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ABSTRACT

There is growing acknowledgement that optimal early childhood development is crucial not only for health, well-being, and competence but also for society at large. This second paper in a series focuses on the period from birth to age 6 and draws on research from Canada and other countries to address several questions of children's development, including the following: (1) What are the known threats to young children's optimal development?; (2) Which types of targeted programs promote the development of vulnerable children and under what circumstances?; and (3) To what extend is the current approach to targeting early childhood programs consistent with what we know about what is required to promote young children's development? The paper discusses research evidence from evaluations of three categories of programs intended to promote development of at-risk children: child-focused programs, parent-focused programs, and two-generation programs. The research evidence examined clearly demonstrates that the most effective way of enhancing the development of at-risk children is through center-based, group programs. The research evidence shows that the development of at-risk children is not promoted by programs that are solely parent-focused or by two-generation programs. Following an executive summary, the paper's chapters are: (1) "Supporting the Development of Canada's Children; (2) "Identification of Vulnerable Children"; (3) "Targeted Child-Focused Programs"; (4) "Targeted Parent-Focused Programs"; (5) "Two-Generation Programs"; (6) "Universal Programs"; and (7) "Policy Implications." (Contains 232 references.) (HTH)

TARGETING EARLY CHILDHOOD CARE AND EDUCATION: MYTHS AND REALITIES

Occasional Paper No. 15

Targeting early childhood care and education: Myths and realities

Gillian Doherty
July 2001

Childcare Resource and Research Unit
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This is the second paper of three that consider early childhood education and care within the context of a National Children's Agenda. The first, *More than the sum of the parts: An early childhood development system for Canada,* was released in 2000. The National Children's Agenda falls within the social policy context of the Social Union Framework Agreement signed by the provinces (except Quebec) and the federal government in February 1999.

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Executive summary

There is growing acknowledgement that optimal early childhood development is crucial not only for the health, well-being, and competence of the individual but also of society at large. This paper focuses on the period from birth to age six and uses research from Canada and other countries to examine the following questions:

- What are the known threats to young children's optimal development?
- Can children whose development is at risk be identified reliably and at an early age?
- Which types of targeted programs (programs restricted to children/families who meet certain criteria) promote the development of vulnerable children and under what circumstances?
- To what extent and under what circumstances do non-targeted programs that are open to all children/families promote the development of children at risk for developmental problems?
- To what extent is the current approach to targeting early childhood programs consistent with what we know about what is required to promote young children's development?
- How can we promote the healthy development of the largest number of children?

Canadian research supports the belief that there is a higher incidence of vulnerability to developmental problems among children living in poverty and/or living with a lone parent. However, it also demonstrates that most children living in these circumstances are **not** at risk. Other known variables that put children's development at risk are:

- Certain types of parenting styles.
- Living with a parent who is stressed.
- Living with a parent who is depressed.
- Lack of adequate linguistic and/or cognitive stimulation.

These variables occur in both lone- and two-parent families and across all income levels. Since the majority of children live in two-parent and middle-income families, **numerically** the largest number of at-risk children are not living in poverty or with a lone-parent. Restricting special developmental programs for at-risk children to neighbourhoods with a

high proportion of low-income and/or lone-parent families inevitably means the exclusion of many at-risk children living in other communities.

The earliest we can be sure that all children will come into contact with an adult who is able to identify developmental or behavioural problems is when they enter the formal school system. As a result, we cannot identify individual vulnerable children easily nor at an early age.

The research evidence from evaluations of three categories of programs intended to promote the development of at-risk children is discussed. The three categories are:

- **Child-focused programs** that solely or primarily provide a centre-based educational experience for the children. Such programs work directly with the children.

- **Parent-focused programs** that provide one of or more of: (1) parenting education, (2) the provision of information about child development, and (3) parental support, for example, assisting parents to obtain other services. Some parent-focused programs include a children's component such as a parent/child drop-in program or a part-day centre-based group program for the children. Parent-focused programs hope to promote children's development indirectly through changing parenting style and/or the home as a learning environment.

- **Two-generation programs** that combine children's programs and parent-focused services with efforts to improve the parent's employability and thus the family's financial situation.

The research evidence clearly demonstrates that the most effective way of enhancing the development of at-risk children is through centre-based, group programs. The research evidence shows that the development of at-risk children is **not** promoted by programs that are solely parent-focused or by two-generation programs.

The effectiveness of centre-based group programs in promoting the development of at-risk children depends upon their quality — that is, the extent to which the program involves adults who understand child development and how to promote it, are not responsible for too many children, and provide appropriate levels and amounts of linguistic and cognitive stimulation. At-risk children do not benefit from poor quality group programs. The research also indicates that high quality centre-based group programs are most effective for children at risk for developmental problems when they begin prior to age three and are provided on a full-day rather than a part-day basis.

The research also clearly illustrates that non-targeted, ordinary high quality community child care centres are effective in promoting the development of both at-risk children and children not deemed to be at risk. Again, quality matters. Living in a family that is supportive of children's development does not protect the child from the negative effects of poor quality child care.

The current approach of providing centre-based group programs for at-risk children, such as targeted pre-kindergarten programs on a part-time basis starting when the child is age three or four is inadequate to meet the children's needs. Mastery of the developmental tasks faced by the child at age three and four depends heavily on a scaffold of competencies developed at an earlier age. If these competencies have not been adequately developed, the child's ability to develop new skills is compromised.

As noted above, there is growing evidence that full-day programs are more effective than part-day programs. In the U.S., the traditional Head Start program for preschoolers has been supplemented by an Early Head Start for children under age three and many Early Head Start and Head Start centres now provide a full-day program.

Part-day delivery of programs for at-risk children also limits parents' ability to engage in activities that might make them more employable or to engage in full-time employment and thereby improve their family financial situation. Poverty puts children's development at risk through factors directly related to the family's low income such as poor nutrition and living in sub-standard housing. Assisting parents to engage in work that pays a decent wage is an effective way of addressing poverty and reducing the incidence of children at risk for developmental problems.

Many young children spend nine hours a day, five days a week in child care often starting when they are infants. This reflects the high workforce participation of mothers with young children and the tendency for them to return to work within six months of giving birth. Research from Canada and other countries consistently reports that conditions supportive of children's development are more likely to be found in regulated child care. However, 62% of children under age five receiving regular child care receive this care in unregulated situations. This is often because their parents cannot afford or cannot find a regulated child care space. This reality means that the development of many of Canada's young children is put at risk, regardless of their home situation. All the evidence suggests that the need for child care will continue.

As noted above, high quality, ordinary community child care programs can promote the development of at-risk children as well as protect the development of children not deemed to be at risk. Given our inability to reliably identify the majority of at-risk children through easily observed 'markers' such as neighbourhood socio-demographic characteristics, and the current high use of child care for young children, high quality, affordable child care for any child whose parent wishes to use the service is the most effective way to assist vulnerable children. At the same time, it would protect the development of children not deemed to be at risk but whose development is jeopardized when they are placed in poor quality child care.

A cost/benefit analysis by two University of Toronto economists illustrates that Canada would obtain financial benefit from a universal, publicly-funded, high quality child care system with parent fees geared to income. The first benefit would accrue through costs not incurred for remedial education or as a result of grade repetition. The second benefit would result from increased parental employment and the associated increase in government revenue from taxes. A third benefit would accrue through a more productive workforce both now and in the future with a resultant greater economic growth.

In summary, restricting access to early childhood care and education programs either explicitly though targeting children/families in neighbourhoods with certain socio-demographic characteristics or de facto through restricting access to fee subsidy for regulated child care is neither in the best interest of at-risk children nor other children. Canada is paying a high price for the current situation in terms of:

- High rates of school drop-out.
- Failed attempts to reduce dependency on social assistance due, in part, to lack of reliable, affordable child care.
- The restriction of parental ability to engage in paid work.
- Reduced employee productivity related to problems with child care.
- Failure to reduce child poverty.

Provision of high quality, publicly-funded, universal child care is affordable and sustainable. It is also necessary to reduce the price being paid by society for the current situation of actual and de facto targeting of early childhood care and education programs.

1

Supporting the development of Canada's children

Every child should be valued and have the opportunities to develop his or her unique physical, emotional, intellectual, spiritual, and creative potential. Canadian Intergovernmental Conference Secretariat, 2000, p. 1.

1.1 INTRODUCTION

Over the past decade there has been a significantly increased recognition that optimal early childhood development is crucial for the health, well-being, competence and coping not only of the individual but also of the society at large.[1] This recognition is supported by substantial, specific evidence from a range of disciplines including the neurosciences, developmental psychology, psycholinguistics, epidemiology, and economics. As recognized by the First Ministers, it is imperative that we determine the best ways to support and promote the well-being of ***all*** our children and that we translate such knowledge into societal policies, practices and structures that assist children to develop their capacities to participate in the social, economic and political life of our country.

1.2 The Early Childhood Development Initiative: An opportunity for action

An opportunity to develop societal policies, practices and structures that support the optimal development of all young children is provided through the combination of:

- *The Social Union Framework Agreement* (SUFA) committed to by the federal and all the provincial/territorial governments (except Québec). This agreement provides a vehicle for federal financial contributions for the development and maintenance of social programs by the provinces and territories.

- *The National Children's Agenda* (NCA), which provides a policy framework for supporting young children and their families and an agreement to work co-operatively towards this end by the federal and all the provincial and territorial governments except Québec (which, however, supports the objectives of the NCA).

- *The Early Childhood Development Initiative* (ECDI), agreed to by the First Ministers in September 2000 and including a pledge of $2.2 billion from the federal government

over a five-year period for provincial/territorial programs to support young children and their families. These funds, along with the provisions of SUFA, permit governments to begin implementation of the goals and objectives of the National Children's Agenda.

The Early Childhood Development Initiative (ECDI) explicitly states that its purpose is to promote the optimal development of ***all*** children during their prenatal period and their first six years of life. However, except in Québec,[2] most programs to promote young children's healthy development are explicitly or de facto targeted — that is, *they are open to some children/families but exclude others.* Programs that are explicitly targeted include those restricted to children/families who are living in a community deemed to put children at risk for poor development, for example, the federal government's Community Action Plan for Children (CAPC) program and its Aboriginal Head Start initiative, Manitoba's Early Start, Ontario's Better Beginnings, Better Futures, and Saskatchewan's targeted pre-kindergarten programs. Regulated child care is a de facto targeted program because eligibility criteria based on family income, parental employment status, or the child being deemed 'at risk' restrict access to the child care fee subsidy and thus to the service unless the parent can afford the full fee. Nursery schools are also de facto targeted programs since they are restricted to the children of parents who can pay for the service.

1.3 Meeting the challenge

Over the past twenty years, and accelerating in the 1990s, the social policies of the federal, provincial and territorial governments increasingly shifted towards targeted programs — that is, government-funded programs with specific eligibility criteria that include some people while excluding others. This shift occurred across programs for the whole age range from infants to seniors.[3] In the case of young children, targeting appears to be based on the following assumptions:

- We can reliably identify children at risk for developmental problems at an early age.
- We know what types of programs are the most effective in promoting the development of children at risk.
- Targeting is the only effective way to change the developmental trajectories of children at risk.
- The majority of young children who are not living in situations traditionally believed to jeopardize children's development will enter the public school system ready to benefit from its program without any assistance from governments.

Successful implementation of the ECDI goal that ***all*** children will be school-ready at age six requires an evidence-based re-examination of each of these four assumptions.

1.4 The purposes of this paper

This paper focuses on the period from birth to age six and examines the following questions:

- What are the known threats to young children's optimal development?
- Can children whose development is at risk be identified reliably and at an early age?
- Which types of targeted programs enhance the development of vulnerable children and under what circumstances?
- To what extent and under what circumstances do non-targeted programs that are open to all children/families promote the development of children at risk?
- To what extent are Canada's targeted programs consistent with promoting the development of at-risk children?
- How can we promote the healthy development of the largest number of children?

1.5 The organization and content of this paper

1.5a Threats to children's optimal development

Chapter 2 uses recent Canadian data from the *National Longitudinal Survey of Children and Youth* (NLSCY) and other research to demonstrate that we do know at least ***some*** of the factors that put young children's development at risk. These known factors include living in poverty and/or living in a lone-parent family. Both of these have been used for decades as 'markers' of situations where children's development may be at risk and to identify communities with substantial proportions of such families as being communities in need of targeted programs such as Head Start.

However the NLSCY and other Canadian research studies have also identified factors that are not tied to easily identified family or neighbourhood characteristics but instead occur across ***all*** income groups and in both lone- and two -parent families. These factors include:

- A hostile parenting style.
- Living with a parent who is stressed.
- Living with a parent who is depressed.
- Living in a dysfunctional family.
- Lack of linguistic and/or cognitive stimulation.

Some of these risk factors, such as a hostile parenting style, have a ***greater*** impact on the probability of poor child outcomes than do family composition or family income level.

1.5b Can vulnerable children be identified reliably and early?

Chapter 2 also documents that we ***cannot*** identify the majority of children at risk either reliably or at an early age. Traditionally, the 'markers' of living in poverty and/or in a family headed by a lone-parent have been assumed to identify the majority of vulnerable children without also incorrectly labelling many whose development is not at risk. Is this assumption correct? Data from the NLSCY support the belief that proportionally more children in the lowest income families and in families headed by lone-parents experience developmental problems. In other words, the ***incidence*** of being at risk is greater in these situations.

However, as illustrated in Tables 2.1, 2.2, and 2.3 in the following chapter, the data also document that:

- The majority of young children living in low-income families and the majority living in lone-parent families are developing at the normal rate and do not have behaviour problems.

- Developmental problems occur across all income levels and in both lone- and two-parent families.

- ***Numerically*** there are more children at risk in moderate- and upper-income and in two-parent families than in low-income or lone-parent families. This reflects the fact that most children live in two-parent families and are not living in poverty.

These data demonstrate how and why relying on neighbourhood socio-demographic information to identify children at risk for developmental problems has inherent limitations. One limitation is that this approach fails to take into account the fact that children not living in communities with the traditional 'markers' associated with at-risk status may, in fact, be at risk as a result of other factors. Furthermore, the majority of children in Canada do not live in low-income neighbourhoods or in those with a high proportion of lone-parent families.

There are two reasons why we cannot identify many children at risk at an early age. First, some factors that place children at risk, such as living with a parent who is stressed, are not public information in the way that living in a low-income neighbourhood is. Such factors can only be identified on an individual basis and usually are only identified after a child has begun to exhibit problems. Second, the earliest we can be sure that all children will come into contact with an adult able to identify developmental problems is at entry into the formal school system. At this time a kindergarten or grade one teacher may identify that a child is lacking in one or more of the basic skills required to take advantage of the school program.

1.5c The effectiveness of targeted programs

Chapters 3, 4 and 5 respectively discuss the effectiveness of the three major categories of targeted programs to promote the development of vulnerable children. The three categories are:

- **Child-focused programs** that solely or primarily provide a centre-based group educational experience for children, for example, the Abecedarian and Perry Preschool Projects, Head Start, and Saskatchewan's targeted pre-kindergarten program.

- **Parent-focused programs** that provide one or more of: parenting education, the provision of information about child development, and parental support, for example, assistance in obtaining other services. These programs may be provided through home visiting, individual meetings with the parent at the program's office, and/or group parent meetings or courses. Some parent-focused programs may include a children's component such as a parent/child drop-in or a part-day centre-based group experience.

- **Two-generation programs** that use a three-pronged approach that is both child- and parent-focused. To a greater or lesser extent, all two-generation programs provide:

    - A group program for children.
    - Parent support and parenting education.
    - Services intended to improve the family's financial situation by assisting the parent to become more employable, for example, through educational upgrading or specific job skill training.

The findings from the research discussed in Chapters 3, 4 and 5 can be summarized as follows:

- The development of at-risk children is significantly enhanced by targeted centre-based programs where warm, supportive adults who understand child development and know how to encourage it provide challenging but developmentally-appropriate activities[4] for small groups of children. The benefits to children's development from these programs continue to be evident throughout their school career.

- At-risk children do not benefit from targeted centre-based group programs that are characterized by high staff turnover and poorly trained adults who do not provide the type of developmentally-appropriate activities that stimulate children's skill acquisition.

- Centre-based group programs for children are more effective in enhancing the development of at-risk children when the children begin attending them prior to age three and do so on a full-day rather than a part-day basis.

- Targeted parent-focused programs, such as home visiting, can help parents feel supported and less stressed, reduce the incidence of low birth weight among mothers at risk, and reduce the incidence of child neglect or abuse. The hoped for improvement in parenting practices or the home as a learning environment as a result of home visiting and/or parenting education usually does ***not*** occur and even when it does, there is usually only minimal or no parallel benefit to the at-risk child's development.

- Parent-focused programs combined with a centre-based group program for the children can enhance the development of vulnerable children. The degree of benefit appears to be related to the intensity of the children's group program and the degree to which it provides experiences that promote children's development.

- Two-generation programs that combine parent-focused services with a group program for the children have failed to demonstrate any long-term benefit for children's development and minimal or no benefit in terms of parental employability and family income. One reason for their failure may be the difficulty of providing sufficient intensity in each of the three major components to make a difference without placing unrealistic demands on parents' time, abilities, and stamina.

Based on the research evidence discussed in chapters 3, 4 and 5, experts in child development have concluded that centre-based group programs for children are the most effective way to promote the development of children whose development is at risk as a result of environmental circumstances.[5] Furthermore, research indicates that programs intended to

promote the development of at-risk children are most effective when started prior to age three and provided on a full-day rather than a part-day basis.[6]

1.5d The effectiveness of non-targeted services

Chapter 6 discusses the effectiveness of non-targeted services (that is those not restricted to at-risk children) for promoting the development of children whether or not they are deemed to be at-risk because of environmental circumstances. These services include ordinary community child care centres and non-targeted parent education programs. The findings from the research discussed in this chapter can be summarized as follows:

- Participation in ordinary community child care centre programs enhances the development of poor children when the program is of sufficiently high quality to provide a greater level of emotional support and developmentally-appropriate linguistic/cognitive stimulation than is available in the child's own home.

- Coming from a home that supports development does not protect a child from the negative effects on development associated with spending substantial periods of time in poor quality child care, that is, care that might protect the child's health and safety but is lacking in adequate linguistic and cognitive stimulation.

- Parent education programs do not enhance the development of at-risk children.

1.5e Policy implications

Chapter 7 summarizes the policy implications of the research findings discussed in the previous chapters by exploring:

- Where do many young children spend the majority of their waking hours? To what extent are these environments supportive of child development? Is the current situation likely to continue?

- To what extent is the current targeted approach to the provision of early childhood programs consistent with what we know about what is required to promote young children's development?

- What should we as a society be doing?

Where are the children?

Chapter 7 documents that a large proportion of mothers with young children are engaged in paid employment. Others are engaged in educational or job skill training programs. As a result, many young children spend a substantial proportion of their waking hours in child care. The current high rate of participation in the labour force by mothers is likely to continue. When group programs for young children are specifically or de facto targeted, children from homes that do not have the traditional 'markers' assumed to put their development at risk are often placed in unregulated child care situations that may fail to provide adequate levels of stimulation and thus jeopardize children's development. Most parents do not use situations that may place their children's development at risk by choice but because they cannot afford or cannot find high quality child care.

To what extent are Canada's targeted programs consistent with promoting the development of at-risk children?

Targeting programs to promote the development of at-risk children on the basis of community socio-demographic characteristics fails to provide assistance to at-risk children living in communities not considered to be high risk.

The current approach of providing Head Start or targeted pre-kindergarten programs for at-risk children on a part-day basis starting when the child is age three or four is inadequate to meet the needs of the children for at least three reasons.

- Mastery of the developmental tasks faced by the child at age three and four depends heavily on a scaffold of competencies developed at an earlier age. Therefore, at-risk children need to be in an environment that promotes development earlier than age three.

