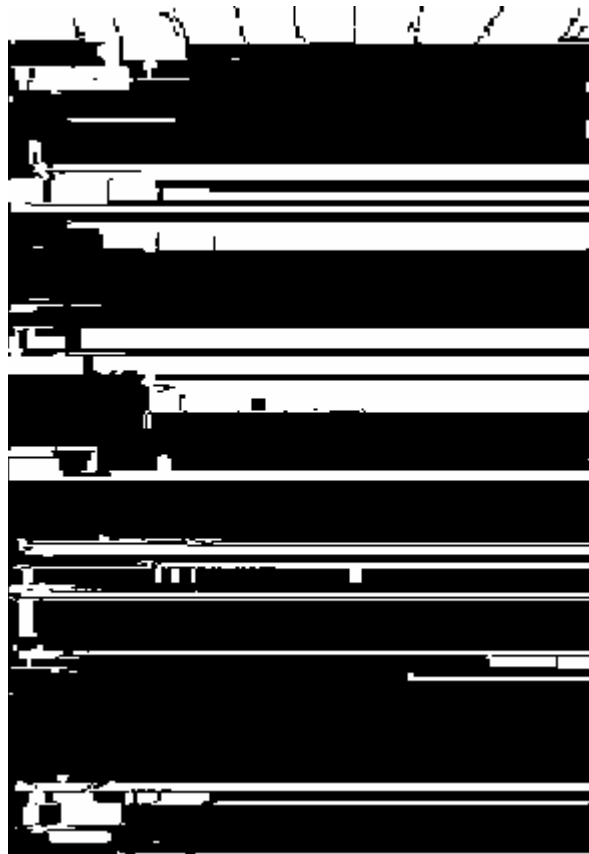


REVERSING THE REAL BRAIN DRAIN

Early Years Study

Final Report



The preparation of this report was funded by
the Ontario Children's Secretariat

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Hon. Michael D. Harris
Premier
Government of Ontario
Room 281, Legislative Building, Queen's Park
Toronto, ON M7A 1A1

Dear Mr. Premier,

Enclosed is the Report from the Early Years Study to you and the Minister Responsible for Children, the Honourable Margaret Marland. This study and its recommendations are the work of the Reference Group and the Co-Chairs.

We examined the evidence from the neurosciences, developmental psychology, social sciences, anthropology, epidemiology and other disciplines about the relationship among early brain and child development and learning, behaviour, and health throughout all stages of life. We consider, in view of this evidence, that the period of early child development is equal to or, in some cases, greater in importance for the quality of the next generation than the periods children and youth spend in education or post secondary education.

We empathize that the children of Ontario can do better and that to improve the early years for young children will require the commitment of all citizens from all sectors in Ontario, its government and the media.

We have set out in the report steps to achieve the goal of improved outcomes for all young children and encourage your government to start the process so that in the next century Ontario will have the best educated and competent population in the world.

We thank you for the opportunity to prepare this report.

Yours sincerely,

helpful in providing the knowledge and synthesis concernin the early years of child developme

prospects for the next generation of Ontarians - with respect to school performance, health and quality of life, and success in the labour market – will improve the future for all of us.

The entrants to the workforce of 2025 will be born next year. From this generation will come a ke

SUMMARY

There is disturbing evidence that children who do not receive the nutrition and stimulation necessary for good development in the earliest months and years of life may have great difficulty overcoming deficits later. Once the critical periods for brain development are passed, providing the child has not experienced extreme neglect, it is p

IN CONCLUSION:

Our future depends on our ability to manage the com

17) The NLSCY data show that the two tests (vocabulary and math) are a gradient when assessed against the socio-economic circumstances of the child's family. The proportion of children not doing well is higher near the bottom of the scale than it is at the top. But in all socio-economic groups there are some children who do not do well, and this is proportional to where families are on the socio-economic scale.

are now screened through a province-wide program called Healthy Babies, Healthy Children. The program identifies families who are considered to be at serious risk and provides intensive home visits.

32) The Ontario Workplace Child Care Tax Deduction gives businesses a 30% tax deduction for the capital cost of building or expandi



45)

IN CONCLUSION:

In most rural and urban communities there are initiatives in both the public and private sector on which to build a stronger and broader range of early child development and parenting centres for all Ontario's children.

Government programs, wherever possible, should be designed to integrate with community-based initiatives and not handicap the building of partnerships and trust at the community level.

51) A society that wants to have a highly com

-
3. Early child development programs that are environments for children to engage in play-based, problem-solving learning with other children and adults;
 4. Responsive relationships between adults (early child develop

program made up of community-based centres that will benefit Ontario's young children and their parents.

Provincial government leadership within and outside of government can forge a framework of understanding and a strategy to develop the capacity at the community level to establish early child development and parenting centres that are sensitive to the needs of the community. The framework will include the integration of legislation, common standards and the identification of appropriate funding mechanisms for centres which are available, accessible and affordable for all young children and their families.

The provincial government and communities will need to address numerous issues in bringing together the current array of early years initiatives.

Other Components of an Early Child Development System

The early child development and parenting centr

CHAPTER 1

NEUROSCIENCE AND EARLY CHILD DEVELOPMENT

The Early Years Study began by looking at the new evidence from many disciplines, including sociology, n

EARLY BRAIN DEVELOPMENT IS INTERACTIVE, RAPID AND DRAMATI

happened to

FIGURE 1.1 - FIGURE 1.1 - THE EYE-BRAIN CONNECTION

Figures 1.1 and 1.2 illustrate the eye-brain connection. At birth, the signals from the eye pass through the lateral geniculate nucleus (LGN) of the thalamus.

Cynader and Frost conclude that, in addition to vision...

