite severe.” (2:18)
- “Depression disrupts the mother-infant relationship and increases the risk of learning, emotional, and behavioural disorders for children.” (2:18)
- “Across Canada, Aboriginal children are twice as likely to live with a lone parent or other relative as non-Aboriginal children and are more likely to be born to a teenage mother.” (2:25)
- "Just having children puts couples at a 40 percent risk of poverty. Lone parents have a one in two chance of being poor." (2:17)
- Family economic well-being is highly dependent on mothers working. The rate of poverty in one-income households is 21%, but drops to 4% in two-income households. (2)

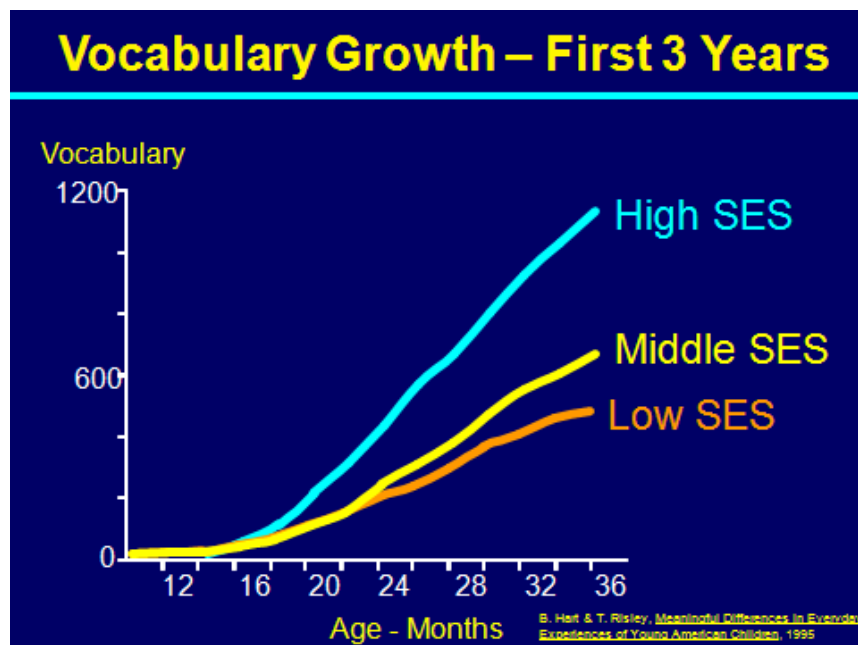
## Impact of Poverty

➤ **Poverty affects a child’s development, ability to learn, vocabulary, elementary and high school performance and future employment options.**

"There is a mass of evidence describing how children suffer as a result of poverty. Impaired development, poorer health and school achievement, greater welfare dependency and other consequences are costly to individual children and to a country’s economic and social well-being." (6:4)



- "As socioeconomic circumstances improve on average, so do measures of better learning, behavior, and health. As socioeconomic circumstances diminish, so do these same outcomes. Early childhood socioeconomic status is linked to learning, behaviour, and health outcomes in early life and beyond. These outcomes are associated with each other. Low literacy rates are associated with more health problems." (2)
- At the age of one year, babies stop producing sounds they are not hearing. Early language exposure at home predicts the size of children's growing vocabulary and later verbal skills and literacy skills. One study showed that by age 4, children in affluent homes hear 30 million more words and have vocabularies that are three times larger than children in low-income families. Children with poor verbal skills at age 3 are likely to do poorly in language and literacy when they enter school, and many go on to have poor academic careers. (2:38 and 28)



- "Family income directs parents' child care options. The less affluent the family, the less likely their children are to attend an ECE centre." (2:11)
- The quality and duration of ECE influence educational achievement and success, from elementary school through high school, post-secondary education and employment. (2:8 and 9)
- "About 50% of the variance in inequality in life time earnings is determined by age 18." (9:56)
- " That there are many exceptions—children who grow up in economically poor families who go on to do well—does not alter the fact that childhood poverty is strongly associated with poor outcomes for individuals and for their societies." (6:4)

## Build a Strong Foundation

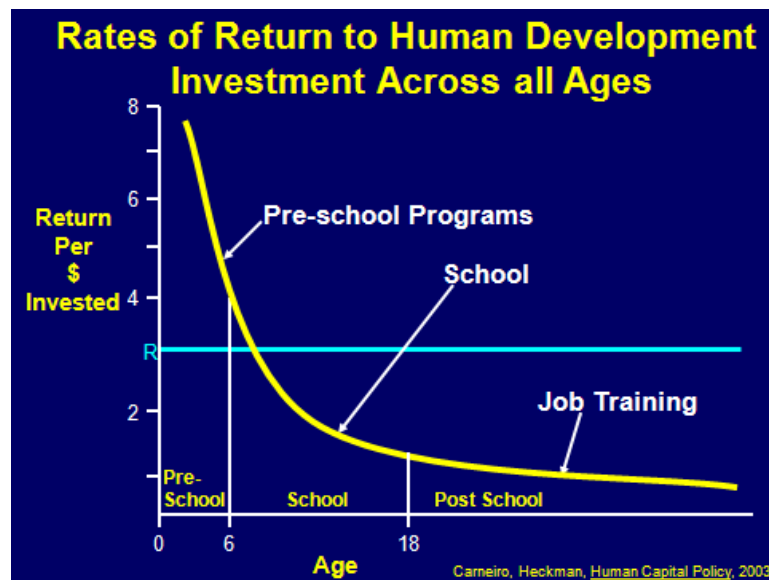
- **Many children arrive in kindergarten with gaps in their development.**
- **Children living in poverty are more likely to have gaps but gaps occur at all levels of socioeconomic status.**
- **Poor readiness for kindergarten affects later school performance.**
- **Universal early childhood programs with focus on supporting families are required.**
- **Building a strong foundation early is easier, and less costly to the individual and society, than trying to fix things later.**