- Research indicates that group programs for children are more effective in promoting the development of at-risk children when the children attend them on a full-day basis.

- Poverty puts children's development at risk through factors directly related to the family's low income such as poor nutrition, living in sub-standard housing, and lack of access to developmental opportunities. Assisting parents to engage in work that pays a decent salary is an effective way to address poverty and thus the incidence of developmental problems. The half-day approach used in most targeted group programs limits the mother's ability to engage in academic upgrading or job skill training to improve her employability and generally precludes accepting full-time paid employment. As a result, the mother's ability to

improve her family's financial situation and thus the environment in which her child lives is also limited.

In 2001, some provinces announced their intention to use at least some ECDI funds for the implementation of parent support services in high risk communities. As documented in Chapter 4, the research indicates that the hoped-for improvement in parenting skills and/or the home as a learning environment rarely occurs when programs focus primarily or solely on the parent, for example, parenting education and parent support services. When changes do occur, there is not a parallel improvement in the at-risk child's development or school readiness. Adding an educational group program for the children does improve the outcomes from parent-focused programs. However, it is probable that this is a function of directly working with the children. Experts in child development have concluded that centre-based group programs are the most effective way to promote the development of at-risk children.[7]

How can we as a society promote the healthy development of the largest number of children?

The current situation results in the following problems:

- Restricting programs to promote the development of at-risk children to those communities that have certain socio-demographic characteristics means that many at-risk children are not provided with such services.

- The de facto targeting of affordable regulated child care increases the probability of children whose home environments do not place them at risk spending much of their time in child care that fails to provide adequate levels of stimulation. Thus they become vulnerable to developmental problems.

- Many of Canada's targeted programs are either of a type or are implemented in a way that is not consistent with what the research tells us about effective promotion of the development of at-risk children.

As documented in Chapter 6, high quality ordinary community child care programs can promote the development of at-risk children as well as protecting the development of children not deemed to be at risk. We have a robust body of research documenting what is required for the provision of child care programs that support and foster children's physical and emotional well-being and their social, linguistic and cognitive skill development.[8] Given our inability to reliably identify the majority of at-risk children through easily observed 'markers' such as neighbourhood socio-demographic characteristics, high quality, affordable child care for any child whose parent wishes to use the service is the most effective way to assist vulnerable children. At the same time, it would protect the development of children not

deemed to be at-risk who currently are often placed in situations that may be threats to healthy development.

A cost/benefit analysis done by two University of Toronto economists illustrates that Canada would benefit from a universal publicly-funded, high quality child care program.[9] The first way these benefits would accrue would be through costs not incurred as a result of having diverted potential developmental problems early, and the second would be through a more productive workforce that would result in greater economic growth. In addition, a publicly-funded, high quality child care system would:

- Support parents' economic functioning.
- Reduce the level of stress experienced by many working parents as a result of difficulties obtaining reliable, quality child care.
- Provide a vehicle for early identification of developmental problems.
- Provide an infrastructure for additional or specialized services in specific situations such as speech therapy for a child with a language delay.

1.6 Issues when using research evidence to inform policy

This paper endeavours to provide research-based information to assist in policy development and program implementation. In so doing, it is constrained by certain limitations. This observation does not mean that reasonable, responsible judgements cannot be made — it simply acknowledges that there are limitations to our current knowledge. These limitations reflect the realities of conducting applied research and the limited availability of Canadian research.

1.6a The realities of conducting applied research

The strongest evidence of program effectiveness comes from research that identifies a pool of potential recipients all of whom all share certain characteristics, for example, family income level, and then randomly assigns some to an experimental group that receives the program and the others to a control group that does not. This is known as a randomized control trial and is the most robust way to maximize the likelihood that any differences between the two groups after a program are due to it rather than to some pre-existing between-group difference[10]. This design was used for evaluations of the Perry Preschool Project and the Abecedarian Project (see Chapter 3) and the Home Instruction Program for Preschool Youngsters (see Chapter 4).

However, a randomized control trial is not always possible. A program that targets a specific neighbourhood rather than a group of subjects that has been specifically selected is, by

design, open to all families living in the area. Access cannot be restricted to certain families in order to undertake effectiveness research nor is it possible to determine ahead of time which families will participate. Two strategies are frequently used to address this problem and studies using either strategy are sometimes referred to as having a ***quasi-experimental*** design.

One strategy used in a quasi-experimental design is to select a non-participant comparison group matched as closely as possible to the participant group on key variables that might influence outcome (for example, maternal educational level, a variable known to influence children's language development). The second strategy involves the use of statistical techniques to control for any known significant differences between the participant and non-participant groups. Unfortunately, it is not possible with either strategy to be absolutely confident that the researchers have indeed matched or controlled for all relevant variables.

To the extent possible, this report will rely on the findings from randomized control trials and quasi-experimental studies.

1.6b The limited availability of Canadian research

The majority of research studies conducted on the effectiveness of programs to promote the development of children deemed to be at risk has been conducted in the United States. The extent to which the findings from these studies conducted in a different context apply to Canada is unknown. Therefore, Canadian data are presented where available even if the data come from evaluation research that has not used a randomized control trial nor a quasi-experimental design and therefore does not meet the inclusion criteria imposed upon U.S. research.

1.6c The need for longitudinal follow-up and retention of subjects

There are two important reasons why we need findings from evaluations that followed the subjects for several years after the end of the program. One reason is related to the phenomenon of 'fade out' whereby apparent early benefits from a program with at-risk children disappear within a couple of years after the program ends. The second reason is the 'sleeper' phenomenon whereby benefits are not apparent until after a period of time beyond the end of the program. Because of these two reasons, to the extent possible, this paper will focus on studies that report findings from long-term follow-up.

The longer the follow-up period, the greater the risk that the researchers will lose track of some of the subjects. Loss of study participants reduces the extent to which a study that started as a randomized control trial can still be considered to be such. Therefore, when

discussing the findings from studies with long-term follow-up, this paper will focus on those that experienced the lowest loss of subjects over time.

Notes

1. Doherty, 1997; Keating, 1999; McCain and Mustard, 1999.

2. The Québec government is providing funding for regulated child care so that any parent who wishes to use this service can do so for a cost of $5.00 a day. Further government subsidization is provided for parents who cannot pay this amount. The province is trying to ensure that all regulated child care will provide experiences that promote children's healthy development through initiatives such as increasing the training requirements for care providers and increasing remuneration levels which, in turn, should decrease turnover and thus provide more continuity for children.

3. Jensen and Stroick, 1999.

4. The term 'developmentally-appropriate activities' refers to activities that take into account the child's existing developmental level, knowledge and skills.

5. Barnett, 1998; Gomby et al., 1995; National Research Council and Institute of Medicine, 2000; Ramey et al., 1995.

6. National Research Council and Institute of Medicine, 2000.

7. Barnett, 1998; Gomby et al., 1995; National Research Council and Institute of Medicine, 2000; Ramey et al., 1995.

8. See, for example, Doherty, 1999; Doherty et al., 2000, Goelman et al., 2000.

9. Cleveland and Krashinsky, 1998.

10. Barnett, 1995; Mrazek and Brown, 2000; Zoritch, Roberts and Oakley, 1998

2

Identification of vulnerable children

2.1 INTRODUCTION

Over twenty years ago, both Canadian[1] and American [2] researchers began to report that children living in families with very low incomes often had poor verbal and cognitive skills at school entry. Subsequently, the *Ontario Child Health Study* documented the association between poor elementary school performance and living in a lone- parent family.[3] During the past two decades, low family income and living in a lone-parent family have each been used as easily observed 'markers' to identify children whose life situation may pose a threat to their development. In some cases these circumstances do put children at risk because they are associated with resource deficiencies. Such deficiencies include poor nutrition, for example, a diet deficient in calcium, vitamins and protein which compromises young children's physical and cognitive growth.[4]

More recent research has illustrated that the development of young children born with normal birth weight (and no evidence of physical disabilities or chromosome abnormalities such as Down Syndrome) also may be compromised by:

- Specific types of parenting styles.
- Living with a parent who is stressed.
- Living with a parent who is depressed.
- Living in a dysfunctional family.
- Lack of linguistic and/or cognitive stimulation.

This chapter reviews the research evidence about the relative importance of a variety of factors that put children's development at risk. It also identifies some of the limitations associated with relying on low family income or living in a lone-parent family to identify children whose development may be compromised by their family situation.

The chapter concludes that while we have a great deal of information about what threatens children's optimal development, it is not possible to be accurate in identifying the majority of at-risk children either reliably or at an early age.

2.2 Specific types of parenting styles

The National Longitudinal Survey of Children and Youth (NLSCY)

The NLSCY is a long-term Canada-wide research program that will track a large sample of children over many years. The first cycle of this study collected information about 22,831 Canadian children between birth and age 11 and their families in 1994/95. The families are a representative sample from all parts of the country, rural and urban communities, and all income levels. Information about the family and the children was collected through a parent questionnaire, and information about the children's development through two tests administered by the interviewer, one to measure motor and social development, the other to measure vocabulary. A mathematics test was done by the child at school.

Findings from the NLSCY

The NLSCY collected information about parenting styles through a specific scale that has been used in other research. [5] Three different studies using data from the first cycle illustrate the profound effect of parenting style — the usual ways in which parents interact with their children — on children's social, behavioural and language development.

The first study classified parenting styles into four categories:

- Authoritative.
- Authoritarian.
- Permissive.
- Permissive/irrational.

Forty-four percent of children age two to 11 whose parents were classified as having a permissive/irrational style [6] were deemed to have evidence of behavioural or emotional problems.[7] The next highest proportion of children with such difficulties, 30%, had parents who were classified as authoritarian. [8] In contrast, only 19.6% of children whose parents had an authoritative style [9] were classified as probably having problems. [10]

In the second study, a score indicative of normal cognitive and language development as measured by a standard tool [11] was obtained by 69.1% of four- and five-year-old children living with parents who reported high levels of 'positive parenting'[12] in contrast to 46.8% of peers whose parents scored low for this parenting style.[13]

A third study examined the effects of four parenting styles[14] and nine variables that, for the total NLSCY sample, were associated with poorer ability to get along with others among four- and five-year-olds.[15] The study found that, *"Risk factors accounted for only 5% of the*

variance in the child's overall relationships while parenting practices accounted for 22%."[16]
The same researchers also examined the impact of parenting practices on children age four to 11. They report that, *"Hostile* [17] *parenting practices increased the chance of occurrence of all problem outcomes, ranging from 1.4 times for repeating a grade in school to five times for conduct disorder."*[18]

Summary

In summary, analyses of data from the first cycle of the NLSCY found associations between:

- A positive parenting style (high levels of praising and talking and playing with children) and higher child scores on tests of language and cognitive development.
- A permissive/irrational parenting style (that is, inconsistent, tolerating misbehaviour) and higher incidence of child behaviour problems.
- Hostile parenting (harsh, punitive interactions with children) and a range of child problems including conduct disorder and higher incidence of repeating a grade.

These findings are consistent with other research. For example, a study that combined the findings of 47 other studies examining the association between child behaviour and parenting style reports that a hostile, authoritarian style predicts undesirable child behaviour such as aggression and disobedience. [19] Of particular importance is the NLSCY finding that parenting practices can be a protective factor. *"Children in at-risk situations who enjoyed positive parenting practices achieved scores within the average range [for motor, social and language development] for children in Canada. Sometimes their scores even surpassed those of children who were living in more favourable sociodemographic conditions but who were exposed to less positive parenting practices or to more hostile/ineffective parenting."* [20]

2.3 Living with a parent who is stressed

Parental stress affects children through two paths. The first path is through its influence on parenting style. The second path is through its influence on the child's own level of stress. Studies have found that mothers reporting high levels of stress are less responsive to their infants and provide them with less linguistic and cognitive stimulation. [21] With older children, stressed mothers are more likely to use authoritarian, hostile parenting and/or inconsistent parenting. [22] As noted above, this type of parenting is associated with poorer child development.

Living with a stressed parent increases the child's stress level. Recent brain research [23] has found that the emotional tone of the parent-child interaction is a strong predictor of certain

biochemical reactions in the child's brain, for example, elevated levels of cortisol when the child is stressed as a result of unresponsive or hostile caregiving. Frequent release and high residual levels of stress hormones such as cortisol interfere with the development of synapses in the brain. The adverse effects of stress may be most pronounced in young children. [24]

Parental stress may be associated with a variety of life circumstances, such as:

- Low income and the constant challenge of trying to make ends meet.
- Being a lone parent and carrying all the responsibility for the children.
- Fear of job loss.
- The daily struggle to balance work and family responsibilities.

In 1997, more than two-thirds of women (68.8%) with at least one child under age five were engaged in the paid workforce. [25] There is persuasive evidence of high levels of stress among working parents across all income levels in Canada.[26] As noted by a researcher who studied fifty working couples over an eight-year period: *"There is no more time in the day than there was when wives stayed home, but there is twice as much to get done."*[27] Such daily time pressure and the need to accomplish various tasks quickly may contribute to harsh, authoritarian parenting rather than a style that is warm, nurturing and patient.

2.4 Living with a parent who is depressed

Research studies have found that toddlers and preschoolers who receive warm, supportive and responsive care are more likely to engage in active exploration of their environment.[28] This, in turn, supports their development since learning occurs in the context of children's active engagement with their surroundings and the people in them. Depression affects both the emotional energy a parent has available for meeting the child's needs and the emotional tenor of the parent-child interaction. In the NLSCY, indications of depressive tendencies in a parent [29] were associated with hostile parenting, a finding also reported by other researchers.[30] Research has also found a higher incidence of withdrawal from their children among depressed parents.[31]

A study using data from the NLSCY reports that young children living in families with a parent who appeared to have depressive tendencies obtained lower scores on a measure of their overall social relationships. [32] Findings from other research indicate that compared with children of non-depressed mothers, children with depressed mothers show higher rates of socio-emotional and behaviour problems, poor peer relationship skills, and various difficulties in school. [33]

2.5 Living in a dysfunctional family

Families are considered to be dysfunctional when, for example, they are characterized by poor or little communication among members and use ineffective problem solving approaches. The first cycle of the NLSCY assessed the level of family functioning by using a standard scale developed and used by clinicians at the Chedoke-McMaster Hospitals in Hamilton, Ontario.[34] Researchers using the data set from the first cycle of the NLSCY report that children of any age living in families classified as dysfunctional have significantly more difficulties in their relationships with others. [35] Among children aged six to 11 years, family dysfunction was found to be associated with higher levels of hostile parenting which, in turn, is associated with poorer academic skills and school achievement. [36]

2.6 Lack of linguistic and/or cognitive stimulation

Children's vocabulary increases dramatically between the ages of two and four years if they are exposed to language and provided with encouragement and opportunities to use it to describe experiences, seek information, and share feelings and ideas. [37] Several pieces of research prior to the NLSCY have documented that the more adults talk with toddlers and young preschoolers, read to them, and provide a variety of opportunities for exploration of the environment, play-based problem-solving and using language, the more advanced the child's language and cognitive skills are at age four and five.[38] Data from the first cycle of the NLSCY indicate that an increase of one session of reading per week during the toddler and preschool period is associated with a 5% decrease in the likelihood of a four- or five-year-old having a score on a standard vocabulary test indicative of delayed development.[39]

More recently, a study conducted with forty mothers in Québec and their children between age four and six, found statistically significant correlations between the types of linguistic and cognitive stimulation available in the home and the child's level of physical, social, language and cognitive development. Interestingly, these correlations persisted regardless of the family's income level.[40]

Over 20 years ago, Canadian[41] and American [42] researchers began to report that children living in families with very low incomes often have a decline in language and cognitive skills relative to other children over the entire preschool period. This decline was attributed to inadequate levels of linguistic and cognitive stimulation in the home resulting from the family's lack of resources.

There is no question that the level of family income can influence the developmental quality of the home environment through its influence on the funds available for toys, books and other stimulating activities and its influence on the mother's level of stress. However, as

found by the Québec study cited above, lack of linguistic and cognitive stimulation can occur across all income levels. Using a measure of family environment [43] that assesses variables such as the degree of maternal responsiveness, American researchers, like those in Québec, have reported that there is not a consistent relationship between a family's income and the support and stimulation provided by the home.[44]

2.7 Comparisons of children from families at various income levels

Table 2.1 illustrates the findings from two studies using data from the first cycle of the NLSCY to explore the effect of the level of annual family income on factors that influence early childhood development. The table illustrates that the largest proportion of children living in situations that put them at risk as a result of living with a parent who is depressed or in a family deemed to be dysfunctional were in the lowest family income category. However, 82.5% of children in this income category were ***not*** living with a parent deemed to be depressed and 85.6% were ***not*** living in a dysfunctional family. Also, as illustrated by Table 2.1, there were fewer children at risk as a result of either situation in the lowest income category than in the other two family income categories combined.

TABLE 2.1: THE EFFECT OF FAMILY INCOME LEVEL ON FACTORS KNOWN TO INFLUENCE DEVELOPMENT IN EARLY CHILDHOOD, CYCLE ONE, NLSCY, 1994/95

Factor	Annual family income less than $30,000 (N = 5,868)	Annual family income between $30-60,000 (N = 9,498)	Annual family income above $60,000 (N = 7,466)
Proportion of children living in a family with a parent who was deemed to be depressed	17.5% (1,027)	8.3% (788)	4.8% (358)
Proportion of children living in a family deemed to be dysfunctional	14.6% (857)	7.5% (712)	5.0% (373)

Source: Ross, Scott and Kelly, 1996a, p. 42.

Note: Numerical calculations of the number of children in each cell were done by the author.[45]

A third study used the same three income categories to identify the impact of annual family income level on language development among four- and five-year-old children. It reports that the proportion of children obtaining scores indicative of delayed development was 25.3% for children in the lowest income category, 15.6% for children in a family with an income between $30 - 60,000 and 9.2% for children in families with incomes above $60,000. [46]

The fourth study examined the effect of family income on the incidence of:

- Impaired social relationships.
- Emotional or behaviour problems.
- Repeating a grade among children age four to 11.

It used four family income categories:

- Very poor – adjusted family income below 75% of the low-income cut-off (LICO) used by Statistics Canada. [47]
- Poor – adjusted family income between 75% and 100% of the LICO.
- Not poor – adjusted family income up to 25% above the LICO.
- Well-off – adjusted family income more than 25% above the LICO.

As illustrated in Table 2.2, a higher proportion of very poor children had impaired social relationships or one or more emotional or behavioural problems or had repeated a grade. However, these developmental problems were found across all income groups.

TABLE 2.2: FREQUENCY OF PSYCHOSOCIAL PROBLEMS AMONG CHILDREN BY ADJUSTED ANNUAL FAMILY INCOME, CYCLE ONE, NLSCY, 1994/95.

	Very poor (N =2,074)	Poor (N = 1,240)	Not poor (N =1,459)	Well-off (N =9,453)
impaired social relationships	7% (N = 145)	3% (N = 37)	4% (N = 58)	2% (N = 189)
one or more emotional or behavioural problem	29% (N =601)	23% (N = 285)	20% (N = 292)	19% (N = 1,796)
repeated a grade	11% (N = 228)	7% (N = 868)	8% (N = 117)	4% (N = 378)

Source: Canadian Institute of Child Health, 2000, Table 7-31 (based on Offord and Lipman, 1996).
Note: Numerical calculations of the number of children in each cell were done by the author. [48] There is a slight discrepancy between the total number of children in each column and the sum of the number of children in the same age range identified in the report due to effect of rounding.