*"... there is no doubt that similar use-dependent selection of particular pathways and neural circuits goes on in other parts of the brain. Examples abound in other sensory pathways including auditory research (hearing) and also in the senses of smell and touch. There is strong evidence for critical periods in the development of higher cognitive functions such as language processing."*¹⁰

Cynader and Frost note, for example, that the best time to learn new languages is relatively early in life. All young children, during the babbling stage, have the ability to make the guttural sound "ch", which is used in several languages, including Japanese, Spanish and German, but not in English. Children who grow up in English-language homes lose the ability to make this sound.

Neuroscience and experimental developmental psychology have come together to better define what appear to be critical periods in early development. Figure 1.2 shows what seem to be critical periods for some components of brain development and function.¹¹ Most of these critical periods for brain development are over or waning by the age of six.

FIGURE 1. 2 - CRITICAL PERIODS FOR SOME ASPECTS

As discussed, the critical periods for the sensing pathway connections with the cortex appear to emerge in synergy with other core functions of the brain, such as emotional control and arousal patterns. The wiring of the brain's pathways appears to be best supported when it can integrate quality sensory input through several pathways at once, particularly during critical periods of development. Positive sensory stimulation throu

nurtured in early life tend to retain sustained leve

105 days. A control group of rats spent the same amount of time in a typically improved environment of a laboratory.

At the end of this period, the brains of

stimuli. This can lead to an abnormal stress response that can persist throughout life and, among other things, influence mental health.

The illustration above) conveys how

The trait of hyperactivity appears to have a strong genetic component and antisocial behaviour appears to be largely associated with environmental influences.

There may be a nature-nurture interaction relevant to Tremblay's findings. The Swedish study s(Thcussed

orphanage, the greater the risk of poor brain development during the critical period and the greater the difficulty in helping them overcome their disabilities. The current studies of children adopted by Canadian families from Romanian orphanages have found serious problems in some who were in the orphanages for several years before adoption - an IQ of 85 or lower; atypical insecure attachment patterns; serious behaviour problems; and the continuation of stereotyped behaviour.³⁹

One study contrasted three groups of children:

- i. Canadians living with their parents and who had not been in orphanages;
- ii. Romanian children who had been adopted into Canadian homes before four months
- iii.

disadvantaged early childhood? This Report is not directly concerned with these issues. We want to emphasize that some overcome the odds and there are a number of innovative programs in our communities that help disadvantaged youth. Many of these programs are designed to minimize the negative impacts of early childhood by helpi

as adults. Although it is common to attribute

Two young children are playing with a collection of small balls of the same size. One

Breastfeeding

The act of feeding a human infant provides nutrients and stimulates sensory pathways. The weight of the evidence indicates that breastfeeding provides both optimal nutrition and stimulation for newborn babies and young infants.⁴⁷ Human breast milk contains the optimal balance of nutrients needed for brain and body growth. The act of breastfeeding provides frequent opportunities for skin-to-skin touch and smell stimulation. The American Academy of Paediatrics recommends that mothers breastfeed their infants for a minimum of one year.⁴⁸ Where breastfeeding is not an option (because of adoption or mother's illness, for example), feeding practices can follow breastfeeding practices, by holding and cuddling the baby while feeding. A study that looked at the differences between formula-fed and breastfed children at 18 months found that the breastfed babies performed better on mental development test's even after adjusting for socioeconomic and demographic influences.⁴⁹

Another study considered the impact of enriched formula supplements for pre-term babies.⁵⁰ At age seven to eight years the boys who received enriched formula had significantly better verbal skills than those who received the standard formula only. However the enriched supplement made little

employment status and the available social supports both influence the duration of breastfeeding.

51

Nourishment and Stimulation

A randomized controlled trial in Jamaica showed the importance of both stimulation and good nutrition after birth.⁵² A group of infants who were high risk (stunted growth) were randomly allocated to

There is often an element of parent training and education, and active parent participation in children's pt.25055.5605TT0 cc.98 0 0 10.98 271.00156Tw 735055.5605TT0 cumstancis parEmoarElikely.t

Swedish Longitudinal Study

A study in Sweden followed a sample of 128 children born in 1975 from their first year of life.⁶⁴ The sample was drawn from families living in low- and middle-income urban households. About 33% of the children 8 0 0 10.98 499.0033sa

that later testing of these children fou

keeping with our assessment, the Acheson committee concluded that educational performance of the children tended to be persistently higher in the groups that received early education in a day care setting. They also noted that some studies improved the educational, employment and financial achievement of the mothers whose children attended day care.

poorly nurtured mother, a kind of combination of parenting a

The evidence is clear that good early child development programs that involve parents or other

CHAPTER 2

SOCIOECONOMIC CHANGE AND FAMILIES AND CHILDREN

In contrast to the 30 years following t

While remediable risk factors affecting health occur throughout the life cycle, childhood is a critical and vulnerable stage where poor

77)

TABLE 2.2 SOCIAL WELL-BEING INDICATORS IN ONTARIO 1975-1995

and fulltime labour force participation rate of mothers with children zero to 11 years living in two-

home. Among mothers with a low family income, the extent of engagement of mothers working full-time was substantially less than for mothers staying at home or mothers working part-time. For low income families with limited support outside the family, this is a problem.