"The developmental gap that emerges so soon after birth for so many children not only robs individual potential, it also creates an unsustainable burden for our education, health, and mental health systems. It deprives the economy of productive capacity and society engaged, contributing participants." (2:3)





- "When detected early, studies have found positive results from expanding the mother's support network, group counselling and even classes in baby massage. Early childhood programs provide a non-judgemental, nurturing environment for early childhood and health professionals to meet regularly with new parents and their babies and respond as needed." (2:18)
- Reducing one incident of maternal depression would more than pay for itself. (2:18)
- "Country-wide data shows that more than one in four children arrive at kindergarten with vulnerabilities that make them more likely to fail in school. Children who have trouble coping in kindergarten are less likely to graduate from high school or go on to post-secondary education. As adults they are more likely to fail in their personal relationships and have difficulties finding steady work. They are also more likely to become sick, addicted or depressed." (2:16)
- "Even with expensive interventions by schools, it is often too late to change the trajectory for the numbers of 5-year-olds who are ill-prepared for kindergarten. Many will not graduate high school; one in five Canadians do not...the annual public cost of one early school leaver (is) \$7,515 annually, a figure derived from a combination of lost tax revenue and increased spending on unemployment insurance and social assistance, and increased costs to the criminal justice system. The cost to the individual is even higher, at \$11,589 in diminished health and income. Annually, the public costs for a cohort (generation group) of early school leavers total \$2.62 billion. Costs are estimated in the hundreds of billions of dollars when aggregated over the expected lifetimes of each cohort of dropouts across Canada." (2:19)



- "The benefits from high-quality early education and care have been firmly established, but poor-quality programs can be worse than nothing." (2:3)
- "The problem is that programs for poor people become poor programs." (2:16)
- "Low cost services that have little impact are a waste of money. Responsible investments focus on effective programs that are well implemented and improved continuously." (8)

## Greater equality improves the well-being of the whole population. (2)

- **Investing in early childhood helps us all and has a high economic return.**
- **Children from families at all income levels need access to quality early childhood education and care.**
- **OECD countries have started to invest heavily in early childhood.**
- **The participation of women in the work force is important to reducing poverty levels.**

"Not surprisingly, children from poor families are more likely to be vulnerable than are children from higher income families. What is surprising is that vulnerable children also come from middle and upper income families in large numbers...What this should tell us is that no specific population group can be exclusively targeted for intervention in the early childhood years...Vulnerability cuts across all groups." (7:4)



- “Vocabulary skills in preschool are closely related to later academic competency, which influences adult SES...although the percentage of children with delayed vocabulary is (greater) in low income families, poor children form a relatively small group in the overall *number* of children having difficulty...the vulnerability gap between children from poor families and children from moderate income families is as great as the gap between children living in moderate income families and those who are affluent.”  
“Universal access promotes equity.” (13:10)
- “Poor children face a string of disadvantages that middle class children may not confront, but there is still room for concern. The learning gap between middle income children and those born to the wealthy is just as big as the gap that separates low-income children from

the middle class. Middle class children, particularly boys, drop out of school at alarming rates and with lifelong consequences.” (2:16)

- ECE is economic development with a very high public return. It is a big job creator, it supports the labour market by allowing parents to work, and generates about 90 cents in tax revenue for every dollar invested. (13:14)
- OECD countries, driven by the massive body of research showing the importance and benefits of EC care and education, have invested heavily in early childhood programs for all children, not only the children of working parents. (2:15)
- “...equity in early human development requires others to support the mother and her children during early development. Investing in expectant mothers and their young children is a powerful equalizer and a key tool for economic and social stability. States that invest in women as active members of the labour force show much better population performance in education, behaviour and health than countries that do not invest.” (2:7-8)

## Quebec as a Model

- **Quebec has a decade long experience with subsidized early childhood programs.**
- **This initiative has had significant impact on participation of women in the workforce and decreasing of poverty rates.**
- **It has resulted in better academic performance for children.**

“In addition, childhood programs that allow mothers to work have slashed Quebec’s child poverty rated by 50 percent.” (2:2)