A fifth study explored the impact of annual family income on parenting style and reports that, *"A full range of variables describing family structure [lone- or two-parent] and SES [socio-economic status] accounted for only about 2 to 6% of the variation in parents' practices. Thus, both positive and negative parenting practices are apparent in all types of families."* [49]

2.8 Comparison of children from single- and two-parent families

Table 2.3 compares the incidence of various types of developmental problems among children living in single-mother and in two-parent families. The researchers decided to exclude single-father families because only 7.3% of the single parents in the NLSCY sample were fathers.[50] Note that the researchers provided weighted estimates of the number of children in each cell to reflect the national population of children.

The table illustrates that:

- The majority of children in single-parent families did *not* evidence a problem.
- The proportion of children with a developmental difficulty was higher among children from single-mother families for each type of problem but the actual *number* of estimated children was smaller than for two-parent families.
- Problems were identified in children in both types of family structure.

TABLE 2.3: RATES OF PROBLEMS FOR CHILDREN FROM SINGLE-MOTHER FAMILIES COMPARED WITH THOSE FROM TWO-PARENT FAMILIES, CYCLE ONE, NLSCY, 1994/95

Type of problem	Children from single-mother family	Children from two-parent family
Hyperactivity	15.6% (69,480)	9.6% (221,573)
Conduct disorder	17.2% (73,659)	8.1% (180,786)
Emotional disorder	15.0% (67,205)	7.5% (173,714)
One or more behavioural problems	31.7% (137,460)	18.7% (418,894)
Repeated a grade **	11.2% (36,288)	4.7% (78,026)
Current school problems **	5.8% (18,862)	2.7% (46,120)
Social impairment	6.1% (25,105)	2.5% (51,344)
One or more problems **	40.6% (128,895)	23.6% (381,715)

Source: Lipman, Offord and Dooley, 1996, p. 91.

Note: ** Data available for six – eleven-year-old children only, all other variables use data from four – eleven-year-olds. Also, the researchers provided weighted estimates of the number of children in each cell in order to reflect the national population of children.

2.9 Community mapping as a mechanism to identify children who are at risk for developmental problems

Community mapping — the use of census and other public data to identify the socio-demographic characteristics of individual neighbourhoods and the distribution, range and intensity of services within them — assists communities and governments to identify the social and resource environments in which young children live and develop. As part of the *Understanding the Early Years* initiative, several communities have combined information from community mapping with information on children's school readiness as assessed by kindergarten teachers using the Early Development Instrument (EDI).[51] The EDI is a teacher-completed checklist that assesses school readiness by rating the child's general physical health and well-being, social competence, emotional maturity, language and cognitive development, communication skills, and general knowledge. Combining the EDI scores for all children from a particular school provides information about the average school readiness of the total population of kindergarten children in that school.

Findings from conducting community mapping in combination with administration of the EDI have been released for two communities. [52] In both communities increasing levels of developmental problems among school populations, as measured by the EDI, were associated with increasing numbers of neighbourhood risk factors such as low average household incomes (all households combined), the proportion of families headed by a lone parent, and the proportion of all adults who have not completed high school. In other words, there was a cumulative effect with increasing levels of developmental problems as the number of neighbourhood risk factors increased. However:

- There was a great deal of variability within the EDI scores among children attending the same school even though most children attend the school whose catchment area includes their neighbourhood; [53] and

- A few school populations in neighbourhoods with several socio-demographic characteristics that are considered to make them high risk areas also had average scores indicating that the children were developing well on one or more of the EDI components. Conversely, some school populations in low risk neighbourhoods obtained scores indicative of problems on one or more component. [54]

What might explain these exceptions? In the community that also obtained information from the parents, better outcomes as measured by the EDI were obtained for children who experienced parenting that was rated as more positive and/or whose parent report about family functioning indicated emotional responsiveness among family members and adequate problem solving and communication skills.[55] This finding is consistent with findings obtained by the NLSCY and supports the hypothesis that positive parenting can act as a protective

factor for children living in a neighbourhood whose socio-demographic characteristics are associated with being at risk for developmental problems. Conversely, as noted earlier, living in a middle-income, two-parent family does not appear to protect children from the adverse effect of negative parenting.

2.10 Summary and conclusions

As indicated by the research discussed in this chapter, there are many factors that contribute to the development of children. Some, called risk factors, are associated with developmental problems. However, there are also protective factors, such as positive parenting, that improve resistance to risk factors and contribute to successful outcomes.

The relationship between risk and protective factors is complex. As a result, predicting a child's developmental trajectory or assessing potential for developmental problems is challenging.

The research reviewed in this chapter has identified a variety of threats to children's optimal development in addition to living in a family with a low income and/or with a lone-parent. It also documents that:

- The majority of young children living in low-income families are developing at a normal rate (see Tables 2.1 and 2.2).
- The majority of young children living with a lone-parent are faring well in terms of their development (see Table 2.3).
- Factors associated with compromised development and below average development occur across all income groups and among children in both lone- and two-parent families (see Tables 2.1 - 2.3).

Numerically, the majority of children live in middle- or upper-income families. As a result, the higher incidence of threats to a child's development found among children living in poverty actually translates into a **lower** number of vulnerable children than occurs in higher-income families (see Table 2.2). In 1994/95, 84.2% of children under age 11 lived in a two-parent family. [56] Again it is necessary to recognise that the higher incidence of threats to children's development in lone-parent families actually translates into a **lower** number of vulnerable children than occurs in two-parent families (see Table 2.3).

These facts have important implications. First, targeting children living in low-income and/or lone-parent households/communities to be the **only** recipients of affordable programs to

support early childhood development inevitably results in the exclusion of a large number of children who are at risk for developmental problems.

Second, research using data from the NLSCY found that:

- Parenting style was the most important influence on children's behavioural outcome, even more important than combining several other risk factors. [57]
- Parenting style strongly influences language and cognitive development.
- Positive and negative parenting practices occur across all income levels and in both lone- and two-parent families. [58]

Parenting style is not public information in the way living in a low-income neighbourhood is. This means that there is an inherent limitation in the use of neighbourhood socio-demographic characteristics to decide where to implement targeted programs intended to enhance the development of children at risk for developmental problems.

In summary, while we have a great deal of information about what threatens children's optimal development, it is not possible to be accurate in identifying the majority of vulnerable children through easily observed 'markers' such as family socio-demographic characteristics. Neither is there a good mechanism to identify at risk children at an early age. The earliest that we can be sure that all children will come into contact with an adult able to identify a problem is when the child enters the public school system and is identified by the teacher as lacking school readiness.

Notes

1. Fowler, 1978; Wright, 1983.
2. For example, Birch et al., 1970; Jencks, 1972.
3. Blum, Boyle and Offord, 1988; Offord, Boyle and Racine, 1989.
4. McCain and Mustard, 1999.
5. Strayhorn and Weidman, 1988.
6. A combination of being overly indulgent, providing few limits, tolerating misbehaviour and being inconsistent.
7. For example, indications of hyperactivity, behaviour problems such as aggression, parent reports suggesting high levels of anxiety in the child.
8. Highly controlling, very demanding, inflexible, lacking responsiveness and warmth.

9. Warm and nurturing, set firm limits on children's behaviour, explain the reasons for rules and encourage children's independence.

10. McCain and Mustard, 1999, Table 3.17 and Chao and Willms (in press).

11. The Peabody Picture Vocabulary Test (PPVT) - Revised (Dunn and Dunn, 1981) was used for English-speaking children and a French version of the PPVT specially developed for the NLSCY, Echelle de vocabularie en image, for French-speaking children. The PPVT is generally considered to not only assess the child's verbal ability but also to be a measure of cognitive development.

12. A high 'positive parenting' score indicates parents who reported high levels of behaviour such as praising and talking and playing with their child(ren).

13. Ross, Scott and Kelly, 1996, p. 42.

14. The four styles were: (1) positive interaction, (2) consistent parenting, (3) aversive (hostile) parenting, and (4) hostile/ineffective parenting.

15. These factors were: (1) living in a single parent family, (2) mother was or had been a teen-age parent, (3) low family income, (4) mother reports low levels of social support, (5) mother has low level of formal education, (6) mother's responses to a series of screening questions suggest depression, (7) parent reports suggest family dysfunction, (8) parent is a recent immigrant, (9) there are four or more children in the family.

16. Landy and Tam, 1996, p. 107.

17. Hostile parenting is characterized by harsh, punitive interactions and parents who are frequently angry with their children.

18. Landy and Tam, 1998, p. 7.

19. Rothbaum and Weisz, 1994.

20. Landy and Tam, 1996, p. 109.

21. Crockenberg, 1987.

22. Crnic and Greenberg, 1987; Longfellow, Zelkowitz and Saunders, 1982; Patterson, 1993

23. Gunnar, 1998.

24. Evans, Hodge and Pless, 1994.

25. Cleveland and Krashinsky, 1998, p. 42.

26. Duxbury and Higgins, 1994; Michalski and Wason, 1999

27. Hochschild, 1989, p. 8.

28. Whitebook, Howes and Phillips, 1990.

29. Depressive tendencies were assessed through a self-administered scale that has been used in previous research (Radloff, 1977).

30. Beckwith, 1990; Lyons-Ruth et al., 1990.

31. Frankel and Harmon, 1996; Tronick and Weinberg, 1997.

32. Landy and Tam, 1996.

33. Cummings and Davies, 1994; Zeanah, Boris and Larrieu, 1997.

34. Byles, Byrne and Boyle, 1988.

35. Landy and Tam, 1996, p. 117.

36. Human Resources Development, Canada 1999.

37. Gopnik, Meltzoff and Kuhl, 1999, Chapter 4.

38. Bradley et al., 1989; Brooks-Gunn, Klebanov and Duncan, 1996; Lamb et al., 1988.

39. Cook and Willms, 1998, p. 3.

40. Palacio-Quinton and Terrisse, 1997.

41. Wright, 1983.

42. See, for example, Birch et al., 1970; Jencks, 1972.

43. The *Home Observation for Measurement of the Environment* (HOME), Caldwell and Bradley, 1984.

44. Bradley et al., 1989; Caughy, DiPietro and Strobino, 1994.

45. The number of children in each cell was calculated on the basis that just over a quarter, 25.7% of the 22,831 children in the NLSCY lived in families that reported an annual family income below $30,000, another 41.6% lived in families that reported an annual income between $30,000 and $60,000 (Ross, Scott and Kelly, 1996, p. 33).

46. Ross, Scott and Kelly, 1996, p. 42.

47. Statistics Canada, 1994.

48. The calculations were based on the number of children of each age for age four to 11 inclusive (Human Resources Development Canada/Statistics Canada, 1996, Table 1 in the Technical Appendix) and the proportion of children by age in each family income category: (1) very poor - 15.9% of children age four to seven and 13.2% age eight – 11, (2) poor - 9.3% of children age four to seven and 8.1% age eight to 11, (3) not poor - 10.4% of children age four to seven and 10.1% of children age eight to 11, and (4) well-off - 64.3% of children age four to seven and 68.7% of children age eight to 11 (Offord and Lipman, 1996, p. 120).

49. Chao and Willms, 1998, p. 2.

50. Lipman, Offord and Dooley, 1996, p. 84.

51. The EDI has been normed on over 16,000 students across Canada with validity and reliability studies conducted in Ontario and Alberta (Hertzman et al., forthcoming, p. 1).

52. Connor, 2001; Hertzman et al., forthcoming.

53. Connor, 2001, p. 19.

54. Ibid., maps 2 through 6.

55. Ibid., pp. 38.

56. Ross, Scott and Kelly, 1996, p. 28.

57. Landy and Tam, 1996.

58. Chao and Willms, 1998.

3

Targeted child-focused programs

3.1 INTRODUCTION

This chapter explores what the research tells us about the effectiveness of targeted child-focused programs, specifically programs that provide a centre-based group educational experience for children. Some of these programs also provide support services such as nutritional supplements, child health and development screening, and/or parent counseling and parenting education. Four important findings emerge:

- The development of at-risk children is significantly enhanced by targeted centre-based programs where warm, supportive adults who understand child development and know how to encourage it provide challenging but developmentally-appropriate activities[1] for small groups of children, i.e. a high quality program. The benefits to children's development from these programs continue to be evident throughout their school career.

- At-risk children ***do not*** benefit from targeted centre-based group programs that are characterized by poorly trained adults who do not provide the type of developmentally-appropriate activities that stimulate children's skill acquisition, i.e. a poor-quality program.

- Targeted centre-based group programs are most effective in enhancing the development of at-risk children when the children begin attending them prior to age three and attend on a full-day rather than a part-day basis.

- Combining a high quality centre-based group program with home visits by a specially qualified teacher who demonstrates developmental activities that the parent can do with the child does not appear to be any more effective in promoting the children's development than the provision of the centre program on its own.

While this paper has identified other variables that put children at risk for developmental problems, research on the effectiveness of targeted programs is currently restricted to children living in poverty. Therefore, this is the literature upon which we have to rely. It is,

however, reasonable to assume that programs that enhance development in such children would also assist children whose vulnerability stems from other environmental variables. Rates of maternal depression, stress, negative parenting styles and lack of stimulation have been found to be higher among low-income families than other families. [2] The association between low socio-economic status and vulnerability to developmental problems probably reflects the influence of one or more of these other variables.

3.2 Single-site research projects

Single-site research projects target a group of selected children. In so-doing, they are different from large-scale multi-site programs (discussed in the following section) that target whole neighbourhoods considered to be high risk because of their socio-demographic characteristics. The findings from single-site research projects demonstrate what can be achieved under good circumstances. These projects had well-trained staff provided with on-going supervision and consultation, the number of children for whom each staff person was responsible was small, the children's experiences were specifically planned and developmentally-appropriate, and there were adequate budgets for programming materials and activities.

3.2a The Consortium for Longitudinal Studies [3]

Eleven early American single-site research projects agreed to form a consortium and to pool their follow-up data on the subsequent development and school performance of children who participated in their study and control children who did not. Data collected when the children were between nine and 13 years of age are available from 2,008 (56%) of the 3,593 children who had participated in the eleven projects.

TABLE 3.1: EVALUATION FINDINGS FROM THE CONSORTIUM FOR LONGITUDINAL STUDIES PROJECTS

Outcome measure	Findings
Grade retention	E = 25%, C= 30%
Placement in special education class	E = 14%, C = 29%
Scores on a standard mathematics test	E significantly higher at grades 3, 4, and 5 but not at grade 6
Scores on a stand test of reading ability	E higher at grade 3 but not at later grades

Notes: E = the children who received the program, C = the control group. None of the 11 projects collected data on all of the outcomes.

As indicated in Table 3.1, the pooled data from the 11 Consortium projects indicate that high quality centre-based early childhood programs prior to school entry can reduce the rate of placement in special education classes and improve school achievement. The ability of these programs to produce such benefits may be under estimated when findings are pooled since this averaging results in a 'watering-down' of the findings from the more successful projects. For example, in one study, only 3% percent of the project children had been retained a grade while 29% of the control children had been.[4]

Four of the Consortium projects have reported further follow-up data. When the data from these four were pooled, 65% of the children who received the program compared with 52% of the control children graduated from high school — a statistically significant difference. Pooling the outcome data masked the higher benefit obtained by one study where 66% of the participants graduated from high school in comparison to 49% of the control children.[5]

As noted in Chapter 1, the most convincing evidence comes from research that used random assignment to the participant and the control groups and followed the children for a substantial period of time. Two single-site research projects — the High/Scope Perry Preschool Project [6] and the Abecedarian Project [7] — meet these criteria. They are particularly informative because they have followed the project and the control children into adulthood. The remainder of this section describes these two projects and then presents their outcome data in Table 3.2. A third study, Project CARE,[8] is also discussed in this section. Although it has not published outcome data beyond age four-and-a-half, it is of interest because it specifically examined the effectiveness of a centre-based program by itself and one that also provided home visits.

3.2b The High/Scope Perry Preschool Project

The subjects

The subjects were 123 African-American children selected from families that obtained a low rating on a measure of socio-economic status that took into account variables such as parent education, family income, receipt of social assistance, and household density. All the three-year-olds were given an intelligence test and if they scored between 60 and 85 they were added to the potential subject pool. Seventy-nine percent of the mothers and 89% of the fathers of these children had not completed high school, and forty-nine percent of the families were receiving social assistance. The 123 children were randomly assigned to either the preschool group or the control group. Over the course of the study, 45 children entered the project at age three and received the program for two years while 13 entered at age four and participated for one year.

The program

The children received a two-and-a-half hour centre-based program for five mornings a week from October to May of each year. There were also weekly 90 minute teacher home visits with mother and child that were intended to encourage parents to do educational activities with the child at home, and monthly parent group meetings. The centre program was staffed by certified public school teachers trained in child development, had a ratio of six children to each teacher, group sizes between ten and thirteen, and used a curriculum that emphasized learning through activities. The teachers were closely supervised by the researchers and participated in weekly seminars to discuss the children and the implementation of the program.[9]

Follow-up findings

The program participants and the control group were followed annually through age eleven, and again at ages 14, 15, 19, and 27, with data collected through interviews, school records, and public records. At the age twenty-seven follow-up, 117 of the 121 children still living completed interviews and data from both school and public records were obtained for all 121 of them. While initial I.Q. gains for the participant group faded by age eight, achievement test scores for program participants remained significantly higher than those for the control group through age 14. Children who received the program had better grades and were more likely to graduate from high school. At age 27, program participants had significantly lower rates of current and past use of social assistance and lower rates of criminal activity. However, there were no significant differences between the groups in the percentage currently employed, see Table 3.2 for more detail.

3.2c *The Abecedarian Project*

The subjects.

The subjects were 111 children, 98% of whom were African-American, selected from families that obtained a high score on a risk index similar to that used by the Perry Preschool project. The mothers had an average I.Q. of 85, and on average were 20 years of age and had attained 10 years of schooling. Seventy- five percent were single-parents and 55% of the families were on social assistance. The children were randomly assigned at average age of six weeks to a centre-based program or the control group.

Children receiving the program did so from admission until entry into kindergarten at age five. Just before entering kindergarten the two groups were again randomly divided into a control group and a group that received bi-weekly individual tutoring in basic skills such as

TABLE 3.2: EVALUATION FINDINGS FROM THE PERRY PRESCHOOL AND THE ABECEDARIAN PROJECTS

Project	Initial sample	Follow-up sample	Age at latest follow-up	Education	Economic Well-Being/Criminal Charges and Arrests
High/Scope Perry Preschool Entry age 3 for the majority of children, exit age 5	E = 58 C = 65	E = 58 C = 63	age 27	reading, mathematics and language achievement test scores at age 14 E>C high school grade point average, E>C use of special education by grade 12, E = C E = 37%, C = 50% average years of school completed, E = C E = 11.9 years, C = 11.0 years high school graduation rate at age 27, E>C E = 66%, C = 49% post-secondary credits by age 27, E = C E = 33%, C = 28%	Employment rate at age 27, E = C E = 71%, C = 59% Monthly earnings at age 27 (1993 dollars) E = $1,219, C = $766 Received social assistance in the past ten years at age 27, E>C E = 59%, C = 80% Ever arrested by age 27, E<C E = 57%, C = 69% Lifetime arrests by age 27, E<C E = 2.3, C = 4.6
Abecedarian Entry age 6 week and exit from centre program at entry into elementary school	E = 57 C = 54	Age 15 E = 48 C = 44 Age 21 E = 53 C = 51	age 21	reading, mathematics, written language and general knowledge achievement test scores at age 12 E>C on all four tests use of special education by age 15, E<C E = 24%, C = 48% grade retention by age 15, E<C E = 39%, C = 59% high school graduation rate at age 19, E=C E = 66.7%, C = 51.0% attend college by age 21, E>C E = 34.5%, C = 13.7%	Employed or in college at age 21 E = 65%, C = 40% Ever been charged by age 21, E = C E = 44.9%, C =41.2% Mean number of charges at age 21, E = C E = 2.76, C = 2.69 Lifetime arrests by age 21, E = C E = 1.82, C = 1.53

Sources: (1) **Perry Preschool** - Barnett, 1998, Table 1.1; Karoly et al., 1998, Table 2.2. (2)**Abecedarian** - Barnett, 1998, Table 1.1, Campbell et al., in press (a); Clarke and Campbell, 1998; Karoly et al., 1998, Table 2.2; Ramey, 1999, p.3

Notes: E= the children who received the intervention, C = control group who did not. Results that are not statistically significant are indicated by E=C, results that are significant at p<.05 level or better for the intervention group are indicated by E>C (E greater than). For the Abecedarian Study, E = children who received the preschool intervention, either on its own or followed by the elementary school intervention.

reading and mathematics until age eight and bi-weekly visits to the home by a resource teacher who provided customized learning activities for the parent to use with the child. Thus children in the project received one of the following between age four months and age eight:

- A centre-based program prior to school entry but nothing else.
- No preschool centre-based program but bi-weekly individual tutoring in basic academic skills and bi-weekly visits to the child's home for each of the first three years of elementary school.
- Both the preschool centre-based program and the individual tutoring and home visits in the first three years of elementary school.