The Canadian Policy Research Network has characterized the Canadian family as being

98

wanted more hours on the job while less than 10

CHAPTER 3

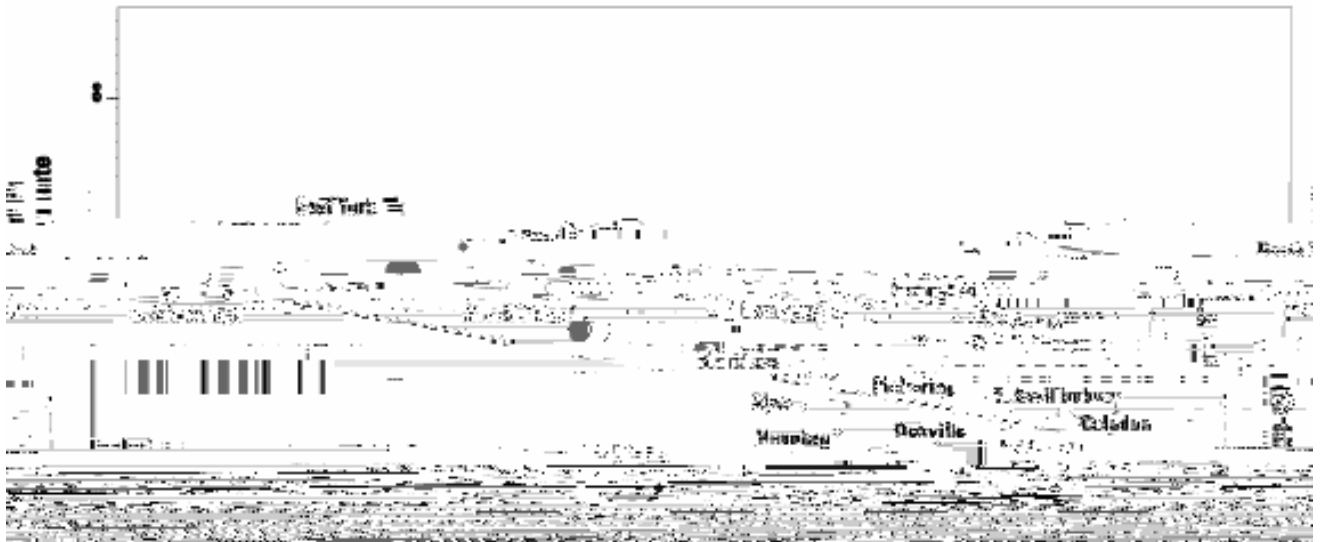
HOW ARE ONTARIO'S CHILDREN DOING?

There are approximately 900,000 children up to the age of six in Ontario. Every year, as 150,000 new babies are born, about that many (plus children up to enter grade one. We now know that by age six, many of the up to 1 periods for early brain development are over or waning. This chapter examines how well Ontario's youngest children are doing in lig

ESTIMATES OF EARLY CHILD DEVELOPMENT IN ONTARIO

We were able to make use of three sets of data t

**FIGURE 3.4 - LOW BIRTHWEIGHT BY LOW INCOME,
(CITY CENSUS SUBD TORONTO, 1991)**



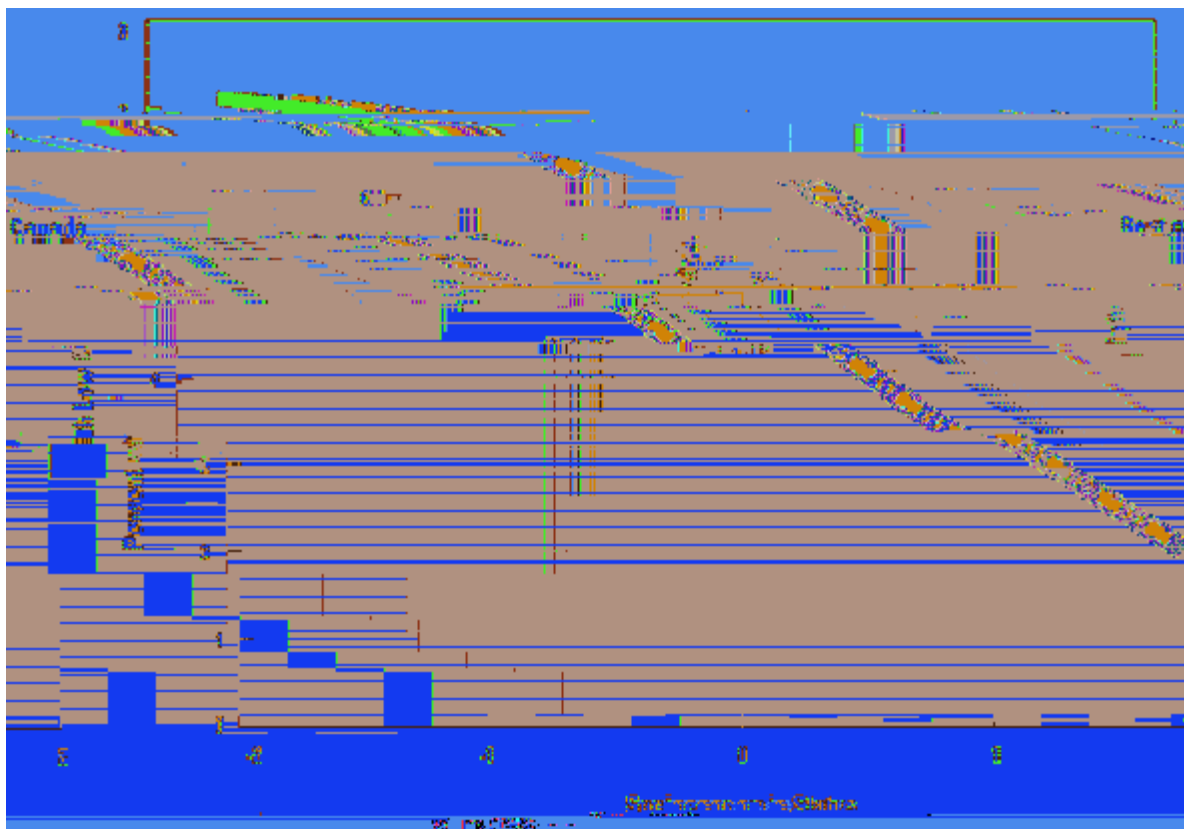
Toronto (Figure 3.4) does not show the same steep gradient. The inner city, which has almost the highest percentage of low-income residents, does not have a markedly higher rate of low birth weight births compared to more prosperous communities such as Mississauga, Brampton, Orangeville. Why do communities such as Bradford, Milton, Aurora and Richmond Hill do better than Brampton, Orangeville, King and Whitchurch-Stouffville?