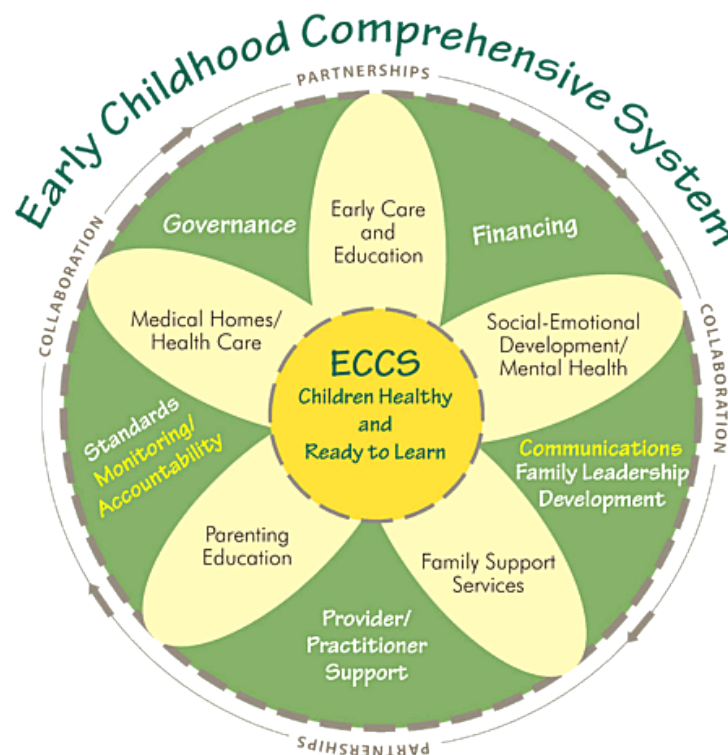
- “An on-the-ground example comes from Quebec’s decade-long experience with early education as a universal program. A team of Montreal economists quantified that an additional 70,000 women are in the labour force because of low-cost child care. The combination of increased taxes the mothers pay, plus reduced levels of the benefits they

claim, more than pays for the entire cost of Quebec’s program, plus it sends \$717-million to the federal government.” (13:16)

- “In just a decade, Quebec has gone from the bottom to the top of many important social indicators. From having Canada’s lowest female labour participation, it now has the highest. Where Quebec women were once less likely to attend post-secondary education than their counterparts in the rest of Canada, today they dominate. At the same time, student scores on standardized tests have gone from below the Canadian average to above.” (2:2)

### Closing remark:

The early childhood years offer are a period of major growth and development and as illustrated below, require a multi-pronged approach to supporting our children, starting with helping parents through rich but tasking years. If we invest in the early years of our children, we invest in their future and in the development of the NWT.



## REFERENCES

1. National Symposium on Early Childhood Science and Policy. In Brief: The Impact of Early Adversity on Children's Development. [www.developingchild.harvard.edu](http://www.developingchild.harvard.edu)
2. McCain, M.N., Mustard, J.F., & McCuaig, K. (2011). *Early Years Study 3: Making Decisions, Taking Action*. Toronto: Margaret & Wallace McCain Family Foundation.
3. National Scientific Council on the Developing Child (2005). *Excessive Stress Disrupts the Architecture of the Developing Brain: Working Paper #3*.
4. Toxic Stress: The Facts. Harvard Center for the Developing Child. [http://developingchild.harvard.edu/topics/science\\_of\\_early\\_childhood/toxic\\_stress\\_response/](http://developingchild.harvard.edu/topics/science_of_early_childhood/toxic_stress_response/)
5. Positive, Tolerable, & Toxic Stress. Alberta Family Wellness Initiative. <http://albertafamilywellness.org/brain-development-addiction/positive-tolerable-toxic-stress>
6. UNICEF Canada (2012). *Poverty...The One Line We Want Our Kids to Cross—UNICEF Report Card 10: Measuring Child Poverty, Canadian Companion*.
7. Alberta Health and Wellness, Office of the Chief Medical Officer of Health (2011). *Let's Talk About the Early Years*. Government of Alberta.
8. Schonkoff, J.P. (2007). *A Science-Based Framework for Early Childhood Policy*. Presentation at the Annual Meeting of the National Conference of State Legislatures, Boston, MA. [http://developingchild.harvard.edu/resources/reports\\_and\\_working\\_papers/policy\\_framework/](http://developingchild.harvard.edu/resources/reports_and_working_papers/policy_framework/)
9. Heckman, J. DATE The Case for Investing in Disadvantaged Young Children.
10. Mustard, J.F. (2008). *Literacy: Passport to Prosperity*. Presentation to Council of Ministers of Education, Canada, Pan-Canadian Interactive Literacy Forum, St. John, NB.
11. Council for Early Childhood Development (2010). Brief: The Science of Early Child Development. [www.councilecd.ca](http://www.councilecd.ca)
12. The B.C. Healthy Child Development Alliance. Social and Emotional Development in the Early Years: Presenter's Guide. [www.childhealthbc.ca/bchcda](http://www.childhealthbc.ca/bchcda)
13. McCain, M.N., Mustard, J.F., & McCuaig, K. (2011). *Early Years Study 3: Making Decisions, Taking Action* (PowerPoint presentation). Toronto: Margaret & Wallace McCain Family Foundation.