The program

The child care program lasted eight hours a day, five days a week, 50 weeks a year. Parents also could voluntarily participate in a series of courses focusing on parenting skills, nutrition and health. Both project and control group families were provided with social work services as requested to assist with problems such as housing, both groups had access to free medical care, and the control children were given nutritional supplements to compensate for the nutritionally balanced snacks and meals received by the children attending the centre. The provision of social work, free medical care, and nutritional supplements to the control group adds confidence that the benefits found for the program reflect the effect of it, not other variables such as better nutrition. The centre program was staffed by trained teachers and had a ratio of one adult to three infants which gradually increased to one-to-six for preschoolers. Programming included activities to enhance social, perceptual-motor, language and cognitive development. The teachers were given in-service education and weekly consultative help in assessing children's needs, setting objectives, and implementing appropriate activities. [10]

Follow-up findings

The children in the project received one of the following between age four months and age eight:

- A centre-based program prior to school entry but nothing else.
- No centre-based program prior to school entry but bi-weekly individual tutoring in basic academic skills and bi-weekly visits to the child's home for each of the first three years of elementary school.

- Both the centre-based program prior to school entry and the individual tutoring and home visits in the first three years of elementary school.

Follow-up was done on the project participants and the control group children at ages 8, 12, 15 and 21. At age eight, the children who participated in the centre-based program prior to school entry out-performed those in the control group in both reading and mathematical skills as measured by standard assessment tests. This included out-performing children who did not receive the centre-based experience prior to school entry but did receive individual tutoring and the bi-weekly visits of a resource teacher to their home during the first three years of elementary school.

At age 12, children who had received only the centre-based program prior to school entry, or the centre program and the three-year individual tutoring and home visits in elementary school did better than the other children on standard tests of reading, mathematics, written language and general knowledge, see Table 3.3. The children who received only the elementary school intervention did better than children who did not receive any project program. There was little difference in ability between the group that attended only the centre-based program prior to school entry and the group that received both the centre-based and the elementary school programs. Thus, the addition of the individual tutoring and home visits during the first three years of elementary school did not result in a substantial additional benefit.

As illustrated in Tables 3.2 and 3.3, the children who participated in the centre-based program prior to school entry consistently did better than those who did not. This was in spite of the fact that 41 (75.9%) of the children in the control group attended a community child care centre for 12 months or more prior to school entry. [11]

TABLE 3.3: COMPARISON OF AVERAGE SCORES ON STANDARD TESTS OF ACADEMIC ACHIEVEMENT AT AGE TWELVE, ABECEDARIAN PROJECT

Group	Reading	Mathematics	ritten Language	General Knowledge
No intervention (N = 22)	83.77	84.68	87.41	84.00
Preschool only (N = 22)	89.41	91.82	93.14	93.77
Elementary school intervention only (N = 21)	85.76	87.43	91.62	86.67
Both preschool and elementary school interventions (N = 25)	90.96	90.80	97.68	92.24

Source: Campbell and Ramey, 1994, Table 4, no information provided on tests of significance.

3.2d *Project CARE* [12]

The program

This project, designed as a follow-up to the Abecedarian Project discussed above, compared at-risk children who were randomly assigned to:

- Home visiting only.
- Home visiting and participation in a centre-based program.
- A comparison group.

Families in the two project groups began receiving home visits one month after the child's birth and the children who participated in the centre-based program entered between age six weeks and three months. The home visiting and centre-based programs lasted until the children were, on average, age four-and-a-half. Home visits were done by a trained teacher who demonstrated activities to stimulate children's development and assisted the parents to develop problem-solving skills. On average, the project families received 2.5 visits a month until the children were age four, and then monthly visits until the end of the project. They also participated in monthly workshops that provided additional information about child development. The full-day, year-round program was based on that used by the Abecedarian project and had the same low staff-to-child ratios. The children in both project groups and the control group received iron-fortified formula until age 15 months and free medical and social services throughout the duration of the study.

The findings

At age four-and-a-half, the children in the group that received both the centre program and the home visiting obtained significantly higher scores on standard tests of language and of cognitive skills than did the children in the control group or whose parents received home visiting only. However, the combined centre based and home visiting program was not more successful in improving child test scores than the original Abecedarian centre-based only program had been.[13] No difference was found in outcomes between the group of children whose parents received home visiting only and the children in the control group who received nothing. This finding is consistent with the findings on the lack of effect on child development reported by other research on parent support services and discussed in the following chapter. No follow-up data past age five appear to have been reported.

3.2e *Discussion*

The Abecedarian, the Perry Preschool, and the eleven Consortium projects provided real-life, tangible benefits to the participating children in terms of enhancing their public school

careers and their life situation and prospects as young adults. These outcomes also benefited society through costs not incurred for services such as special education and social assistance. The costs not incurred can be substantial. In the U.S., the cost of repeating a grade is estimated to be about $6,000 per year per child while the cost of special education is estimated at roughly $8,000 annually per child. [14]

The centre-based program provided through Project CARE enhanced the children's school-readiness. Adding a home visiting component did not provide any additional benefit even though it was delivered by specially trained teachers, began almost immediately after the child's birth, and continued until the child was age four-and-a-half. It should be noted that Project CARE appears to have been the only study to specifically examine whether adding parental support services improves the outcomes for children who are receiving a high quality centre-based program. While it is inappropriate to draw conclusions on the basis of one study, the findings are provocative.

It should be noted that the centre-based programs provided by the Abecedarian and the Perry Preschool projects and by Project CARE were not unusually enriched. The researchers' descriptions indicate the sort of experience provided by high quality community child care centres when ratios and group sizes are within those recommended by experts,[15] the teachers have post-secondary education related to child development, the activities are developmentally-appropriate and encourage children to explore their environment, and there is a variety of stimulating materials. The one substantial and perhaps very important difference between these one-site research projects and high quality community child care is the on-going provision of in-service education and frequent consultation with experts. This could be expected to encourage and assist the teachers to engage in regular reflection about their practices and the resultant effects on the children's progress.

3.3 Large scale multi-site programs

The term 'large-scale programs' has been used in the U.S. to describe multi-site province/state or national programs provided free-to-the-user and targeting neighbourhoods whose socio-demographic characteristics are believed to put children at risk for developmental problems. The U.S. Head Start program is by far the largest example of this type of child-focused program and has had the most evaluation. Therefore, this section will focus on the U.S. Head Start evaluations.

3.3a Factors influencing the findings of Head Start evaluations

Starting with its inception in the mid-1960's, Head Start projects typically focused on providing four-year-olds with a five-days-a-week, half-day centre program during the nine-

month school year. As a result, the Head Start projects whose evaluation findings are discussed in this paper were all of shorter duration than the single-site research projects discussed earlier (nine months in contrast to two or more years) and began when the children were older. There is a growing body of evidence that intervention is more effective when started early in the child's life, and that there is an association between the intensity/duration of the program and its outcome. [16] In the past decade, Head Start has expanded into an Early Head Start program for children under age three and some Head Start and Early Head Start projects have begun to provide a full-day centre program.

Head Start is assumed to be a single model that is implemented in the same or very similar way across sites. This, however, is not the case. Although Head Start projects are required by the U.S. federal government to provide a centre-based program, health screening and referral, mental health services, hot meals that supply at least 1/3 of children's daily nutritional needs, social services for the child and family, and mechanisms for on-going parent involvement, [17] local communities have been encouraged to determine the programming approach that would be implemented at their site. As a result, Head Start centre programs range from being almost totally teacher-directed and didactic to having a curriculum that is child-centered and heavily dependent on learning games and exploratory activities. This means that an important component of Head Start and the one that has the most direct involvement with the children, the centre program, varies considerably across sites.

In addition, it is important to remember that Head Start was implemented as a service, not as a research or demonstration project. Instead of randomized assignment of children into program and control groups, evaluations have had to rely on comparison groups that have been matched on key variables, such a family income level, or on the use of statistical procedures to control for known differences between children who did or did not receive the program (see discussion of research methodology in chapter 1).

3.3b Studies that report Head Start outcomes in elementary school

In 1981, the U.S. government commissioned an in-depth review of the evaluation studies covering the first 20 years of Head Start. Over 1,800 research reports were reviewed and a meta analysis (a procedure that averages out the findings across all studies) was conducted on the 76 studies that had a comparison group of children who had not participated in Head Start. [18] The meta analysis found that at school entry, the Head Start children as a group had better health and nutritional status, higher levels of social skills, and obtained higher scores on tests of school readiness. Once in school, they tended to have lower rates of grade retention and lower rates of placement in special education classes. In light of the lack of universal health care in the U.S., the better health and nutrition status probably reflects the requirement that Head Start projects provide medical and dental screening with follow-

up treatment if required, ensure that children are immunized, and provide meals that supply at least 1/3 of children's daily nutritional requirements. Only nine of the 76 studies followed the children for more than three years. These studies indicated that the beneficial effects from Head Start participation found in the early years 'faded out' later with no between-group differences remaining for school achievement after grade three.

A more recent 1998 review concentrated on studies that followed the children until at least grade three and had a comparison group that was either comparable on key variables or where the researchers used statistical techniques to adjust for known differences between the two groups before doing data analyses. [19] All 12 studies reported achievement test results.[20] The findings were as follows:

- six studies – no significant difference at any point in time between the Head Start children and the comparison group.
- three studies – the Head Start children did better on achievement tests in grade one, but there was no between-group differences in higher grades.
- one study – higher achievement test scores among Head Start children at grade four, no follow-up in subsequent grades.
- one study – the Head Start children did better up to grade six, but no between-group differences after that grade.
- one study – higher achievement test scores among both African-American and white Head Start participants at school entry but only among white participants in later grades. [21]

Four studies measured rates of grade retention and all reported lower rates for Head Start children. [22] One study reported data on high school graduation with 50% percent of the Head Start participants graduating in contrast to 33% of the comparison group.[23]

In summary, the 1998 review found mixed results with some projects reporting clear benefits to the children while others did not, and some evidence that when academic benefits occur they may fade out over time. Possible reasons for the variability in findings include differences in the centre program approach and content in different studies and the well-known variability in the quality of Head Start centres.

3.3c *A study that followed Head Start participants into adulthood*

The first study to follow Head Start children and a comparison group beyond school, *Into Adulthood: The Effects of Head Start*, was released in 2000.[24] The sample consisted of 290 adults with an average age of 22 who had attended Head Start in 1970 or 1971 in one of two sites, Florida or Colorado, and a comparison group of 332 young adults who had neither attended Head Start nor any other centre-based early childhood program prior to school entry. The Florida Head Start group was further divided into 86 subjects who had attended a 'regular' Head Start program and 74 who attended a 'model' Head Start program. The model program had been part of the Head Start Planned Variation Project. It had used the High/Scope model curriculum that was used in the Perry Preschool project and was staffed by teachers who received special training in using this curriculum as well as on-going consultation from the curriculum designers. The researchers compared outcomes for both the total sample of Head Start participants and the total comparison group, and for the two different Florida Head Start groups.

The fact that the evaluation was a retrospective follow-up with a comparison group selected 17 years after the fact presented a major problem. The investigators made a concerted effort to match the Head Start and comparison groups on key factors, for example, by selecting comparison group members from young adults who had lived on the same streets or in the same census tracts as the Head Start children and then went to the same or a neighbouring elementary school.

However, as a result of interviews with the young adults, it became evident that the Head Start group was more disadvantaged. The parents of the Head Start group tended to have lower educational levels, Head Start children on average had a higher number of siblings, and a higher proportion of the families had been on social assistance. Two university-affiliated statisticians each did independent analyses and both used statistical techniques to adjust for differences between the two groups. Nevertheless, both reported that the initial non-comparability of the Head Start and comparison groups was a major threat to the data analyses and resulted in a bias ***against*** finding positive effects from participation in Head Start. [25]

TABLE 3.4: MEANS OF OUTCOME VARIABLES BY HEAD START STATUS AND GENDER; *INTO ADULTHOOD: THE EFFECTS OF HEAD START* STUDY

Outcome variable	Gender	Florida		Colorado	
		No H.S.	H.S.	No H.S.	H.S.
Grade point average, grades 1 - 4	male female	2.53 2.82	2.51 2.77	2.82 2.75	2.66 2.64
Grade point average, grades 9 - 12	male female	1.98 2.05	1.80 2.18	2.30 2.35	1.76 1.94
High school completion	male female	89.3% 81.1%	78.3% 95.1%	88.6% 79.6%	84.2% 83.9%
Attainment of some post-secondary education	male female	47.3% 51.7%	36.7% 64.3%	48.6% 62.7%	31.6% 42.1%
Adult literacy, numeracy test score	whites non-whites	29.8 27.9	26.3 27.8	30.2 27.5	26.5 24.4
Incidence of having been arrested	male female	38.2% 14.9%	44.8% 5.0%	65.7% 35.7%	60.4% 21.8%
Incidence of having been convicted	male female	27.5% 9.6%	30.7% 5.0%	48.6% 23.1%	49.9% 17.7%
Receipt of social assistance as an adult	male female	16.0% 56.3%	27.8% 66.0%	20.0% 57.6%	28.2% 65.0%

Source: Oden, Schweinhart and Weikart, 2000, Table D. 14.

Note: The means and percentages reported above reflect the findings after various statistical procedures had been used to compensate for baseline differences between the Head Start and the comparison groups. Instead of reporting findings for literacy and numeracy by gender, the investigators report by ethnic origin. Non-white is African-American in Florida and Hispanic-American in Colorado. In both states, 'white' refers to all subjects other than African- or Hispanic-American.

After statistical procedures to adjust for differences in the level of disadvantage between the Head Start and the comparison groups, there were no statistically significant differences in outcome.

As noted earlier, a sub-group of the Florida Head Start participants attended a model Head Start program that used the same curriculum as used in the Perry Preschool project and employed teachers who were trained and supervised in its implementation. Participation in the ***model*** program was associated with:

- Significantly better grade point averages in elementary, middle, and high school than attained by participants in the regular Head Start program.
- Significantly fewer arrests and significantly fewer convictions.
- A lower incidence of teen pregnancies and unemployment, although the differences between the model and regular Head Start groups were not statistically significant.[26]

These differences between the model and the regular Head Start programs operated in Florida, for the same number of hours per week, and serving the same pool of subjects, indicate the importance of having trained people implement a program that has been deliberately designed to support and enhance children's development.

3.3d Discussion

Summary of the evaluation findings

Collectively, the Head Start findings discussed above indicate that:

- The provision of health screening and referral, the efforts to ensure that all children are immunized, and the provision of nutritious meals have a beneficial effect on the children's health and nutritional status.
- Participation in Head Start reduces the incidence of grade retention.
- Participation in Head Start can ***sometimes*** benefit children's school readiness.
- Participation in Head Start can ***sometimes*** reduce the incidence of placement in special education classes.
- Participation in Head Start can ***sometimes*** have beneficial effects on standard achievement tests and grade point averages.

The ambiguous nature of these collective findings raises a number of questions, including: (1) Why is there so much variation in the effect of Head Start programs? (2) Why do benefits to academic functioning sometimes fade out during the elementary school years, and (3) Why did some evaluations find no benefit from participation in Head Start?

Why is there so much variation in the effect of Head Start programs?

As noted earlier, Head Start centre programs vary considerably in their overall approach and their content. In addition, they vary considerably in terms of their quality. [27] This hetogenerity probably contributes to the variation in outcome evaluation findings.

What may contribute to fade-out?

Two studies suggest a possible explanation for the fade-out phenomenon. Both studies examined the quality of the elementary schools attended by children from similar low-income backgrounds who had or had not participated in Head Start. Both found that the elementary schools attended by the Head Start graduates were of much poorer quality in terms of variables such as teacher-student relations, safety, and the academic climate.[28] The researchers speculate that the gains made by children in Head Start are eroded when the subsequent elementary school experience fails to support their further development adequately. A Canadian study has demonstrated the importance for outcomes of the "climate" and expectations of children's performance in elementary school, even when students' different family backgrounds are taken into account.[29]

Why do some Head Start programs fail to benefit their participants?

The explanations put forward to explain the failure of some Head Start programs to benefit children range from questioning whether it is realistic to expect part-day early childhood programming, usually only for one school year, to make a real difference to children's development, [30] through observations that the Head Start group in various evaluation studies has been more disadvantaged than the control group, [31] to expression of concern about the level of quality in many Head Start centre programs. [32] As acknowledged by Edward Zigler, one of the architects of Head Start, poor centre quality has been a major problem throughout the program's existence with low staff wages, high staff turnover and fewer than 50% of the teachers with college credentials. [33]

Writing in 1997, an observer notes that since 1967 the federal agencies administering Head Start have insisted that program quality and employment opportunities for local community residents receive equal emphasis. In some cases, *"It now appears that the goal of providing jobs for the low-income unemployed has grown to be more of a concern to sponsors than the quality of the children's program."* [34] A study of 32 Head Start classrooms conducted in

1991 and 1992 using a standard observation tool [35] found only three (9%) that were providing a level of care that would support and stimulate children's development. [36] These researchers report that after controlling for the level of stimulation and parental support in the home using a standard measure [37] the level of quality in the Head Start classroom predicted the children's pre-academic skills at the end of one year (nine months) of participation. [38]

3.4 Summary and Conclusions

- Single-site centre-based research projects, with their provision of a high quality experience that supports and stimulates children's development, benefit both the child and society by increasing school readiness, school achievement, and the likelihood of graduating from high school, and reducing grade retention and the use of special education classes. Only two projects have reported data collected when the children were young adults; both found indicators of greater life success such as increased rates of employment.

- Head Start programs ***sometimes*** produce the same types of beneficial effects on school readiness and school career as found in single-site research projects but the effects are smaller. However, in many studies, including the only study to follow Head Start children into adulthood, there is no evidence of benefit from participation in the Head Start program.

There are several plausible explanations for the different outcomes between the single-site research projects and Head Start multi-site programs. First, the research projects usually began when the child was younger. Development is sequential and tasks that need to be accomplished at age four and five are heavily dependent on a scaffold of basic competencies having been established at an earlier age. Second, the research projects were more intense — typically full-day rather than part-day. Third, the research projects were usually of longer duration, two or more years, not the nine months typical of the Head Start programs that have been evaluated. There is a growing body of evidence that programs to enhance the development of children at risk are more effective when started early in the child's life, and that there is an association between the intensity and duration of such programs and outcome. [39] Fourth, the research projects had a higher level of funding. Adequate funding enables programs to: (1) attract adequately trained staff, (2) pay them decent wages which encourage staff to stay and provides continuity of relationship for the children, (3) ensure that child-to-staff ratios are reasonable and enable the provision of individualized attention, and (4) provide a program that is varied and stimulating. These four components are essential for an effective centre-based early childhood program for children at risk for developmental problems.

Notes

1 The term 'developmentally-appropriate activities' refers to activities that take into account the child's existing developmental level knowledge and skills.