An additional source of low birthweight data was available from the National Longitudinal Survey of Children and Youth (NLSCY). The NLSCY is a long-term survey, under the aegis of Human Resources Development Canada and Statistics Canada, designed to measure and track the physical, mental, development and well-being of children from birth into adult life. The NLSCY has individual data, which allow the assessment of individual socio-economic status and birth weight. (For further description of NLSCY, see page 77.)

Figure 3.5 shows a comparison of Ontario's low birthweight rate compared to the rest of Canada in 1994 from the NLSCY data.

FIGURE 3.5 - SOCIOECONOMIC GRADIENTS FOR LOW BIRTHWEIGHT, CHILDREN AGED 0 TO 3

National Longitudinal Survey of Children and Youth, 1994 Willms (1999)



How to Read Figure 3.5

The horizontal axis is a different representation of socio-economic circums 0 103ro3.02 1 0 10.02 376.16498.5001 Tm

The curved line is the representation of the statistical relationshi

National Longitudinal Survey of Children and Youth₁₀₉

EARLY YEARS OUTCOME RESULTS FROM THE NATIONAL LONGITUDINAL SURVEY OF CHILDREN AND YOUTH

Data and analysis from the National Longitudinal Survey of Children and Youth (NLSCY) enabled us to compare the performance of Ontario's young children with other regions of Canada on key learning and behaviour outcomes.¹⁰⁸

Vocabulary Skills and Behaviour at Ages Four and Five

The NLSCY provides two measurements of development in the first five years - vocabulary skills and behaviour. The NLSCY survey shows the cognitive performance and behaviours of pre-schoolers between Ontario and the rest of Canada, and across the so

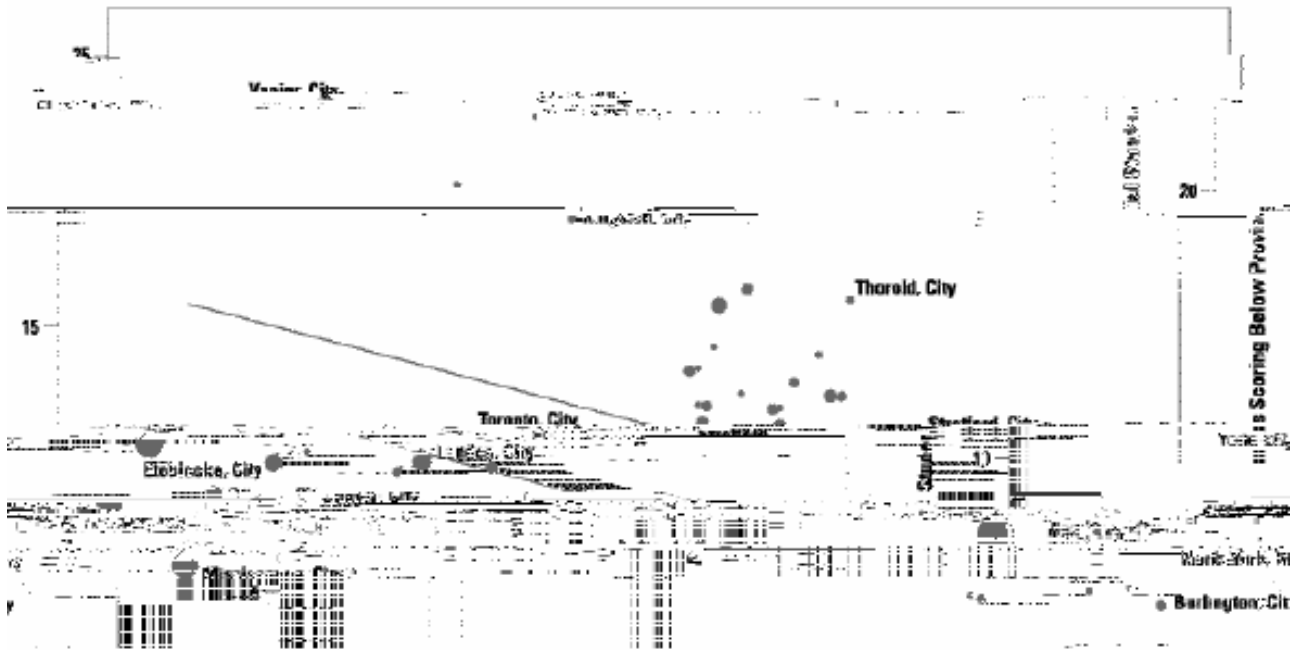
**FIGURE 3.6 - SOCIOECONOMIC GRADIENTS FOR LOW RECEPTIVE VOCABULARY
CHILDREN AGEN 4 AND 5**

National Longitudinal Survey

Together, the vocabulary and the behaviour mea

**FIGURE 3.9 - GRADE 3 MATH ACHIEVEMENT BY LOW INCOME,
CITY CENSUS SUBDIVISIONS IN ONTARIO, 1996-1997**

FIGURE 3.11 - GRADE 3 WRITING ACHIEVEMENT BY LOW INCOME CITY CENSUS SUBDIVISIONS IN ONTARIO, 1996-1997



For example, in Figure 3.9, there is little difference in the test results in mathematics between Toronto and Brampton, even though Toronto has about twice the proportion of low-income families.

