

# THE LIFELONG IMPACT OF EARLY EXPERIENCES AND ITS CONNECTION WITH MENTAL AND PHYSICAL HEALTH

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“Early childhood is an extremely sensitive period in human development, during which the brain, especially the circuitry governing emotion, attention, self-control and stress, is shaped by the interplay of the child’s genes and experience.”

Boivin & Hertzman, 2012

Most parents want their children to thrive and become grounded citizens in society. The problem is that not all parents are prepared nor have the cognitive, emotional, and material resources to do so. The ability to provide appropriate care relies on the caregiver-infant relationship, yet a combination of factors surrounding the primary caregiver, the child, or household socio-economic status may affect the quality of this relationship. Often, parenthood begins in idealized ways without much knowledge or thought about the responsibility involved. Furthermore, parents tend to repeat the kind of upbringing they themselves have had, and many of them may still carry unresolved conflicts from their own childhood. A better understanding of the impact early adversity has on childhood development and how this affects society as a whole is necessary to develop more effective preventative strategies and improve childhood experiences in Newfoundland and Labrador, specifically, and in Canada in general.

Until rather recently, most people believed that child development was just a matter of good genes and personal efforts, without much awareness of the ways that environmental influences can interact with genes. Fortunately, a more comprehensive understanding of human development has been possible thanks to the contributions from the fields

of neuroscience, epigenetics [the study of potential heritable changes], developmental psychology, and life course epidemiology.

Over the past decade, mounting evidence has shown that the foundations for human development rely on the dynamic interplay between nurture (environment) and nature (genes). Increasing evidence also shows that during pregnancy, and especially the first 36 months of life, there is a sensitive period for the development of neurobiological pathways. Optimal brain development during this time comes from consistent, predictable, and stimulating child-caregiver interactions in nurturing social environments.

## Why love and nurturing relationships matter

**“This human emotional control centre [the frontal part of the brain] does not develop automatically. It develops in response to the social experiences that a baby actually has... Basically, babies learn how to do things through their experiences with other people, not through words or instructions.”**

Gerhardt, 2009



Through interactions with responsive and nurturing caregivers, babies develop coping and communication abilities that help them respond and adapt to daily experiences. This interaction also helps with attachment (the healthy emotional bond with another person), and self-regulation (the ability to notice and appropriately control urges such as hunger and sleep and feelings such as anger and frustration). These nurturing interactions also plant the seeds of self-confidence and curiosity, preparing the groundwork for the development of higher cognitive functions and self-regulation skills, the cornerstone of a child's physical, cognitive, and socio-emotional development.

Throughout this social exchange, there is an ongoing wiring (synapsis or connections based on circuits of regularly used knowledge or activity) and sculpting (or pruning – the elimination of unused connections) in the baby's brain. Although the brain is able to change throughout life, the majority of the key stages of brain development happen in early childhood. Many studies and interventions have shown that the foundations of physical and mental health depend on the quality of this early wiring and pruning process. Good foundations significantly increase the child's potential to grow into a grounded, empathetic, confident, and willing-to-learn youth, and frame the quality of choices made throughout life.

## Disturbed development

**“Extensive research on the biology of stress now shows that healthy development can be derailed by excessive or prolonged activation of stress response systems in the body and the brain, with damaging effects on learning, behavior, and health across the lifespan.”**

National Scientific Council on the  
Developing Child, 2005/2014

While most Canadian children grow up within adequate and nurturing living conditions that allows them to thrive, many children lack these safe havens. They may face neglect, inappropriate and abusive or violent caregiving, or chronic poverty. Such conditions are more likely to generate chaotic, cognitive or relationally impoverished environments and household dysfunction.

Although extreme cases of neglect, abuse and/or dysfunction may affect a child's survival, exposed children often experience subtler forms of adversity. The reactions to these chronic threats is a set of adaptive behaviors called “stress responses.” Stressors and adverse experiences are part of life, and the

triggering of the stress system is even beneficial for survival. When young children experience normal stress (such as the first day of school) or intense adversity (such as the death of somebody close to them), the experience can become manageable and even positive, as long as there is one or more supportive adults helping the child. The skillful approach of caregivers teaches the child how to cope, and allows the physiological effects to return to baseline levels.