2. Conger et al., 1992; McLoyd, 1990; Peterson and Peters, 1985; Portes, Dunham and Williams, 1986; Ross, Scott and Kelly, 1996; Zill et al., 1991.

3. Lazar et al., 1982.

4. Gray, Ramsey and Klaus, 1983.

5. Schweinhart, Barnes and Weikart, 1993.

6. Berrueta-Clement et al., 1984; Schweinhart, Barnes and Weikart, 1993; Schweinhart and Weikart, 1980; Weikart, 1967; Weikart, Bond and McNeil, 1978.

7. Campbell et al., 1998; Campbell and Ramey, 1994; 1995; Clarke and Campbell, 1998; Ramey et al., in press; Ramey and Campbell, 1984; 1991; Ramey, Dorval and Baker-Wood, 1983.

8. Ramey et al., 1990; Wasik et al., 1990.

9. Weikart, Kamii and Radin, 1967, p. 76.

10. Clarke and Campbell, 1998, p. 322; Ramey et al., 1982, pp. 163-65.

11. Burchinal, Lee and Ramey, 1989, p. 130.

12. Ramey et al., 1990; Wasik et al., 1990.

13. Ramey et al., 1985.

14. Currie, 2000.

15. Canadian Child Care Federation, 1991, p. 9.

16. National Research Council and Institute of Medicine, 2000, p. 363.

17. Zigler and Styfco, 1994a, p. 129.

18. McKey et al., 1985.

19. Barnett, 1998, Table 1.2. The studies were: Abelson, Zigler, and DeBlasi, 1974; Currie and Thomas, 1995; Evans, 1985; Goodstein, 1975; Hebbeler, 1985; Kanawha Board of Education, 1978; Lee et al., 1990; McDonald and Munroe, 1981; O'Piela, 1976; Pinkleton, 1976; Reedy, 1991; Westinghouse Learning Corporation and Ohio University, 1969.

20. Ibid., Table 2.

21. Currie and Thomas, 1995.

22. Barnett, 1998, Table 2.

23. McDonald and Munroe, 1981.

24. Oden, Schweinhart and Weikart, 2000.

25. Ibid., pp. 143 and 183.

26. Ibid., p. 177.

27. Farran, 2000; Zigler and Styfco, 1996.

28. Currie and Thomas, 1997; Lee and Loeb, 1995.

29. Willms, 1997, p. 24.

30. Currie and Thomas, 1995; Hebbeler, 1985; Lee et al., 1990; Zigler, Styfco and Gilman, 1993.

31. Bryant et al., 1994; Zigler and Styfco, 1994.

32. Zigler and Styfco, 1996.

33. Ibid., p. 141.

34. Omwake, 1997, p. 226.

35. *The Early Childhood Environment Rating Scale,* Harms and Clifford, 1980.

36. Bryant et al., 1994, p. 299.

37. The *Home Observation for Measurement of the Environment* (HOME) scale, Caldwell and Bradley, 1984.

38. Bryant et al., 1994, p. 301.

39. National Research Council and Institute of Medicine, 2000.

4

Targeted parent-focused programs

4.1 INTRODUCTION

Parent-focused programs have a variety of primary objectives, some of which relate solely to the parent, for example, the reduction of repeat pregnancies in teenagers. [1] This chapter concentrates on the research from those parent-focused programs where the primary goal is promotion of at-risk children's development.

Parent-focused programs intended to promote the development of at-risk children do not constitute a delimited set of strategies. Instead they vary in components, in intensity, and in duration. Some involve home visiting during which supportive adult-child interactions are modelled and the mothers are provided with information on child development and activities to do with the children; while others provide a range of services aimed at supporting family functioning in general. Many parent-focused programs also include working directly with the children in a group program.

All the programs discussed in this chapter are based on the assumption that at-risk children's development can be promoted by supporting the family, or by changing the parent's behaviour and/or the home as a learning environment. Evaluation findings from programs that focused solely on the parent are not encouraging. Some programs, but not all, were found to influence parenting behaviour and/or to improve the home as a learning environment. When changes in parenting and/or the home environment occurred there was also sometimes, but not always, evidence of short-term developmental gains for the children. Lack of follow-up studies beyond school entry makes it impossible to determine if gains, where they occurred, carried through to the children's subsequent school careers.

The findings from programs that included a group program for the children are more encouraging. Most report developmental gains with the most benefit appearing to occur when the children's program is the most developmentally stimulating and intense, for example, the Kingston and Walpole Island (Ontario) Better Beginnings, Better Futures sites. The apparent importance of program quality and intensity is consistent with the findings for the targeted group programs for children discussed in the previous chapter. Unfortunately, no program combining a parent and children's component provides child outcome data beyond senior kindergarten.

On the basis of the research findings, many child development experts have concluded that greater benefits for at-risk children's development result from child-focused, group programs that work directly with children than from indirect approaches such as delivering parenting education to parents. [2]

4.2 Single-site research projects

Single-site research projects are able to randomly assign parents into a program and a control group. As a result, they are able to maximize the probability that any differences between the two groups are the result of the program rather than some pre-existing between-group differences.

Some single-site research projects focus their program solely on the parent. Others provide a combination of a parent-focused program and a group experience for the children. The first approach enables consideration of the effectiveness of a parent-focused program per se. In 'combination' programs, it is difficult to separate out the influence of the parent-focused program from that of the children's group program. For the sake of clarity, the two approaches are discussed separately.

4.2a Research projects focusing solely on the parent

Of nine parent-only programs, five failed to demonstrate any differences between the program and the control groups at the end of the project. [3] Four showed some effect on parenting behaviour and/or the home environment. In three of these four programs, the children in the program group had higher scores on a measure of cognitive functioning than did children in the control group at the time of program termination or follow-up. [4] In one of the programs, however, this benefit for children was only observed in one of three cohorts and for only one of two measures.[5] None of these three projects followed the children beyond school entry and therefore it is not possible to know if the parent program was associated with any differences in the children's school performance.

The tenth program, the Elmira Prenatal and Early Infancy Project,[6] is probably the best known and certainly the most intensive parent-focused research project. It targeted first-time mothers with low educational levels who were living in low-income families. Participants typically were enrolled prior to the end of the second trimester of pregnancy and remained in the program until their child's second birthday. The program consisted of weekly home visits by a registered nurse during the first month after enrollment then bi-weekly until the birth of the baby. The nurse again visited weekly for six weeks after the birth, then bi-weekly until age 21 months and finally once a month between the child's 21st and 24th month. On average, visits lasted between 75 and 90 minutes.

At age four, a larger number of development-promoting materials was found in the homes of children in the program group and fewer safety hazards. However, there were no other significant differences in the home environment between the program and the control groups. At ages three and four, there were no differences between the program and control groups on measures of the children's cognitive abilities. The next follow-up was at age 15. At that time, the children whose mothers had been in the program had lower rates of arrest and of conviction and also smoked and drank less.[7] No data are provided on tests of school readiness nor on school achievement. While the program does not appear to have influenced the children's development, it did have a beneficial effect on pregnancy outcomes, the incidence of child neglect or abuse, and number and spacing of subsequent pregnancies. There were no significant differences between the program and control groups on any other measure of health status or maternal employment history at the time of final follow-up.

In summary, results from research projects that focused solely on the parent are mixed. Some programs were found to influence parenting behaviour and/or the home environment but others did not. When changes in parenting or the home occurred, there was also sometimes evidence of short-term benefit for children's development. However, lack of follow-up data beyond school entry makes it impossible to determine if gains, where they occurred, carried through to the child's subsequent school career.

4.2b Combination parent-focused and children's group program research projects

Generally evaluations from research projects that combined a parent-focused program with a group program for the children did not follow the participating children beyond the end of the project, usually at age two or three. [8] As a result, they do not have data on school readiness. Table 4.1 provides information on the evaluation findings from three projects that both used randomized assignment into the program and control groups and conducted long-term follow-up on both groups of children. In all three programs, the home visitors showed the mothers specific activities to do with the children that would promote language and cognitive development and the children received an educational group experience as well.

TABLE 4.1: EVALUATION FINDINGS FROM THREE COMBINATION PARENT-FOCUSED AND CHILDREN'S GROUP PROGRAM PROJECTS

Project	Initial sample	Follow-up sample	Latest follow-up	Program	School skills, educational attainment	Behaviour
The Florida Parent Education Project (Jester and Guinagh, 1983)	E = 288 C = 109 Entry, age 3 - 24 mth, exit at age 3	E = 83 C = 24	yearly, to grade 7	Weekly home visits to mother and twice a week part-day preschool program for children at ages 2 and 3	math achievement, E >C reading achievement, E = C use of special education by grade 7, E<C E = 23%, C = 54% grade retention by grade 7, E = C E = 28%, C = 29%	Classroom behaviour problems, E = C
The Early Training Project (Gray and Klaus, 1970; Gray, Ramsey and Klaus, 1982; 1983)	E = 44 C = 21 Entry age 4 or 5, exit at age 6	E = 36 C = 19	age 19	Weekly home visits to mother for the nine months of the school year for 2 years, preschool for 10 weeks, half day, five days a week for each of two summers	achievement tests at age 7, E>C achievement tests at ages 10 & 17, E = C use of special education by age 18, E<C E = 5%, C = 29% grade retention, by age 18 E=C E = 58%, C = 61% high school graduation by age 18, E = C E = 68%, C = 52%	Teen pregnancy through age 18, E = C
Houston Parent-Child Development Center (Andrews et al., 1982; Johnson and Walker, 1991)	E = 97 C = 119 Entry age 1 - 3 yr, exit age 3 - 5 yr	school data E = 50 C = 87 achievement tests E = 39 C = 76	yearly, to grade 5	30 home visits in year one, 12 hours a week of parent group sessions in year two. Four part-day group sessions a week (12 hours a week) for 8 months in year two for the children	achievement tests, ages 8 - 11, E = C grades, ages 8 - 11, E = C special education by age 11, E = C, E = 27%, C = 31% grade retention by age 11, E = C, E = 16%, C = 29% need for bilingual education at age 11, E<C E = 14%, C = 36%	Teacher ratings of behaviour problems, E = C

Notes: E = the program group, C = the comparison group. Differences that are not statistically significant are indicated by E = C, differences that are significant in favour of the program group at a $p<.05$ level or better are indicated by E>C (E greater than).

As indicated in Table 4.1, two of the three projects report higher average scores on achievement tests among the program children and a lower rate of placement in a special education class. However, it is not possible to determine the extent to which the children's developmental gains resulted from their group program or from the training their mothers received. As discussed in Section 3.2d of the previous chapter, adding a home visiting parent education program to a full-day educational group program does not appear to improve the level of benefit obtained by children over that obtained by children who receive only a centre-based group program.[9]

The Houston (Texas) Parent-Child Development Center project is the only one of the three to provide information about the effect of the program on parenting skills and the home environment. Observations of the parents with their children at the end of the program indicated that program mothers talked with their children and elaborated on their verbalizations more frequently than did the control mothers. They were also more affectionate with their children and gave them more praise. The program group obtained a significantly higher score on a standard measure of the home as a learning environment (the *Home Observation for Measurement of the Environment).* [10] However, in this group of Mexican-American families, the only between-group difference for the children was a reduced need for bilingual education classes. This finding is more likely to reflect the influence of the eight months of part-day group sessions obtained by the children prior to school entry than the effect of their parents' improved parenting skills.

4.3 Large-scale multi-site programs

Large-scale multi-site programs target families with preschool children who are living in conditions deemed to put the child's development at risk, for example, low-income neighbourhoods. Unlike single-site research projects, they serve families in multiple neighbourhoods across a large urban area, or a whole province, state or country. Since the program is open to any family in the targeted community, researchers cannot randomly assign parents to a program and a control group. Instead, they have to rely on a comparison group obtained after-the-fact, for example, a group of children living in the same neighbourhood whose parents did not participate in the program.

There are three Canadian large-scale multi-site parent-focused programs: (1) the federally-funded *Community Action Program for Children* (CAPC), (2) Ontario's *Better Beginnings: Better Futures,* (3) The Toronto District School Board's *Parenting and Family Literacy Centres.* This section reviews outcome evaluations from Canadian programs and also from the U.S. *Home Instruction Program for Preschool Youngsters* (HIPPY). This U.S. program is probably the largest targeted parent-focused program in that country and provides follow-up findings beyond the end of the actual program. The first HIPPY program in Canada was launched in

Vancouver in 1999 with 52 families participating in it for six months. An interim report indicates high levels of parent enthusiasm but does not provide any data on child outcomes.[11]

4.3a The Community Action Program for Children (CAPC) [12]

Background

CAPC was established in 1993 as part of the federal government's Child Development Initiative. It targets children from birth to age six and has, as its primary purpose, the promotion of at-risk children's development. As of 1997, there were 1,726 CAPC programs across Canada with programs in every province, the Northwest Territories and the Yukon. Among them, they provided services to an average of 28,765 children every week. [13] Depending on the site, program components include one or more of:

- Home visiting.
- Group parenting education courses.
- One-on-one developmental programs for children.
- Group programs for parents and children.
- Group programs for children only.
- Community outreach and organization.

Research methodology

The importance of evaluating CAPC was recognized at the outset and a set of standard methods for collecting assessments on the conditions of family risk and the level of child functioning were developed for use across Canada. The CAPC evaluation compares children whose families participated in CAPC and children from families with similar income levels from the *National Longitudinal Survey of Children and Youth* (NLSCY). To-date, the only hard child outcome data available is published in a document that is labelled an 'interim national report.' It covers the period from entry into a CAPC program and nine months later and uses information that was collected on 1,146 participants. A second national follow-up of families 24 months after entry has been completed but the report is not yet available. [14]

Findings

There are strong indications of high parent satisfaction levels with CAPC. The Atlantic Region CAPC evaluation reports that on a 10-point scale, with ten being wonderful, 88 percent of parents rated CAPC as eight or better.[15] When describing their experiences, parents stated they were welcomed, comfortable in the settings and felt very supported. Furthermore, 54% reported positive changes in their relationships with their children, 56%

reported improvement in their children's social skills, and 30% stated that their child's language skills had improved.[16] (It is important to note that these reports of improvement are based on parental opinion, not actual assessment).

The hard data from the national interim report indicate a decline in maternal depression and negative caregiving among the CAPC participants; and the reductions were greater than those experienced by the comparison NLSCY parent respondents. [17] Child motor and social development among the CAPC participants remained the same after nine months while there is a downward trend in reported levels of child emotional and behavioural problems. In contrast, in the NLSCY comparison group there is a downward trend in motor and social development as well as in reported child emotional and behavioural problems. [18] No data are provided from assessments of school readiness.

Discussion

The extent to which children benefit from their families' participation in CAPC, and the component that might be responsible for any benefit is impossible to determine from the evaluation reports for the following reasons:

- All the findings related to the children's development are either anecdotal, as in the parents' reports, or presented graphically rather than statistically, for example, average scores for the program and the comparison group. Graphs may magnify small but non-significant differences (no information is provided on the extent to which any of the differences reported are statistically significant).

- CAPC sites vary in their mix of components, the way in which a particular component, such as parenting education, is provided, and the intensity of each service. While this is a strength in terms of meeting community needs and preferences, the variability across sites means there is no single CAPC model. The interim report on the national evaluation does not address this variability in components across sites but instead combines and reports data from sites with different components together. As a result, it is impossible to determine which CAPC components are the most effective in promoting children's development, if, in fact, there was a statistically significant difference between the program and comparison groups.

In summary, the CAPC evaluation reports indicate that parents feel supported by CAPC and there is some indication that it has a positive effect on their parenting style. There is no hard evidence that CAPC promotes children's development or assists them to be more ready for school.

4.3b *Better Beginnings, Better Futures* [19]

Background

Better Beginnings, Better Futures is a 25 year longitudinal demonstration project targeting children and their families living in communities whose characteristics are believed to put children at risk for developmental problems. In 1991, the Ontario government selected specific neighbourhoods in eight communities to be project sites. Five focus on children from conception to age four (the "younger cohort") and three focus on children between the ages of four and eight (the "older cohort"). Funding began in 1991 with the actual programs becoming fully operational in 1993. The first group of children and their families began to receive services in 1994. The government guidelines for this project were ambitious and required each site to:

- Implement and maintain prevention services aimed at promoting child development.
- Foster resident participation in determining local needs and designing, implementing and maintaining programs.
- Develop and foster partnerships among community services.
- Engage in broad community development.

Not surprisingly, *"Sites interpreted this broad mandate in various ways, and found that they could not give equal attention to all parts of it, so that different choices from site to site were made about where to invest the most energy."* [20] For example, among the younger cohort sites Kingston put much of its emphasis on direct programming with the children while Guelph had a strong emphasis on broad community development and creating service partnerships. [21] There were also between-site differences in the same individual program component. Home visiting was a core component in all of the younger cohort sites but there was between-site variation in the background and training of the home visitors, the frequency of home visits, and the age up to which visits were made.[22]

Given its purpose, this report will focus on the outcome measures related to child development and on the younger cohort sites, namely Walpole Island, a First Nation community, and low-income neighbourhoods in each of Guelph, Kingston, Ottawa, and Toronto (see Table 4.2). Thus, no findings related to parent health and nutrition, general family functioning, or neighbourhood outcomes are reported.

Research methodology

Since it was not possible to have randomized program and control groups, the researchers used two quasi-experimental designs. The first, called the "baseline-focal design," was a comparison between baseline data collected on children aged 48 months and their families in

the project sites before the programs began and data from children age 48 months and their families in the same sites after the programs had been operating for five years. The second design, called the "longitudinal comparison site design," involved recruiting a group of infants and their families in each target site and in three comparison neighbourhoods where there was no Better Beginnings, Better Futures funding plus another different community (Peterborough). Outcome measures on these approximately 700 children and their families were collected when the children were 3, 18, 22 and 48 months of age. As evident in Table 4.2, the two designs used different outcome measures.

Findings

Table 4.2 illustrates that there were : (1) similarities and variations in findings across sites, (2) general across-site patterns, and (3) site-specific patterns. (See the table note for an explanation of the various notations and symbols used in it). Specifically, there were:

- three general across-site patterns: (1) junior kindergarten teachers reported decreased emotional problems in three of the four sites for which this information was available; (2) children showed evidence of improved ability to process and respond to verbal communication (auditory attention and memory) in four of the five sites; (3) there was no improvement found in non-verbal problem-solving at any site.

- findings from other measures, such as parent report of behaviour problems and consistency of parenting approach, are inconsistent across sites.

- a site-specific pattern of improved social-emotional functioning and school readiness emerged in Kingston and non-significant trends in that direction were also found in Ottawa. A second site-specific pattern, improved language, motor, attention and memory development along with improved general parenting approach and parent-child interactions, was found in Walpole Island.