Where socio-economic circumstances are similar, some communities do better than others in their children's school achievement. For example, in

NATIONAL AND INTERNATIONAL COMPARISONS - YOUTH LITERACY AND MATHEMATICS

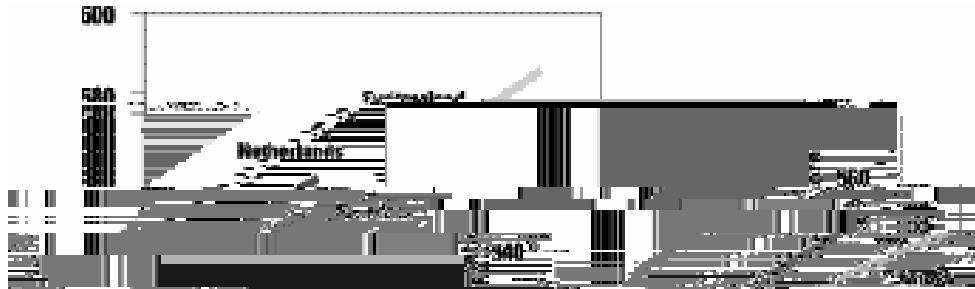
We were able to compare Ontario's youth literacy and mathematics achievement with other jurisdictions. The conditions of early childhood are at the core of language and mathematics skill development. Through the work of Statistics Canada and the Organization for Economic and Cooperative Development (OECD), we have measures of youth literacy which reflect the effects of the early years and the u m1.4.88sLscildlthe t.ese dat(adllow uects)Tj10.98 0 0 10.47 66791 90 609.3006 T

FIGURE 3.12 - LITERACY AND SES GRADIENTS FOR YOUTH BY PROVINCE

FIGURE 3.13 - DOCUMENT LITERACY SCORES FOR YOUTH, AGED 16-25

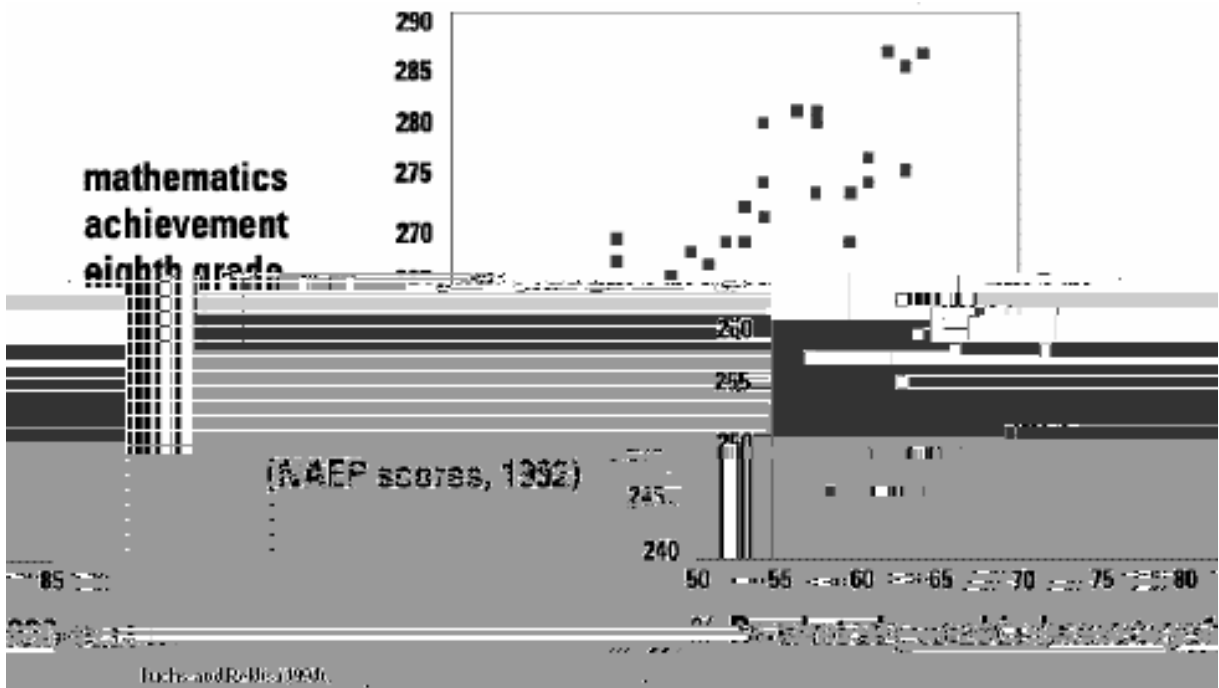


FIGURE 3.14 - GRADE 8 MATH SCORES ON
THE THIRD INTERNATIONAL MATHEMATICS AND SCIENCE STUDY



The states with children who had a poor readiness to learn performance on entry into kindergarten did less well on the grade eight mathematics scores. (Figure 3.15) On the other hand, in states where a high percentage of children