The problem arises in the presence of chaotic, unpredictable environments and/or long-lasting, intense adverse experiences, known as “toxic stress,” which causes a chronic activation of the stress system. When toxic stress is experienced during the early sensitive periods of brain development, areas of the brain involved in anxiety and fear will multiply in neural connections, at the expense of those in the regions involved in planning, reasoning, and self-control (mainly the frontal lobe). Consequently, depending on the level and acuteness of stress, chronic activation of the stress system may alter a child’s brain physiology. This leads to a chronic low resistance to stress, increased likelihood of unhealthy behaviors, a more vulnerable immune system, and premature disease and death. However, thanks to brain plasticity, adequate early interventions may also alter the genes for the good.

Epigenetics, or the new science studying the changes in the organisms caused by the altering of gene expression, has shown that the way genes are expressed depends on environmental factors, from maternal lifestyle and pre-natal environments, to the responsiveness and caring of the environment surrounding the baby during early life. Without the buffering effects of early intervention, the expression of genes or protein reactions in the DNA that provide instructions determining what an organism is like, how it behaves, and how it survives in its environment is negatively affected when the child faces adversity. Under chronic adverse circumstances, the gene or protein reaction triggers biological actions to carry out life functions in adaptive ways, but in ways that can be harmful in the long term. This dynamic exchange between the environment and gene activation and deactivation continues throughout life. Unfortunately, this increasing body of knowledge does not seem to be incorporated into the practices of all frontline professionals (ie social workers, nurses, physicians), and is even less known among young parents and policy makers. This is unfortunate, given the contributions it can have to improving the quality of life for Canadian children.

## Rethinking prevention strategies

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

UNICEF Innocenti Research Centre, 2007

Although Canada is one of the richest countries in the world, many Canadian families are living in critical conditions, likely because of the cycle of adversity repeated through the generations. As a result, about 18% of children are growing up in poverty and lacking basic resources. Scientific evidence shows that comprehensive public policy to support families and children’s healthy development is the best way to overcome children’s early adversity. Despite this, Canada still does not have such a policy. In many European countries the investment in early child development is between 1 and 2% of the GDP; in Canada, it is only 0.2%. Not surprising then, that Canada is in the 17<sup>th</sup> place out of 29 developed countries with regard to children’s well-being, and in the 26<sup>th</sup> place out of 41 countries regarding the level of children inequalities.

To improve long-term health and social outcomes, we must acknowledge the structural inequities in society. Furthermore, as an established human right, we must find ways to guarantee that every child has the best possible start in life. UNICEF, the World Health Organization, and many Canadian institutions are alerting governments by gathering evidence and writing position papers about the adverse effects of toxic stress, not only on the brain development of the next generations, but also on society as a whole. While many other countries have already designed policies and frameworks for action, we still need more citizens’ support to advocate for a change in government policies. As heard in my research, children do not vote, and disempowered parents tend to be blamed and stigmatized for “not doing their parenting job properly.” Blaming the parents neglects the fact that they had likely suffered adversity in their early years, leaving them vulnerable to social and mental health issues.

## Engaging citizens to find common grounds for potential solutions

**“It is both most caring and cost effective to promote healthy child development from the beginning of a child’s life than it is to treat problems later... The later in life we attempt to repair early deficits, the costlier the remediation becomes...”**

Heckman, 2002

Promoting the well-being of children and reducing the incidence of early adverse experience is not only a moral imperative, but also a practical one. A failure to protect and promote children’s well-being is associated with increased risks for a wide range of negative outcomes later in life, potentially affecting education, work possibilities, income, and physical and mental health. Aside from the personal toll, it is also very costly to society in terms of lost productivity, and potentially increased expenses for remedial education, justice, corrections, and health care.

As this is a complex issue, there are no easy solutions. Most frontline professionals in the research that we carried out consider it a priority to: (i) develop preventive measures through a pro-active multi-faceted approach (rather than through reactive or costly interventions); and (ii) consider the child and the parental context together, influenced by the quality of extended family and broader networks of community and supportive interventions.

Recommendations included raising public awareness about the importance of a positive start in life, networking, and collaborating among service providers to enhance potential interventions, and increasing the potential for an advocacy role among health and social services professionals. Enhancing macro-social policies to reduce poverty and social inequities, and strategies to promote early child development, were also endorsed.

My research interest involves an ongoing, in-depth exploration of how early adversity impacts physical and mental health throughout the lifespan and the additional toll it has on society. With the support of the Harris Centre, the goal has been to engage stakeholders working with young children and the public, in order to find ways to raise awareness

about the consequences of early childhood adversity. Community and government frontline workers have been very receptive to the concerns presented in this article, which is extremely gratifying. This will enhance the possibility that Newfoundland and Labrador will have not only more committed frontline workers but, especially, public supporters engaged in counteracting and preventing the effect of early adversity and improving the lives of children. **NQ**

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