Factors that may have influenced the findings

No other program providing only home visiting or only parenting education for parents whose children are deemed to be at risk has reported improvements in children's social-emotional functioning, as found in Kingston and Ottawa. The researchers suggest that the Better Beginnings, Better Futures findings may reflect the combination of home visiting, playgroups and group programs for children provided in all five sites. In particular, the general finding of reduced teacher ratings of emotional problems in junior kindergarten students may reflect the increased number and variety of socialization and play experiences in the Better Beginnings, Better Futures communities. *"Anxiety at school entry is a common*

phenomenon in young children and increased experience with other children and other adults during the preschool years increases the likelihood of positive emotional adjustment in kindergarten."[23]

Overall, the greatest benefit occurred in Kingston and Walpole Island while there were few gains related to children's development in Guelph. What might explain these across-site differences? All three sites had a home visiting program, provided other types of parenting education such as formal parent education groups, and operated both children's play groups and parent/child drop-in programs.[24] According to the researchers, *"Kingston also invested extensive program resources in child care, both by enriching local daycare centres in the neighbour-hood and also by providing a large number of informal child care experiences for children."* [25] These informal child care experiences included supervised children's play groups available three times a week. Furthermore, Kingston was the only site to intentionally support continued involvement with the child and family from prenatal home visiting through various types of parent-child and children's programs until school entry.[26]

In the Walpole Island Better Beginnings, Better Futures site there was, *"A high quality local day care facility that was attended by over fifty percent of the children participating in the research at age 48 months."* [27] The only prevention projects that have had success in improving cognitive development and language skills in at-risk preschool children, such as the Abecedarian and Perry Preschool Projects discussed in Chapter 3 have provided intensive, centre-based educational programs. Thus, the finding of cognitive improvement only in the Walpole Island site is consistent with other research. There was also substantial improvement in parent-child interactions in this site. The researchers suggest this may reflect the emphasis on parenting and the quality of the *"programs developed and implemented in conjunction with the local parent-child centre."* Like Kingston, the Walpole Island site was also characterized by, *"Continuity of the home-visiting and parent-child play-groups provided to young children by the Better Beginnings Project."*[28]

In contrast, Guelph put most of its emphasis on community development and spent only half as much of its core funding on family visiting. The majority of the focused programming for children in Guelph involved a kindergarten readiness program of eight sessions a month for three-year-olds.

TABLE 4.2: OUTCOMES: BETTER BEGINNINGS, BETTER FUTURES PROJECT

Measures	Baseline-Focus Design					
	Guelph	Kingston	Ottawa	Toronto	Walpole Island	Total sample
JK Teacher rated:						
Decreased emotional problems	na	0.72**	0.23	0.25	-0.09	0.27**
Decreased behavioural problems	na	0.33	+	-	-	+
Increased prosocial behaviour	na	0.12	+	-	-	+
Increased school readiness	na	0.43**	+	-*	+	+
Decreased behavioural problems, parent report	-	+	-	+	+	+*
Cognitive functioning:						
Improved receptive language	-**	+	+	+	-*	-
Improved non-verbal problem-solving	-	-	-	-	-	-*
Measures	**Longitudinal Comparison Site Design**					
	Guelph	Kingston	Ottawa	Toronto	Walpole Island	Total Sample
Improved temperament, parent report	+	-	+	-	-	-
Improved developmental quotient:						
Overall	-	-	-	-	0.38	-
Expressive language	-	-	-*	-	0.57**	-
Receptive language	-	+	+**	+*	0.11	+
Fine motor	+	-	+*	-	0.41	+*
Gross motor	+	-**	-**	+	0.68**	-
Auditory attention and memory	-0.12	0.35	0.52*	0.47*	0.47	0.36*
Visual attention and memory	-	-*	-	+	0.08	-
Parenting:						
More consistent	-	-*	+	+	-	-
Less hostile/ineffective	-	-	-	+	-	-
More positive parenting	+	+*	-	+	+	+
Improved parent-child interaction	na	-0.65*	+	-	1.01**	-
Improved general rating of parenting quality	na	-0.08	+	+	0.35**	+

Source: Peters et al., 2000, Appendix 1.1

Note: In the above table, 'na' signifies that either the information was not collected or there were too few subjects to enable data use. The numbers represent effect size attributable to Better Beginnings, Better Futures, that is, the extent of difference between groups or change over time. By convention, an effect size of 0.20 is considered to be small, one of 0.50 is spoken of as being moderate, while one of 0.80 is treated as large. Degree of statistical significance is indicated by * if $p < .05$ and ** if $p < .01$. A symbol of '+' indicates that the difference favoured Better Beginnings, Better Futures while '-' indicates an undesirable or non-beneficial effect. These symbols occur when an effect size is not reported.

In summary, the success of the Kingston and Walpole Island sites may reflect both involvement of the children and their families in on-going programming throughout the period from birth to age four and the provision of substantial opportunities for children to engage in supervised group programs for children during all four years. The benefit of such formal group children's programs during the preschool period has also been found by the Canadian National Longitudinal Survey of Children and Youth [29] and in a nation-wide study in Britain.[30] The researchers themselves note that, *"Short-term outcomes were greatest in the area of program focus, with child-focused programs [strongest in Walpole Island and Kingston] affecting child outcomes, parent/family focused programs effecting parent and family outcomes."*[31]

Discussion

There is clear, statistical evidence that at-risk children's development was enhanced in some of the Better Beginnings, Better Futures sites. As with the CAPC evaluation, it is difficult to disentangle the influence of the various Better Beginnings, Better Futures program components. Furthermore, families could and did use other community services, such as child care, a fact that makes it difficult to determine the extent to which gains were the result of Better Beginnings, Better Futures or another service. As noted by the researchers, the evidence seems to support the theory that the child-focused programs, whatever their source, had the most effect on children's social-emotional and cognitive development. This is consistent with other research.

4.3c The Toronto Parenting and Family Literacy Centres [32]

Background

These centres, which are located in thirty-four elementary schools across the former City of Toronto, are open to all families with a child under age five who live in the neighbourhood. They reach an estimated 7,000 families at any one time. All the centres provide the same mix of services:

- An opportunity for parents or the child's other regular caregiver to participate with the child in a children's program.
- A lending library of children's books, books on child development, music tapes, and toys.
- Parenting education and adult literacy and numeracy courses.
- Information about other community services.

Research methodology

In the first year of what is to be a multi-year evaluation, junior kindergarten students from 10 different downtown schools who had attended a Parenting and Family Literacy Centre and a comparison group of children from the same classrooms who had not were assessed by their teachers for school readiness, literacy skills, and numeracy skills. In the second year, when they were in senior kindergarten, the same group of students was assessed using the Early Development Instrument (EDI) [33] developed by the Canadian Centre for Studies of Children at Risk, McMaster University, Hamilton.

Findings

A draft report from this project indicates that the junior kindergarten teachers rated the children who had attended a Parenting and Family Literacy Centre as more advanced in each of overall school readiness, literacy skills, and numeracy skills (see Table 4.3). The teachers also noted in subsequent interviews that children with centre experience had better social skills, adjusted to school more easily, had better listening skills, and were better able to operate in a group. When the children were assessed using the EDI in the following year, a smaller percentage of children who had centre experience than comparison group children obtained scores in the lowest 30th percentile in any of: (1) social competence, (2) emotional maturity, (3) language/cognitive development, or (4) communication skills/general knowledge (see Table 4.4). The greatest between-group differences were in social competence and language/cognitive development. There was much less difference in emotional maturity and communication skills/general knowledge.

TABLE 4.3: PROPORTION OF CHILDREN RECEIVING A HIGH JUNIOR KINDERGARTEN TEACHER RATING, *TORONTO PARENTING AND FAMILY LITERACY CENTRES*

Variable	Program group N = 108	Comparison group N = 108
Overall school readiness	54%	9%
Literacy skills	45%	7%
Numeracy skills	50%	9%

Source: Yau, forthcoming, Figure 1.

TABLE 4.4: PROPORTION OF CHILDREN AT THE LOWEST THIRTIETH PERCENTILE AS MEASURED BY THE EARLY DEVELOPMENT INSTRUMENT (EDI) WHEN IN SENIOR KINDERGARTEN, *TORONTO PARENTING AND FAMILY LITERACY CENTRES*

Variable	Program group	Comparison group
Social competence	27%	55%
Emotional maturity	29%	37%
Language/cognitive development	28%	51%
Communication skills/general knowledge	37%	54%

Source: Yau, personal communication.

Discussion

These evaluation findings are encouraging. However, again it is not possible to determine the extent to which the benefit received by the children reflects the influence of participation with other children in a group program versus the provision of parenting education and other parent supports. The finding that the greatest between-group difference at senior kindergarten was in social competence suggests the influence of the experience with other adults and children during the group program rather than the effect of parent training per se.

Seventy-one percent of the children in each of the program and the comparison groups had a home language other than English. [34] Being exposed to English during the group program could be expected to benefit the children's English language development while such benefit would not be associated with a program that simply focused on the parents. Thus, the higher rating on language and communication skills obtained by the program group in senior kindergarten may be a result of the children's participation in a group program and their resultant exposure to English.

4.3d *The Home Instruction Program for Preschool Youngsters* (HIPPY) [35]

Background

HIPPY is a two-year program, starting when the children are age four that involves bi-monthly home visits by para-professionals supplemented by bi-monthly group parent meetings. The HIPPY program is very structured and is implemented in the same way across all sites using the same standard materials specially developed for HIPPY. [36] These include HIPPY story books for the parents to read with their children and activity materials designed to assist children develop visual-motor, language, discrimination, and problem-solving skills. During home visits, which typically last about an hour, the home visitor presents the material and uses role playing to teach the parent how to use the story books

and activities. Between visits, the parents are expected to read to the child from one of the books and work on a set of activities for approximately 15 minutes every day. During the group meetings the parents are given the next week's package of materials and an opportunity to raise questions, discuss concerns, mingle with the other participating parents and engage in group activities such as arts and crafts.

Description of evaluation studies

The results of two studies have been published, neither of which provides follow-up beyond the time of the children's entry into grade two.[37] One study involved two sequential cohorts at a site in New York state with the children in each cohort randomly assigned to the HIPPY program or the control group. The HIPPY program at this site was operated as part of the city's public school Early Childhood Center and all the children in both groups and both cohorts attended this high quality program as four-year-olds and then entered kindergarten as five-year-olds. Thus the New York state study assessed the impact of HIPPY on children's cognitive skills, school readiness and school performance *over and above* any effect from participation in a high quality preschool program.

The other study was conducted concurrently in Arkansas and also involved two sequential cohorts. This was not a randomized trial and none of the children in either the HIPPY program or the comparison group attended any group preschool program at age four although 92% participated in kindergarten as five-year-olds. In both studies each child's cognitive skills were assessed using the same standard instrument at entry into the study and again at the end of the program period when the children were completing kindergarten. Kindergarten and grade one achievement data were also collected and teachers completed a rating of the child's adaptation to the school setting at the beginning of grade one and again at the beginning of grade two.

Findings

The results in both studies were mixed and inconclusive. As illustrated in Table 4.5, the HIPPY children in the first cohort of the New York state study had a more successful entry into school and higher reading skills at the end of grade one. None of these effects was replicated with the second cohort.

TABLE 4.5: EVALUATION FINDINGS FOR THE NEW YORK HIPPY PROGRAM

Variables	Cohort 1		Cohort 2	
Adjusted mean score	HIPPY (n = 37)	Comparison (n = 32)	HIPPY (n= 47)	Comparison (n = 66)
End of the program				
Cognitive skills	52.21 *	49.28	53.96	53.03
Reading readiness	47.58	41.59	44.16	45.79
Mathematical concepts	52.03	43.66	46.79	51.30
Rating of classroom adaptation	3.66*	2.75	3.23	3.39
One year follow-up				
Reading skills	54.25*	38.08	52.35	50.91
Mathematics skills	55.59	48.57	56.49	58.33
Rating of classroom adaptation	3.60*	2.83	3.54	3.44

* denotes a statistically significant difference in favour of the HIPPY group.

Sources: Baker, Piotrkowski and Brooks-Gunn, 1999, Tables 3 and 4.

Note: Sample size refers to the initial sample, not the follow-up sample.

The results from the Arkansas study were mixed for both cohorts. In the first cohort there was a non-significant trend for the HIPPY children to be rated as better adapted to the classroom at the beginning of grade one and by the beginning of grade two this difference was statistically significant. There were no real differences between the program and comparison groups in achievement test scores. However, 87% of the HIPPY children were promoted into first grade compared to only 69% of the comparison group. In the second cohort of the Arkansas study, the comparison children outperformed the HIPPY group on school readiness and achievement at the end of kindergarten. There were no other significant group differences on any measure at either the end of the program or the one year follow-up.[38]

Discussion

The researchers report that the inconsistent results could not be explained by differences in the characteristics of the cohorts in either site or in the way the HIPPY program was implemented between cohorts. Apparently there were not adequate statistics at either site on the number of home visits each parent had received nor the number of group meetings they had attended to enable exploration of the level of each family's involvement to determine if there were cohort differences. However, the researchers note that in other HIPPY sites significant variation in the levels of parent involvement have been found as a result of parents not being at home when the home visitor came and/or not attending group meetings. In addition, program staff suspect that not all parents actually do the assigned

reading and related activities with their children on a daily basis. Thus, it is possible that not all parents (and therefore not all children) received the full program; lower than intended family involvement might have been greater with one cohort than with the other in either the New York state site and/or the Arkansas site.

4.4 Discussion

Summary of the research findings

The findings of the evaluations of the parent-focused programs discussed above and other evaluations reported in the literature can be summarized as follows:

- Some home visiting programs improved the mother's life course, for example, the number and/or spacing of subsequent pregnancies, [39] and the mother's participation in formal education or the paid labour-force. [40] Other studies did not assess these life course variables, while one reports no effect on them. [41]

- Home visiting programs have been very successful in reducing the incidence of indicators of child maltreatment.[42]

- Some parenting education programs influenced parenting behaviour in positive ways and/or improved the home as a learning experience; [43] others did not.[44]

- There is little evidence of the hoped-for link between changes in parenting practices and/or the home environment and long-term benefit to the academic careers of children at risk for impaired development unless the parent-focused program included a group program for the children.

What might explain the findings?

Parenting education and parent support programs intended to promote children's development are each based on the same two assumptions.

- Increased knowledge about child development and the importance of appropriate stimulation for young children will change parenting behaviour and/or the home as a learning environment. These changes, in turn, will improve developmental outcomes for children.

- Changes in the parent and/or home environment will occur quickly enough to coincide with the child's developmental needs.

Theoretically, the assumption that children's development will be promoted by changes in undesirable forms of parenting behaviour and/or improvement in the home as a learning environment makes sense. Parenting behaviour, in particular the quality and tone of the mother-child interaction, has been linked to child well-being and development in many studies. [45] The extent to which linguistic stimulation and other learning experiences are available in the home has repeatedly been demonstrated to be associated with children's developmental level and school readiness. [46] However, the anticipated changes in parenting or the home environment as a result of a parent-focused program are not always achieved. When changes do occur, they usually are not accompanied by benefits to the child's school readiness or subsequent school career.

The failure of programs that focus solely on the parent to promote children's development may reflect a lack of synchronization between the child's needs and changes in the parent and/or home environment when changes do in fact occur. Important aspects of child development occur on their own timetable and both emotional support and appropriate environmental stimuli must be available when the child is biologically primed to achieve new skills. For example, key neural pathways associated with language, and dependent for their development on adequate linguistic stimulation, are laid down in the first year of life. Children's development is sequential with each stage building on the preceding stage. Because children cannot wait for the benefit of parenting education to trickle down from the parent at some future stage, some developmental psychologists argue that instead of relying on indirect routes to enhance child development, children at risk should receive direct programming. [47]

4.5 Conclusions

There is a need to be very clear about the purpose of a targeted program. Anecdotal evidence from two targeted Canadian parent-focused programs indicates that parents like them, feel supported by them, and feel that the program contributes to positive changes in their children. [48] However, this is not sufficient if the purpose is to promote the development of at-risk children and to improve their school-readiness.

The research evidence indicates that parent-focused programs on their own are not an effective mechanism for increasing the school-readiness of at-risk children. 'Combination' programs that include a group program for the children in addition to the parent-focused program have enhanced children's development. Unfortunately, it is not possible to disentangle the effect of the parent-focused component in contrast to the children's program. The evidence, for example from Better Beginnings, Better Futures, does suggest that child-focused programs have the greatest effect on children. The experience of Project CARE (seeSection 3.2d in Chapter 3) calls into question whether adding a parent-focused program to a high quality, full-day centre program for children results in significant gains for the children.

Notes

1. For example, Field et al., 1982.

2. Barnett, 1998; Gomby et al., 1995; National Research Council and Institute of Medicine, 2000; Ramey et al., 1995.

3. Jacobson and Frye, 1991; Larson, 1980; Lyons-Ruth et al., 1990; Osofsky, Culp and Ware, 1988; and Wasik et al., 1990.

4. Field et al., 1980, 1982; Gray and Ruttle, 1980; Madden, O'Hara and Levenstein, 1984.

5. Madden, O'Hara and Levenstein, 1984.

6. Olds, Henderson and Kitzman, 1994; Olds et al., 1999.

7. Ibid.

8. For example, Brooks-Gunn et al., 1994a.

9. Ramey et al., 1985.

10. Caldwell and Bradley, 1984.

11. Britannia Centre/Simon Fraser University, 2000.

12. Boyle, 1999; Health Canada, 1998.

13. Health Canada, 1998, p.4.

14. Sharon Gribbon, Health Canada, personal communication.

15. O'Hanlon and Vander Plaat, 1997, p. 86.

16. Ibid., pp. 69 - 70.

17. Boyle, 1999, Figure 5.

18. Ibid., Figure 6.

19. Pancer, Cornfield and Amio, 1999; Peters et al., 2000.

20. Peters et al., 2000, Executive Summary, p. 1.

21. Ibid., Figure 1.2.

22. Pancer, Cornfield and Amio, 1999.

23. Peters et al., 2000, p. 39.

24. Pancer, Cornfield and Amio, 1999, Appendix A.

25. Peters et al., 2000, p. 27.

26. Ibid., p. 39.

27. Ibid., p. 31.

28. Ibid.

29. Lipps and Yiptong-Avila, 1999.

30. Osborn and Milbank, 1987.

31. Peters et al., 2000, p. 56.

32. Gordon, 1987; Mary Gordon, personal communication; Yau, Forthcoming.

33. The EDI has been normed on over 16,000 students across Canada with validity and reliability studies conducted in Alberta and Ontario (Hertzman et al., forthcoming, p. 1).

34. Yau, Forthcoming, p. 2.

35. Baker, Piotrkowski and Brooks-Gunn, 1998; 1999.

36. Baker, Piotrkowski and Brooks-Gunn, 1998.

37. Baker, Piotrkowski and Brooks-Gunn, 1999.

38. Ibid.

39. Field et al., 1982; Kitzman et al., 1997; Olds et.al., 1999.

40. Field et al., 1982; Brooks-Gunn et al., 1994a; Olds et al., 1999.

41. Kitzman et al., 1997 (in regard to parent participation in education or the paid labour force).

42. Barth, Hacking and Ash, 1988; Gray et al., 1979; Hardy and Street, 1989; Kitzman et al., 1997; Larson, 1980.

43. Andrews et al., 1982; Field et al., 1980; Gray and Ruttle, 1980; Johnson and Walker, 1991; Madden et al., 1984.

44. Jacobson and Frye, 1991; Larson, 1980; Lyons-Ruth et al., 1990, Olds et al., 1999; Osofsky, Culp and Ware, 1988; Wasik et al., 1990.

45. See, for example, Bornstein, 1995 and Maccoby, 1992.

46. See, for example, Bradley, 1995; Bradley et al., 1989; Duncan, Brooks-Gunn and Klebanov, 1994.

47. Barnett, 1998; Gomby et al., 1993; National Research Council and Institute of Medicine, 2000; Ramey et al., 1995;

48. Britannia Centre/Simon Fraser University, 2000; O'Hanlon and Vander Plaat, 1997.

5

Two-generation programs

5.1 INTRODUCTION

As discussed in Chapter 2, children's development may be compromised by a variety of factors, some of which tend to cluster, for example, low parental levels of education, family poverty, parental stress, parental depression and its often-associated negative parenting practices, and lack of adequate levels of linguistic and/or cognitive stimulation in the home. Two-generation programs attempt to address these key factors through a multi-pronged approach that involves:

- A group program for children intended to promote child development and school readiness.
- A parenting education component intended to improve parents' understanding of child development and their parenting skills.
- An adult education, literacy, and/or job skills and training component intended to improve the parent's employability and, through this, the family's financial situation.

Typically, two-generation programs also include some level of counselling to assist parents to identify their needs and access community resources, and may include support services such as transportation.