FIGURE 3.15 - MATHEMATICS ACHIEVEMENT IN EIGHTH GRADE AND READINESS TO LEARN IN KINDERGARTEN USA, 41 STATES



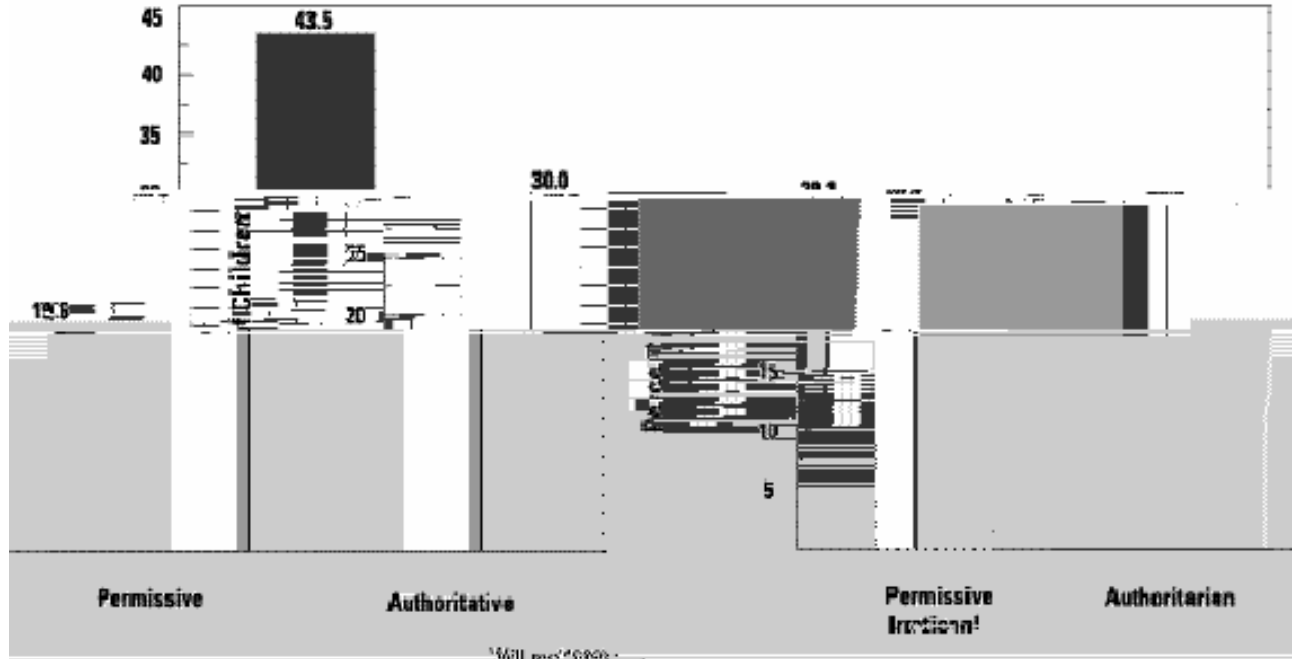
CHILDREN NOT DOING AS WELL AS THEY MIGHT AND INCOME

The results from the NLSCY allow for a cross-sectional analysis of the proportion of children who are not doing as well as they could by family income and province. The term "vulnerability" is used to describe a group of children who have a learning or behavioural difficulty which, in many instances, will not disappear on its own. Because the data are cross-sectional data, there are limits to their longer term implications. We consider that 10.98 0 0 10.98 328.3da3 daL0 037445sessmentltym(e c

FIGURE 3.16 - THE PREVALENCE OF CHILDREN WITH DIFFICULTIES BY FA

**FIGURE 3.17 - THE PREVALENCE OF CHILDREN WITH DIFFICULTIES
BY PARENTING STYLE**

National Longitudinal Survey of Children and Youth, 1994



In the recent analysis from the second cycle of the NLSCY, it was found that while there was a gradient in behaviour against socio-economic status, the biggest effect was not level of family income, but what was described as parenting style.¹²⁴

The impact of parenting on early childbutvelopment is not a new concept, but there is increasing evidence of its importance. A well-recognized cars or pr6.8404 Tm(ca)Tj10.9 10.3965.98 313.8722 30.8404

proportional

n

Readiness to Learn

The earliest time, given our present institutional structures, when a measurement can readily be made of development in the early years on all children is when they enter the school system. If it were feasible, given what we know about brain development, an outcome measure at age three would also be valuable. The "readiness to learn" measure assesses children's development at the time they enter the school system in five general domains:

The government of Manitoba and the MCHPE is now proposing to introduce the readiness or learning measure into this integrated database. They are also considering linking school performance into BDCec2 T



other children. This period of early brain development



94) Parenting and Family Literacy Centres are located in 34 downtown Toronto schools, funded and operated by the Toronto District

Ž Family literacy programs teach parents the value of reading together with their children. The Th rt and promote pare Ts and young children's joint understanding and use of print materials and teach Th s to be Th learning and reading partne Th with their childre Th infancy on. Parents le Th g d reading to an infant enhance understanding and use of language wh Th se of literacy learning. Formal storytimes and informal reading times p Th

ing an

facilities in the community that care for the children of working parents. This incentive was introduced in the 1998 Budget. This is an interesting private sector incentive.

4. **Canada Child Tax Benefit**

x Benefit and the Working Income

out of the role of deliverer of services, while retaining control over policies and standards and continuing to play a role in funding.

The creation in 1997 of the role of a Minister Responsible for Children is viewed by many community groups and provincial children's organizations as a long overdue step. The government appointed a Minister to give children's issues a higher profile within government .eCp (wiof thd)Tj0.0009 Tc

Health Units, is fully funded by the Ontario Ministry of Health. However, other components of early child development and parenting are delivered by municipalities, which are responsible for public libraries, parks and community recreation programs. Libraries and parks and recreation operate outside the provincial legislative frameworks for child care, public health, child and family services

explosion in interest and development of initiatives in the United States as a result, in part, of the new understanding of neuroscience.

Other Provinces and Territories

European Jurisdictions

121F Many European jurisdictions have developed some form of organized early child development program for at least two or three years before compulsory schooling.¹³⁵ Also, most have some maternity/parental leave and benefits.

For Example:

122F In Sweden, new parents are entitled to leave and benefits for up to 15 months after the birth or adoption of a newborn child. High quality child care centres (which offer early child development programs) are widely available from age one until school entry at seven years. Parents pay a small fee, but the majority of

Since all families and children, in all socio-

By finally being active and appreciated, my confidence and self-respect soared and led to, well, a happier household, for one (because if mom's sane...). It also led me to help initiate and develop other worthy endeavours: a Parent Relief Co-op, The South Eastern

car seats in taxis and Joyceville Institution's Visitors Committee.

Better Beginnings and the Community Health Centre offered Childcare Provider and Peer Co-Facilitator Training, which led to employment as a Childcare Provider and volunteer Co-facilitator of parenting groups I once benefitted from. This in turn led to a full-time six-month contract position as BB Childcare Assistant.

All we have done with B

127)

Ž There is a Long History of Community - Supported Initiatives

The new brain research is expanding our understanding of the significance of early child development and it is generating interest and attention around the world. But the importance of the early years is not a "new" discovery. Many Ontario communities have supported initiatives for families with young children for a long time. And many of these initiatives have grown and flourished, based on a combination of government funding, community private and public resources, dedicated staff, and the commitment of volunteers.

The St. Mary's Family Learning Centre in Windsor, for example, opened in 1985. It has since become a model for other community-based initiatives in the region.

PARENT

A study of public views on child care in Ontario was conducted by Ekos Research Associates in June 1997.¹³⁹ The find

The reduction

133) School boards may choose to close junior kind

information network could be built to meet some of the needs of communities across Ontario to exchange information and to learn from each other.

The involvement of policing in these initiatives helps to build community participation and cohesion and makes constructive use of an important provincial and community resource.

THERE ARE MODELS IN COMMUNITIES THAT CAN BE SHARED. BUT LOCAL INITIATIVE AND COMMUNITY DIVERSITY MUST BE RESPECTED.

Where possible, the key ingredients in successful programs should be shared and replicated across the province, but we must be careful not to impose top-down, cookie-cutter solutions. Communities vary in their cultural, ethnic and lin

supportive; others had local government officials who were disinterested, if not hostile. The same applied to schools and school board

business sector has become involved. The Big Three auto companies (General Motors, Ford and Chrysler) financed the capital start-up of a child care and parent resource program for employees, and continue to support the centre, which services 135 families. Support for the program was negotiated by the Canadian Auto Workers.

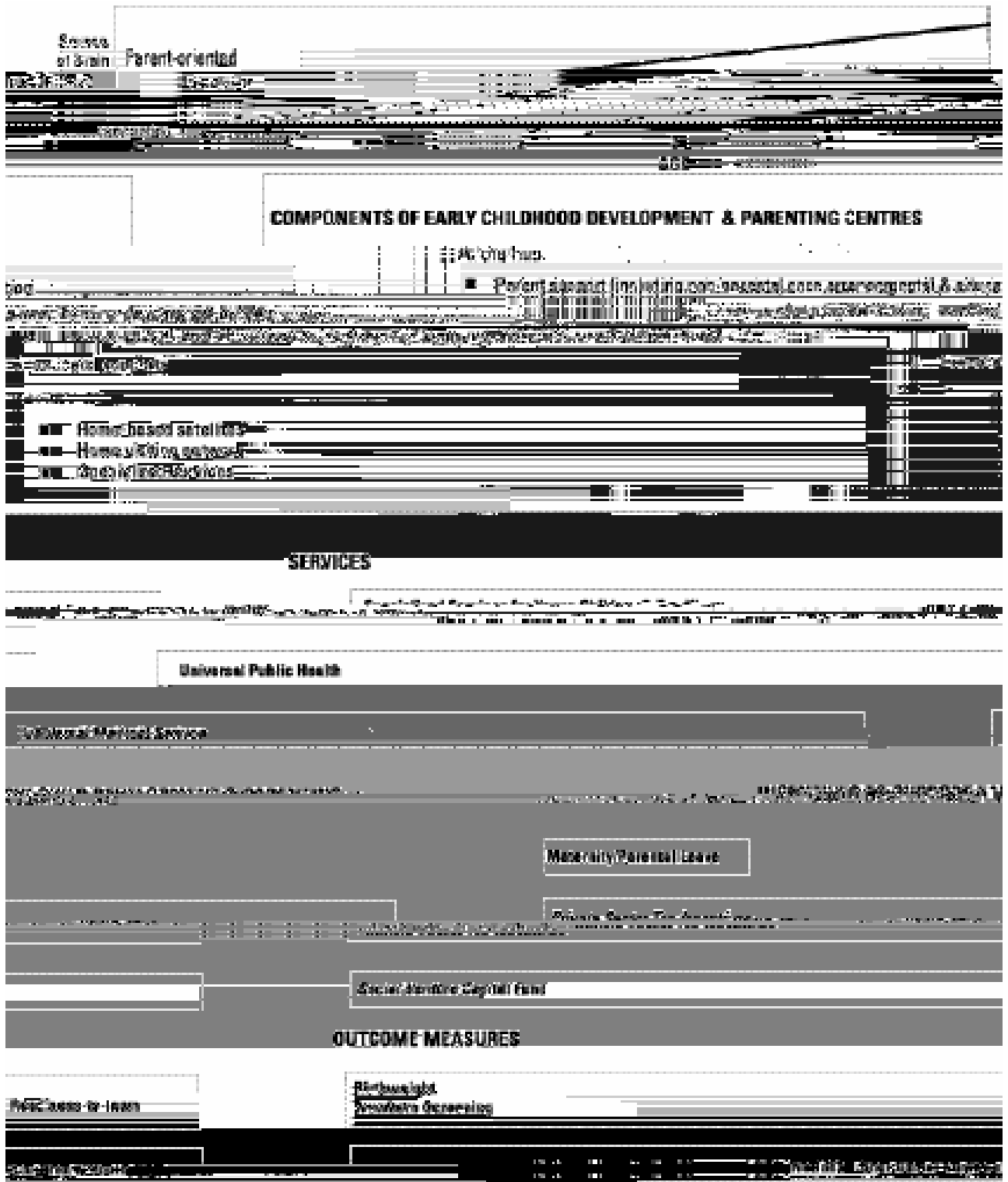
The family time deficit is a well-known phenomenon. Enlightened employers provide family leave time for parents to care for sick child

PARENTS ACROSS THE SOCIOECONOMIC SPECTRUM COULD USE ADVICE AND

136)

comprehensive system of support for families that provides more than 20 programs. It has become

FIGURE 6.7 - FRAMEWORK FOR EARLY CHILD DEVELOPMENT & PARENTING



-
2. Quality parenting and early child development centres that are both parent-oriented and child-oriented;
 3. Early child development programs that are environments for children to engage in play-based, problem-solving learning with other children and adults;

139) Group programs for children which involve parents and offer play-based, problem-solving experiences and include opportunities to learn to get along with other children, early literacy and numeracy, music, physical activity, and creative arts;

140) e, part-time and occasional (or respite) non-parental care arrangements;

141) ograms, child birth and child development information, group discussions and workshops for pregnant women and new mothers;

142) Drop-in programs, toy and resource libraries, inform 7.4446 603.6603 8e9 57180f0 5r(a1

community. Large businesses can also do this. In urban areas, most families should be able to walk to a local early child development and parenting program. In rural and isolated areas, additional resources may be needed for transportation, and some program components may be delivered through home visits as part of a network of mobile vans.