Table 5.1 provides a summary of the components and delivery approach in four representative two-generation programs that have been broadly implemented in the United States. The table illustrates that while all four have the same three basic components, they vary considerably in their programming approach. Many two-generation programs rely heavily on obtaining service components from other community agencies, particularly child care which is often provided through a Head Start centre.

Table 5.2 summarizes the findings from evaluation studies for each of the programs. These findings, which are consistent across all four programs and with findings from evaluations of other two-generation programs, [1] can be summarized as follows:

- Two-generation programs increase participation of mothers and children in a variety of health and social services and may sometimes have a beneficial effect on parenting practices and/or the home as a learning environment but this is not accompanied by a long-term benefit to children's development.

- Two-generation programs often have a significant effect on attainment of a General Educational Development (GED) certificate, which is accepted in the U.S. as equivalent to high school graduation but this is not accompanied by improvement in literacy, employment status, or family income.

- Participation in a two-generation program, with the parental support it provides through counselling and case management, is not associated with improvement in maternal self-esteem or reduction in maternal levels of depression or stress.

A potential strength of two-generation programs is their recognition of the multiple threats to children's development and their attempt to address a comprehensive range of risk factors simultaneously. However, two-generation programs have not lived up to their assumed promise. On the basis of research, it has become apparent that the assumption that services provided to the parents will improve at-risk children's development is flawed. As noted in Chapter 4, many child development experts have concluded that greater benefits for at-risk children's development occur when services are provided directly to the children, such as a developmental group experience, rather than from indirect approaches that focus on services for parents. [2]

5.2 Four representative two-generation programs

This section provides general information about four two-generation programs that have been widely implemented in the United States and the findings from evaluations of each. Table 5.1 provides information about the programs and Table 5.2 summarizes the evaluation findings.

5.2a *Avance Parent-Child Education Program* [3]

Background

The Avance program has two stages. The first, which lasts for nine months, consists of three hour classes once a week for the mother covering topics such as child development, parenting skills, nutrition, childhood illnesses, and community resources. Transportation is provided to facilitate participation. The group classes are supplemented by monthly home visits and the provision of ancillary services such as information about and referral to other specific community services. While the mothers are attending their group classes, the children attend a three hour educational group program provided by Avance staff. The second stage, which is not time-limited, focuses on enhancing the parent's employability and does not include a children's program. Mothers are encouraged to take English as a Second Language (ESL) courses, if needed, to attend classes that will prepare them for the General Equivalency Diploma (GED), which is accepted by many U.S. employers as high school graduation equivalency, and/or to attend other classes or job training courses.

Research methodology

An evaluation of Avance has been conducted at two sites. Random assignment to the program and the control group was used at one site and a matched-group design at the other. No information is provided about the extent to which the two groups in the matched-group design were similar on key variables. Members of both comparison groups were not allowed to participate in any Avance program during the course of the evaluation but were free to, and did, avail themselves of similar services offered by other community agencies. This reality means, as it does for all two-generation program evaluations, that it was impossible to have the ideal design whereby the comparison group did not receive any of the types of services available to the program group. Data were collected on both the program and comparison groups at three points: at the beginning of the evaluation, at the end of the first year, and at the end of the second year.

Findings

During the program, use of other community services was higher among the program group, thus attesting to the success of the case management provided by Avance in terms of increasing service utilization. At the end of both the first and second years, the program participants in each site obtained significantly higher scores on the *Home Observation for Measurement of the Environment* (HOME) scale [4] than did mothers in the comparison group. They also obtained higher scores on positive stimulation of and interaction with their child as assessed during a videotaped session that was coded using a standard procedure, and on a

TABLE 5.1: CHARACTERISTICS OF FOUR REPRESENTATIVE TWO-GENERATION PROGRAMS

Program	Child age at entry	Intended program duration	Child-focused component	Parenting education component	Adult education, job skills, job training and parent support component
Avance Parent-Child Education Program (St. Pierre, Layzer and Barnes, 1998; Walker et al, 1995)	Birth to two years, exit age three	One or two years depending on parental need	Three hours a week group program provided by Avance staff for nine months (approximately 100 hours in total)	1. three hours a week group classes for nine months (approximately 100 hours in total) 2. Monthly home visit for nine months	Basic literacy classes, English as a Second Language (ESL), and/or job training depending on the individual's needs. Referral to other community services
Comprehensive Child Development Program (Goodson et al., 2000a; Gilliam et al., 2000)	Birth, exit age six.	Five years (from the child's birth through age five)	Centre-based care between age 3 - 5, often using Head Start programs. Average attendance two days a week (approximately 516 hours in total for each of two years) Periodic health and development screening with referral to specialist if indicated	1. Bi-weekly home visits, lasting on average for one hour, by an ECCE specialist between child's birth and age three (approximately 78 hours in total) 2. Periodic group parenting classes and workshops	Bi-weekly 30-90-minute home visits by a case manager who assessed parent needs, referred families to other services, and at times brokered specific services for parent or child, e.g. adult literacy education, vocational training, employment counselling, and/or child care.

Program	Child age at entry	Intended program duration	Child-focused component	Parenting education component	Adult education, job skills, job training and parent support component
The Even Start Family Literacy Program (St. Pierre and Swartz, 1995; St. Pierre, Swartz, Murray and Deck, 1996)	Any age under age eight, exit age eight. Average entry age three or four	Maximum of eight years (from birth through age seven), varies by site	Most projects obtain centre-based services from Head Start (65%) or preschools operated by school boards (41%). National average received is total of 232 hours, median of 102 hours	Home visits or group parent education sessions, depending on project, usually delivered by a case manager. Intensity also varies across projects. National average received is 58 hours over a seven-month period, median of 29 hours.	ESL classes, preparation for high school equivalent certificate, job training, job search training, counselling. Mix of available services and intensity varies depending on site. National average received is 107 hours, median 41 hours. Some sites use case managers to coordinate services
New Chance (Quint and Egeland, 1995; Quint, Bos and Polit, 1997)	Usually age three or four	18 months	Centre child care from other agencies, or family child care, or relative care. Duration depends on what parent requires to complete her program	Classes incorporated into the educational program provided for the mothers. Average amount of parenting education, two - four hours a week for the first five months (for a total of approximately 80 hours). Monthly supervised parent-child interaction session with instructional feedback to parent.	1. Full-day, five days a week program providing literacy classes, health counselling, life skills training, e.g. budgeting, etc. Typically lasts seven months. 2. Job skills training and work internships. 3. Bi-weekly individual meetings for the duration of participation to provide counselling and case management.

questionnaire to assess their sense of parental effectiveness. However, while there was a clear and positive effect on parenting behaviour and the home environment, no difference was found between children in the program and the comparison groups on standard measures of child development nor on mothers' report of child behaviour. At the end of the second year, a significantly higher proportion of mothers from the program group in both sites were in the process of furthering their education by attending ESL classes, participating in GED (high school equivalency diploma) preparation classes or taking job training. However, no program effect was found for either level of maternal depression or maternal self-esteem.

5.2b The Comprehensive Child Development Program [5]

Background

This time-limited demonstration project was funded in 1990 by the U.S. Department of Health and Human Resources and involved 34 sites across a number of different states. To be eligible for CCDP, a family had to: (1) have an income at or below the Federal poverty guidelines, and (2) include a pregnant woman or a child under age one.

With the exception of case management and parenting education, CCDP provided its program components indirectly by linking parents with other services such as child care, adult literacy courses, employment counselling, and job training. The CCDP case managers conducted bi-weekly 30 to 90 minute home visits which involved assessing family needs, periodic developmental screening of the child, counselling parents, and making a record of the services the family had received since the previous visit. Parent education was provided through bi-weekly home visits which lasted on average for one hour. The home visitor, who often had an ECCE background, suggested activities for the parent to do with the child and provided advice on how to implement them. Additional parenting education was provided through supplementary group classes and workshops.

Research methodology

Twenty-one of the 34 sites were included in the evaluation which randomly assigned families to a program group (n = 2,213) and a control group (n = 2,197). Sites were chosen to represent urban as well as rural areas and different cultural groups. Control group families could not receive CCDP services during the five year program period but were free to, and did, use other community services.

Assessments of child and parent functioning were done annually at the child's first, second, third, fourth and fifth birthdays. Children were assessed through interviews with the child's primary caregiver concerning the child's health and behaviour, and through standard tests to

measure level of cognitive functioning each year and also through tests of language skills and school readiness skills at ages three, four and five. Parent outcomes were assessed through parent self-report and rating of parent behaviour during a structured parent-child interaction situation. The *Home Observation for Measurement of the Environment* (HOME) survey [6] was conducted when the child was 18 or 24 months and again at age 36 months.

Findings

The only difference found in parenting outcomes at the fifth year was related to the parent's belief in corporal punishment with program parents believing less strongly in it. There were no differences between the program and control groups in beliefs about child rearing, in empathy for the child, in observed parent behaviour during structured parent-child interactions, or on the HOME scale.

CCDP children showed a slight but statistically significant advantage over the control group children at age two years in terms of their overall development as measured by the *Bayley Scales of Infant Development* but no between-group differences in development were found in subsequent years. No statistical difference was found for the two groups at any age for language or school readiness skills or reported child behaviour problems.

By the end of the five-year period, program parents were significantly more likely to have participated in some form of academic, vocational or job training. However, there was no between-group difference on educational attainment, e.g. completion of high school, receipt of a GED (high school equivalency diploma), or receipt of a vocational or other credential. Nor were there differences in employment status, rates of employment, or annual family income (program group = $12,005, control group = $11,614).

The CCDP participants were expected to participate in the full five years of the project, but many did not. The evaluation used data from all the families originally assigned to the program group that it could locate regardless of whether they had remained in the program for the full five years. The rationale for so-doing was that the families participated as fully and for as long as they wished and therefore each family received what it wanted or was prepared or able to take from the program. Recognizing that this strategy might underestimate the effects of CCDP, the researchers analysed the relationship between program impacts and the amount of participation. They report that while the length of time a family was enrolled in CCDP was associated with a statistically significant difference in some areas, the differences were not large enough to be meaningful from an educational or practical standpoint.

5.2c *The Even Start Family Literacy Program* [7]

Background

In 1994, there were almost 500 Even Start projects across the U.S. serving about 30,000 families. Data collected from 1989/90 through the 1992/93 program years indicate that 75% of the participating parents had not completed high school and 49% reported government social assistance as their primary source of income.

Every project is required by federal legislation to provide participating families with an integrated three-part program consisting of: (1) early childhood education, (2) parenting education, and (3) adult literacy or basic skills training. [8] The delivery model, intensity and duration of the various components is left to the discretion of the local project. [9] Under the terms of the funding agreement, projects are prohibited from using their funds to duplicate services that can be obtained locally. Instead, they are required to use existing services, such as Head Start child care centres, and reserve their own funds to provide services not available from another local source.[10] Some programs deliver parent education though home visits while others use group sessions. While all Even Start programs provide an adult eduction program, local projects vary in the degree to which they include a job training, counselling, and search component. [11] Case managers conduct needs assessments, maintain on-going contact with a caseload of families, try to ensure that participating families attend programs, and may be responsible for some services such as counselling.[12]

Research methodology

The effectiveness of Even Start has been assessed by an in-depth longitudinal study of five projects where, in the group as a whole, 179 families were randomly assigned to be in Even Start (n = 94) or a control group (n = 85). The collapsing of outcome data from five projects is problematic given the considerable program variation known to exist across sites. Data were obtained from adults and children in both groups at the time of entry, at which time most of the children were age three or four, at about nine months and 18 months after intake, and again at approximately 54 months after intake. At the time of this final follow-up, the children were between age six and eight and in grade one or two. While not all the children who had participated in the research earlier could be located, the researchers report that statistical tests indicated that at the 54 month follow-up the children and families in both the Even Start and the control groups continued to be statistically comparable on key characteristics. [13] The families were assessed at both the nine and 18 month points even if the family had dropped out of Even Start or a control group family had obtained similar services from another source. [14]

Findings

The evaluation of the parent education component examined several aspects of the home environment using the *Home Observation for Measurement of the Environment* (HOME) scale [15] plus a measure of parent-child reading interactions based on observation using a pre-coded rating form. The only between-group difference at either nine or 18 months after intake was the greater number of reading materials in the homes of the Even Start families.

At nine months after intake, when most of the children were age four, those who had been in Even Start obtained significantly higher scores on a measure of school readiness than did the control group children, but there was no difference between the two groups at the 18 month point. At this time, many of the control group children had enrolled in preschool or kindergarten and had caught up with the program group. There was no difference between the two groups of children on the *Peabody Picture Vocabulary Test* [16] at either the nine or 18 month point. At 54 months after intake, when the children were in grade one or two, no differences were found between Even Start and control group children in average grade levels for reading, language arts, or mathematics. This held true even when controlling for number of hours of participation in a group program prior to school entry, number of parents' hours in parent education, or children's score on tests of vocabulary or school readiness at the 18 month point.[17] Only a small proportion of the total group of children, 27%, had been given achievement tests. No differences were found between Even Start and control group children who were assessed with the same test. No assessment was made of the children's classroom behaviour, out-of-school behaviour, or social competence.

Among adults who did not have a GED (high school equivalency diploma) at the beginning of the research, 22% of Even Start participants had gained this credential by 18 months after intake in contrast to only 6% in the control group. [18] However, there was no difference between the two groups on reading literacy, employment income, a measure of parental depression, or a measure of parental sense of mastery. No data on parents are reported for the 54 month follow-up.

5.2d New Chance [19]

Background

This demonstration project, which operated between 1989 and 1992 in 16 locations across 10 states, targeted mothers age 16 to 22 who:

- Had first given birth at age 19 or younger.
- Were receiving social assistance.

- Did not have a high school diploma.
- Were not pregnant when they entered the program. [20]

It provided:

- Education and employment-related services intended to assist the participant to become employable.

- Health, life management, and counselling services to address participants' developmental needs and issues.

- Group parent education classes.

- Free child care while the mother participated in program activities either through an on-site program or through financial support for off-site arrangements. [21]

New Chance used a two-phase approach and all 16 sites were required to follow specific guidelines related to the kinds and amounts of services they were to provide. During the first phase, typically several months long, the participants were required to attend classes five days a week from 9 a.m. to 3 p.m. These classes included basic adult education, preparation for the GED (high school equivalency diploma) test, job skills training, information about various possible careers, health education (including family planning), life skills training such as budgeting, and parenting education. In the second phase, typically after the young woman had attained a GED certificate, participants engaged in further job skills training and short-term work "internships" which were required to last for at least the equivalent of six weeks full-time. Free child care was provided while the parent was attending classes, taking job training or doing a work internship. Case management and counselling was provided through individual meetings every two weeks. The phase one classes and basic job skills training were done on-site, and nine of the 16 locations also provided on-site child care. [22] Work internships were provided off-site.

Research methodology

The same evaluation methodology was used in each of the 16 sites with eligible young women randomly assigned to a program or a control group. The 16 samples combined resulted in a total of 1,553 program participants and 769 individuals in the control group. Both groups were followed up through personal interviews at 18 and 42 months after the study began and assessment of the children's developmental level was also conducted at the 42 month point. While members of the control group were excluded from services provided by New Chance, they were free to receive similar services from other agencies in the

community and many did so. This, coupled with the high rate of absenteeism and early departures from the program, resulted in a situation where there was little difference in the amount of the various services received by the two groups during the course of the program. [23] However, between the end of the program and the 42 month follow-up, the program group had significantly higher rates of participation in parenting classes, adult basic education/GED preparation classes, and job skills training.[24]

Findings

Nineteen months after entry the program children were being raised in somewhat more favourable environments as measured by the HOME scale [25] but there was no difference between groups at 42 months after starting the program. Children in both groups had similar low scores on a standard measure of school readiness at the 42 month point and at this time women in the program group reported significantly more child behaviour problems than did mothers in the control group. Teachers gave children in both groups similar academic ratings at the 42 month point. [26]

The findings related to the effects on the mothers were equally disappointing. Forty-two months after entry a significantly higher proportion of women in the program than in the control group had attained a high school diploma or the GED (51.9%% and 43.8% respectively). However, there were no differences between the two groups on literacy level, the proportion who had earned a trade license or certificate, in employment rates, or in earned income levels. Over the follow-up period, the two groups also experienced similar rates of pregnancies, births and abortions.[27] At the time of initial enrollment in the research project, 53% of the sample (program and comparison groups combined) obtained a score on a standard assessment of depressive symptomatology that indicated risk for a clinical diagnosis of depression. Forty-two months after entry, 44.6% of the program group and 42.5% of the comparison group remained at the same level of risk as measured by the same scale. [28]

TABLE 5.2: EVALUATION FINDINGS FROM FOUR REPRESENTATIVE TWO-GENERATION PROGRAMS

Program	Initial sample	Final follow-up sample	Effects on Parenting	Effects on Children	Effects on Adults
Avance Parent-Child Education Program (St. Pierre, Layzer and Barnes, 1998; Walker, Rodriguez, Johnson and Cortez, 1995)	E = 207 C = 279	Two years after the program E = 100 C = 213	Score on HOME scale E>C Assessment of quality of parent-child interactions E>C Sense of parental effectiveness E>C	Scores on standard measures of child development and school readiness E = C Maternal report of child's behaviours E = C	In process of furthering their education through GED preparation classes, ESL classes or job training E>C Rating of maternal self-esteem and of maternal depression level E=C
Comprehensive Child Development Program (Goodson, Layzer, St. Pierre, Bernstein and Lopez, 2000a)	E = 2,213 C = 2,197	Five years after program start E = 1,638 C = 1,714	Score on HOME scale E = C Assessment of quality of parent-child interactions E = C Beliefs about child rearing and children's development E = C	Scores on standard measures of child development, language skills, and school readiness E = C Parent report of child behaviour problems E = C	Involvement in some type of academic, vocational or job training E>C Educational status, employment status, dependence on social assistance E = C Family income level E = C
The Even Start Family Literacy Program (Gamse, Conger, Elson and McCarthy, 1997; St Pierre, Swartz, Murray and Deck, 1996)	E = 94 C = 85	54 months after program start E = 65 C = 63	Measures done at 9 and 18 months only Score on HOME scale E = C Assessment of quality of parent-child interactions E = C Parental expectations of the child E = C	General development level E>C at 9 months E = C at 18 months Language skills E = C at 9 and 18 months Grades for language, reading, math at 54 months after program start E =C	Adult measures done at 9 and 18 months only Attainment of GED at 18 month point among adults without this credential E>C (E = 22.4%, C = 5.7%) Literacy level at 9 and 19 months E = C Employment income at 18 months E = C Level of parental depression E = C

Program	Initial Sample	Final follow-up Sample	Effects on parenting	Effects on Children	Effects on Adults
New Chance (Quint, Bos and Polit, 1997)	E = 1,553 C = 769	42 months after program E = 1,401 C = 678	Score on HOME scale E > C at 19 months E = C at 42 months Parent child-rearing attitudes E > C at 19 months E = C at 42 months	School readiness E = C Parent report of child behaviour problems E = C Teacher academic ratings E = C	Attainment of GED E> C (E = 51.9%; C = 43.8%) Attainment of a trade license or certificate E = C Employment rates, earned income level E = C Rates of pregnancies, births or abortions E =C Level of depression or stress E = C

Note: In the above table, E = program group, C = comparison group, differences that are not statistically significant are indicated by E=C, differences that are significantly different at p<.05 or better in favour of the program group are indicated by E>C, GED = General Equivalency Diploma. This is accepted in the U.S. as equivalent to a high school diploma.