Staff

Competent early child development program staff

should be expanded when necessary and integrated into early child development and parenting centres in communities that will benefit Ontario's young children from conception to age six and their parents.

Leadership and Partnerships

The creation of centres sensitive to the diverse characteristics and needs of today will be, to a

We believe that, over time, the funding for senior and junior kindergarten and the Early Learning Grant should become part of the provincial governm

parenting, will require, over time, appropriate recognition, clear career pathways and remuneration commensurate with the importance of early child

Some faculties of education (e.g. Faculty of Education and the Ontario Institute for Studies in Education at University Toronto) prepare teachers with the skills and knowledge that will be required in early child development programs. Other post-secondary institutions are developing mechanisms to bridge (articulate) early child development from colleges into undergraduate degree programs in university.

It would be a mistake for governments to lose the good early child development capability that exists in some junior and senior kindergartens. Int'l J. Child Health 10.98 0 2.

155) Family-friendly workplaces;

156) Tax incentives;

157)

162) Workplace early child development and parenting centres.

These initiatives, although currently limited in their application in Ontario workplaces, do have the potential to benefit families and employers. Parents who are better able to meet family responsibilities are absent less and are more productive. The constant tension that many parents, particularly mothers, experience between meeting the needs of their young child and fulfilling

Regular paid leave to allow parents to take part in their young child's example of a family-friendly work policy. Opportunities for parent participation in early child development and parenting centres is a crucial element

Computer networks are growing in all areas of society. There are several networks linking community organizations, early childhood areas, and organizations.



-
- v. An integrated, independent outcome measure of human development; and
 - vi. A network for community information sharing.

CHAPTER 7

Facilitate the development of capacity at the community level to establish early child development and parenting centres.

An integrated continuum of early child development and parenting centres to serve all Ontario children should be in place within five years (by the end of 2004).

Because of the fundamental importance of the early years for competence and coping throughout the life cycle and the fact that many ministries affect early childhood, early child development must have as strong a voice in government as economics, health, education and environment.

We view the development of the early child development and parenting system as evolutionary. It is important that Ontario build on what exists and is working well in communities now, and support expansion of community initiatives, as the details of provincial and local authority for management of the system are worked out, with all the parties involved.

Ontario currently has a patchwork of services. Some parents have wonderful services available to them, while others have little or nothing that is accessible or affordable. We must ensure that there is a basic level of service available everywhere. Integrated legislation and appropriate funding could, under provincial leadership, overcome major barriers to collaboration at the community level. We are not recommending everything

system that overcomes existing jurisdictional and other barriers.

For example, there are currently interministerial and intergovernmental barriers to be overcome, in the best interests of the child.

Creation of early child development centres everywhere require new resources. If

have gotten lost along the way. Resources should be mobilized to support use of school facilities as early child development and parenting centres outside classroom hours to meet the needs of

tell parents to wait and see, sometimes missing the best chance of helping the child during a critical period of development. Primary care physicians, paediatricians and community-based nurses are in an ideal position to advise pregnant women and families with young children on how to find early child development and parenting centres and why early child development is so important.

RECOMMENDATION 7

likelihood that women will be able to stay home longer after the birth of a child. Unfortunately, improving provisions of Employment Insurance will only benefit a minority of the families participating in the labour force. We also need strategies to benefit families who are not eligible for EI benefits.

In addition, family leave is an important protection for parents in the workforce.

RECOMMENDATION 9

The Ontario government should establish further incentives to build public-private sector participation in early child development and parenting centres thro

RECOMMENDATION 10

To monitor the effectiveness of parenting and early child development initiatives, the province should:

Introduce, in consultation with communities, a "read

REFERENCES

1. Rakic, P. (1996) "Development of the cerebral cortex in human and non-human primates" In

76.

-
99. Statistics Canada (1995) *Survey of Work Arrangements* microdata as quoted in Vanier Institute of the Family (1998) *From the Kitchen Table to the Boardroom Table* Ottawa
 100. Frederick, J. (1992) "As time goes by ... Time use of Canadians" Statistics Canada, Cat. 89-544E. Based on 1992 General Social Survey. as quoted in Vanier Institute of the Family (1998) *From the Kitchen Table to the Boardroom Table* Ottawa
 101. Vanier Institute of the Family, p. i & ii
 102. *The Economist*, July 10, 1998, p. 10
 103. Macintyre, S. (1994) "Understanding the social patterning of health: the role of the so

-
122. Willms, J.D. (1999) Unpublished analysis of NLSCY data
 123. Kohen, D. & Hertzman, C. (forthcoming) "The importance of quality child care" In J.D. Willms (Ed.) *Vulnerable Children in Canada*. Edmonton: University of Alberta Press
 124. Fellegi, I. (1998) Presentation at



APPENDIX I

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APPENDIX III

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4. Summarize leading research findings with respect to early learning;
 5. Inventory current models of early learning practiced in other jurisdictions;
 6. Identify main stakeholders and define their roles in early learning as related to the mandates of the Ministries of Education and Training

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This study builds on the government's Healthy Babies, Healthy Children program and its Education reform agenda. The Ontario government recognizes that children benefit from an early start to learning prior to compulsory schoolin15084 655.5605 46c8550.5084 655.56g. Recgoverendeildreeile4 Tm(h