5.3 Discussion

5.3a Summary of the research findings

Theoretically, the three-pronged approach of parenting education, group programs for the children, and assisting parents to become more employable should be very powerful. It not only targets improving children's daily experiences; it also attempts to improve parental self-esteem as a parent and as an earner, and the context of poverty in which the family lives by increasing parental employment level or status. This chapter has reported the findings of well-designed evaluations of four representative two-generation programs with, in the cases of CCDP and New Chance, large sample sizes. In New Chance in particular, the program was intense and supported by bi-weekly individual counselling and case management meetings and free child care.

The findings are consistent across the four programs and with those reported from evaluations of other two-generation programs. [29] This consistency enables confidence in the findings reported, which can be summarized as follows:

- Two-generation programs increase participation of mothers and children in a variety of health and social services and may sometimes have a beneficial effect on parenting practices and/or the home as a learning environment but this is not accompanied by a long-term benefit to children's development.

- Two-generation programs often have a significant effect on attainment of a General Educational Development (GED) certificate, which is accepted in the U.S. as equivalent to high school graduation, but this is not accompanied by improvement in literacy, employment status, or family income.

- Participation in a two-generation program, with the parental support it provides through counselling and case management, is not associated with improvement in maternal self-esteem or reduction in maternal levels of depression or stress.

These disappointing findings from an approach that attempts to address the multiple threats to children's development suggest that the feasibility of two-generation programs should be reconsidered.

5. 3b *Implementation problems*

All the two-generation programs reviewed experienced the following problems: (1) low levels of program intensity, and (2) high absenteeism and high levels of drop-out.

Program intensity

The intensity of a program is determined both by its delivery of a certain amount and frequency of service and by the degree of families' participation in the services offered. Two-generation programs typically provide a relatively small amount of parenting education. In the four representative programs discussed in this chapter, the total ranged from 58 hours spread over seven months to 108 hours over nine months (see Table 5.1). No two-generation program that has been evaluated provided anything close to the full-day, five-days-a-week, child care program over a period of several years provided by the most successful programs for children at risk such as the Abecedarian Project,[30] the Milwaukee Project,[31] and Project CARE. [32] These programs all operated on the assumption that the children's home environments were unable to adequately support their optimal development and that substantial amounts of time had to be spent by the children in a more supportive environment in order to make a real difference to their development trajectory. As discussed below, sporadic participation in the parenting education component and early drop-out from the overall program have been a major problem for all two-generation programs. This further reduces the intensity of the program actually received by the parent and child.

Absenteeism and drop-outs

The two-generation programs discussed in this chapter all report problems with high absenteeism and high drop-out rates. The New Chance program evaluation estimated that the average participant who completed the program actually received only about 40% of the service "dosage" they would have received if they had been absent less often.[33] The Avance evaluation reports that 53% of the program group left before the end of the first year. In CCDP, a program intended to last for five years, 20% of families left before the end of the first year and 40% by two-and-a-half years. [34] All Even Start projects are obliged to submit statistics to a central information system. In 1989/90, 55% of families participating in Even Start remained in the project for one year or less, 25% participated in both year one and two, and 20% for three years or longer.[35] Although the participants could stay in New Chance for 18 months, the average number of months (not necessarily continuous) they were actually actively engaged in the program was just over six months, roughly one third of the maximum. Only about one third of the women enrolled moved into the second phase. [36]

Sporadic attendance and early drop-out, other than as the result of moving out of the neighbourhood, are important indicators that two-generation programs either fail to meet their needs as they are perceived by many target parents and/or make demands that some parents find too stressful and overwhelming.

5.3c *The validity of the underlying assumption*

Two-generation programs are based on the assumption that providing parenting education and assisting parents to become more employable will change the adult's behaviour and/or the family's situation in ways that will benefit the child's development. However, even when parenting behaviour and/or the home environment has changed, these programs have failed to enhance children's development. This finding is consistent with the findings from parent-only programs discussed in Chapter 4. Changes in the parent and/or home may take months to occur and children's need for positive social experiences, language stimulation, and opportunities to explore their environment cannot simply be put on hold during this period. There is a growing consensus among child development experts that the most effective way of enhancing the development of children at risk for developmental problems is to work directly with them rather than indirectly through their parents. [37]

The attainment of employability and a decent-paying job by the type of parent targeted by two-generation programs may take years. For example, the CCDP evaluation found no difference in employment rates or status between the program and control groups five years after the start of the program. Recognition of this reality led Craig Ramey and his colleagues to state that helping parents to become employable is not likely to be an effective strategy for improving child development since, *"It cannot ensure the availability of critical supports for children in a way that is appropriately timed to meet their developmental and maturational needs."*[38]

5.4 Conclusion

Two-generation programs, even those lasting several years and/or providing intensive programming, have failed to promote the development of at-risk children. Their lack of success reflects that found in other approaches that attempt to enhance children's development indirectly through the parent. On the basis of the research evidence, experts in child development have concluded that if the goal is enhancement of the vulnerable child's development, the most effective approach is to work directly the child. [39]

Notes

1. Granger and Cytron, 1998; Travers, Nauta and Irwin, 1982.

2. Barnett, 1998; Gomby et al., 1995; National Research Council and Institute of Medicine, 2000; Ramey et al., 1995.

3. St. Pierre, Layzer and Barnes, 1995; 1998; Walker et al., 1995.

4. Caldwell and Bradley, 1984. In addition to assessing several aspects of parent behaviour, such as responsiveness, the HOME scale assesses the home's provision of materials and activities that support and promote children's development.

5. Goodson et al., 2000a; Goodson et al., 2000b; Gilliam et al., 2000; St. Pierre, Layzer and Barnes, 1998.

6. Caldwell and Bradley, 1984.

7. Gamse et al., 1997; St. Pierre and Swartz, 1995; St. Pierre et al., 1996.

8. St. Pierre et al., 1996, p. 2.

9. St. Pierre and Swartz, 1995, p. 41.

10. St. Pierre, Layzer and Barnes, 1998, p. 108.

11. Ibid., p. 107 - 108.

12. St. Pierre and Swartz, 1995.

13. Gamse et al., 1997, p. A-7.

14. Gamse et al., 1997; St. Pierre at al., 1996.

15. Caldwell and Bradley, 1984.

16. Dunn and Dunn, 1981.

17. Gamse et al., 1997, pp 16-17.

18. St. Pierre at al., 1996, p. 10.

19. Granger and Cytron, 1998; Quint and Egeland, 1995; Quint, Bos and Polit, 1997.

20. Quint, Bos and Polit, 1997, p. 6.

21. St. Pierre, Layzer and Barnes, 1998; Quint and Egeland, 1995.

22. Quint, Bos and Polit, 1997, p. 8.

23. Ibid., 1997, p. 3.

24. Ibid., p. 9.

25. Caldwell and Bradley, 1984.

26. Quint, Bos and Polit, 1997, pp. 16 - 18.

27. Ibid., Tables ES-4 and ES-6.

28. Granger and Cytron, 1998, Table 9.

29. Granger and Cytron, 1998; Travers, Nauta and Irwin, 1982.

30. Ramey and Campbell, 1984, 1991.

31. At follow-up in grade 8 there was a lower rate of placement in special education programs for program children (41% in comparison to 89%) and a lower rate of grade retention (29% in comparison to 89%). However, there were no statistically significant differences in grade levels or achievement test scores though the trend in both was in favour of the program group (Garber, 1988).

32. Wasik et al., 1990.

33. Quint and Egeland, 1995, p. 126.

34. St. Pierre, Layzer and Barnes, 1998, Table 4-1.

35. St. Pierre et al., 1996, p. 6.

36. Quint, Bos and Polit, 1997, p. 8.

37. Barnett, 1998; Gomby et al., 1993; National Research Council and Institute of Medicine, 2000; Ramey et al., 1995.

38. Ramey et al., 1995, p. 2000.

39. Barnett, 1998; Gomby et al., 1993; National Research Council and Institute of Medicine, 2000; Ramey et al., 1995.

6

Universal programs

6.1 INTRODUCTION

Universal programs are non-targeted services that do not require children or families to meet specific eligibility criteria and are financially accessible. This chapter explores what the research tells us about the effectiveness of ordinary community group programs for children and non-targeted parenting education programs as vehicles to promote the development of children whether or not they are deemed to be at risk.

Three key findings emerge:

- Ordinary community group programs for children promote the development of at-risk children when the program is of sufficiently high quality to provide a greater level of emotional support and developmentally-appropriate stimulation [1] than is available in the child's own home.

- Coming from a home that supports development does not protect a child from the negative effects on development associated with spending substantial periods of time in poor-quality child care.

- Parenting education programs on their own fail to promote the development of at-risk children. However, research indicates that they benefit the development of children from middle-income families where the mother's educational level is completion of high school or higher.

The different outcomes for children of low-income and middle-income mothers as a result of parenting education programs may reflect differences between the two groups of mothers in their characteristics and/or engagement in the program (see section 6.3d for a more detailed discussion).

6.2 At-risk children in ordinary community group programs

This section reviews the research that has looked at the effectiveness of ordinary community group programs for children in promoting the development and school readiness of children living in poverty or in homes with inadequate levels of stimulation. Some of the research is specific to child care centres, other research included a range of services such as family child care homes, parent-child play groups, and nursery schools. Because they are not targeted, access to universal programs cannot be restricted in order to conduct a study with random assignment of children into the program and the control groups. Some studies of the impact of ordinary community child care centres on children at risk for developmental problems do not have a matched comparison group either. Nevertheless, they are discussed in this paper because of the important policy and practice issues that they address and the convergence of the findings from all the studies as a group. This convergence increases the credibility of the findings.

6.2a Canadian research

Data from the Canada-wide *National Longitudinal Survey of Children and Youth* (NLSCY) indicate that children from low-income families who are cared for in a formal child care setting prior to school entry obtain substantially higher scores on a measure of language skills than do children from similar family backgrounds without this experience.[2] The greatest benefit was found for children in the lowest family income group.

6.2b Research from the United States

Children from the U.S. National Longitudinal Survey of Youth

This study examined the effect of participation in ordinary community child care centres through collecting information about and from a large group (n = 867) of five- and six-year-olds from across the U.S. who were the children of the original participants in the *U.S. National Longitudinal Survey of Youth.* [3] In addition to having demographic information about variables such as family income and maternal educational level, the researchers had information about the extent to which the child's home provided emotional support and cognitive stimulation. This information had been obtained through a combination of observation in the home using a standard instrument [4] and interview with the parent. As a result, the researchers were able to broaden the concept of vulnerability beyond socio-economic status to include the extent to which the home was a supportive learning environment.

Children whose homes were relatively non-supportive of cognitive development and socialization and who attended ordinary community child care centres during the first three

years of life obtained significantly higher scores on tests of mathematical and reading skills as five- and six-year-olds than did children from similar homes who had not participated in child care. [5] However, initiation of child care before the child's second birthday was ***negatively*** associated with academic readiness for children from more optimal home environments. [6] The key to whether the child care was beneficial or not was the extent to which the home environment was supportive of children's development, not family income.

The researchers were not able to measure the quality of the programs that the children had experienced. They hypothesize that their findings may indicate that the ordinary community child care centres experienced by children from the least supportive homes were more supportive of learning than the child's home but that the reverse was true for children from the more supportive homes.

The finding of a negative effect of participation in a child care centre on children from more advantaged homes echoes findings from other research studies linking poor-quality child care and poor outcomes among children from two-parent, middle-income families.[7] As noted by one group of researchers who report such findings, *"We found no evidence for the hypothesis that children from more advantaged backgrounds are buffered from the potentially harmful effects of poor quality care by the influences of the family."*[8]

At-risk children from a single U.S. community

As noted in Chapter 3, the children in the Abecedarian Project's participant and control groups were randomly assigned from a single pool of potential subjects all of whom were individually identified as being at-risk. Subsequently, 41 of the children in the control group were enrolled by their parents in ordinary child care centres. A subgroup of these community child care centres was classified by the researchers as high quality on the basis that they maintained a staff-to-child ratio of one-to-four for children under age two, one-to-five for two- and three-year-olds, and one-to-seven for preschoolers. They also had directors with specialized training in child development.

The researchers compared children's cognitive development at age four-and-a-half across three groups of children:

- Those who had participated in the Abecedarian centre program.
- Those who were in the control group but attended one of the 'high quality' community child care centres for at least 12 months (control children who had attended other child care centres were excluded).

- Control group children with minimal or no child care experience.

The children who attended the high quality community child care centres for at least a year had an average level of cognitive development that was roughly mid-way between that of the children who attended the Abecedarian centre and those with no or minimal child care experience. This finding is very positive considering that the Abecedarian project children received 59 months of centre programming in comparison to the average of 24 months received by the children in the community child care centres.[9] The difference in cognitive development between the control group children who had or had not attended a community child care centre was statistically significant in favour of the child care group. [10] The researchers concluded that the high quality community child care centres provided similar, through less intense, positive effects as had been provided by the Abecedarian centre. The less intense benefit may reflect the substantially lower amount of exposure to a centre-based program among the children who attended the community child care centres.

6.2c Studies from other countries

The potential of ordinary community group programs for children to support the development of preschool-aged children from low-income homes is illustrated by two national longitudinal studies, one conducted in the United Kingdom and the other in France. A third study conducted in Turkey also attests to the ability of ordinary but high quality community child care centres to enhance the development of children deemed to be at risk of developmental problems.

The U.K. Child Health and Education Study

This study involved ***all*** children born in the U.K. in a one-week period in 1970. The sample included 4,863 children who had some form of experience with an ordinary community children's group, such as participation in child care, nursery school or a regular formal play group prior to school entry and 3,380 children who did not have such experience. [11] The sheer size of the sample, and the fact that it included children from all socio-economic backgrounds, makes this a very important study.

At age five, the researchers collected school readiness data and information on the social and family circumstances of each child, for example, family income, whether the family was two-parent, and the mother's educational level. The children with regular experience in a children's group prior to school entry obtained higher scores on all school-readiness tests. At age 10, the children's abilities in mathematical concepts and processes, listening comprehension, expressive language, and reading were assessed using standard tests used in the British school system. The researchers found a statistically significant difference in each ability in favour of the children who had regular experience in a children's group prior to school entry.

These differences were maintained even after statistical controls for a host of family variables were introduced. [12] In other words, children from all socio-economic backgrounds benefited from having had a formal group experience with other children prior to school entry.

Some children in the study were considered to be 'disadvantaged' on the basis of the data collected on their social and family circumstances at age five. Disadvantaged children who had some sort of regular experience in a children's group prior to school entry obtained better scores on measures of school-readiness and on the tests of achievement given at age 10 than children from similar backgrounds who lacked this experience. On the basis of the age 10 test results, the researchers concluded that the disadvantaged children gained more from having had a regular group experience prior to school entry than did children from more advantaged homes. [13] Again this finding may reflect the difference between the extent to which experiences in the home and in the children's group supported the children's development.

The French Ministry of Education study

The French *école maternelle* provides full school-day centre-based child care for children between age two-and-a-half and age six. In 1980, the Ministère de l'Education Nationale examined grade retention rates for 20,000 children from all socio-economic backgrounds to determine the effect, if any, of having had the *école maternelle* experience. [14] The study found that, controlling for father's occupational status, pupils with such experience were significantly more likely to pass grade one and to be promoted from sixth to seventh grade. The likelihood of passing grade one increased with each year of *école maternelle,* regardless of social class. The benefit of the *école maternelle* experience was found to be greatest for the children from the homes where the father had the lowest occupational status.

At-risk children from a single Turkish community

The subjects in the Turkish Early Enrichment Project [15] were from low-income families living in a single neighbourhood in Istanbul. The mothers, on average, had only primary school education (five years or less). At the time of entry, the children were between age three and five. The study examined the effects of two approaches intended to enhance the children's development:

- Participation in one of six community child care centres on a full-day basis, five days a week.

- Training the mothers to do activities at home with the children that would stimulate the children's development.

Three of the centres were rated as providing an educational program while the other three were rated as providing solely custodial care.[16] The mother training was delivered through bi-weekly home visits supplemented by bi-weekly group meetings.

At follow-up five years after the conclusion of the project:

- Children who had attended a child care centre with an educational program had higher school grades and overall higher academic averages for each of the five school years than did children who had attended centres that provided solely custodial care or children who did not attend a child care centre but whose mothers received training.

- Children whose mothers received the training component but did not attend a child care centre performed better at school than the control children who neither attended a centre nor had mothers who received training.

- Children who had attended child care centres with an educational program and whose mothers also received training performed the best on all measures of school achievement.

6.2d Discussion

Summary of the research

The research discussed above clearly indicates that:

- Ordinary community group programs for children can promote the development of children who are vulnerable to developmental problems as the result of environmental circumstances when the program offers a greater degree of support and developmentally-appropriate stimulation than is available in the child's own home.

- The quality of the children's program matters. As noted by a committee of the U.S. National Research Council/Institute of Medicine: *"The positive relation between child care quality and virtually every facet of children's development that has been studied is one of the most consistent findings in developmental science."* [17]

- Coming from a home that supports development does not protect a child from the negative effects of poor-quality child care.

The U.S. National Research Council/Institute of Medicine Committee has observed that when children's home environments fail to offer them consistent, sensitive care and stimulating experiences: *"Child care environments that do provide it can protect and promote their early development. By the same token, poor-quality child care can compound the consequences of problem parenting."*[18]

Requirements for high quality child care

The conditions required for high quality child care that protects children's health and safety and promotes their development are well-documented. The most important condition is the availability of warm, supportive, responsive adults who have the time and knowledge to provide individualized attention and ample levels of developmentally-appropriate verbal and cognitive stimulation. [19] Such care is associated with:

- Adults who have specialized training in early childhood development.[20]
- Caregivers who have responsibility for a reasonable number of children given the children's ages.[21]
- Appropriate group sizes given the children's ages. [22]
- Mechanisms to provide support for centre teachers [23] and family child care providers[24]
- Appropriate levels of remuneration.[25]

Unfortunately, as clearly documented in recent Canada-wide studies of child care centres [26] and family child care homes, [27] these conditions do not exist in the majority of Canadian jurisdictions.

6.3 Universal parenting education programs and at-risk children

Most parent-focused programs have targeted the parents of children considered to be at risk. The research on these programs is discussed in Chapter 4. An exception is the U.S. "Parents As Teachers" (PAT) program. This is designed for voluntary participation by any parent of a child under age three whether or not the child is deemed at risk. This very structured program is implemented in exactly the same way across all sites using standard curriculum materials produced by the Parents As Teachers National Centre (PATNC). Standard training is

provided for the home visitors by certified PATNC trainers, and home visitors must complete a minimum of 10 hours in-service education each year and undergo annual re-certification. Home visitors make monthly visits to the child's home where they provide the parent with information on child development and good parenting practices, suggest activities for the parent to do with their child, and may model appropriate interactions with the child. The home visits are supplemented by periodic group meetings open to all participating parents.

6.3a The Missouri Parents as Teachers pilot project [28]

This pilot project has published the longest follow-up of a PAT program to date (to the end of grade one). Recruitment into the study was limited to first-time parents in four different school districts. A random sample comparison group was selected from each community's first-born three-year-olds whose parents had not participated in PAT. Statistical analysis of the characteristics of the participant and the comparison groups showed that the parents in the PAT group had a higher average level of education (fourteen years in comparison to thirteen years) and a higher socio-economic status than those in the comparison group. The researchers used a statistical procedure to adjust for these differences.

At the end of the program the children whose parents had received the PAT program scored significantly higher than the comparison children on three of four subscales of a measure of cognitive skills, on both receptive and expressive language skills, and on a measure of social development. There was no difference between the two groups on sequential processing ability. At the end of grade one, children whose parents had participated in PAT obtained higher scores on standardized tests of mathematics and reading and were rated by their teachers as having made better progress in school.

The participants in the Missouri pilot project, with an average of 14 years of formal education, were not typical of the parents targeted by programs for children deemed to be at risk. However, two researchers report on other studies that have examined the effectiveness of PAT with low-income families, many of whom were headed by lone-parents.

6.3b The Northern California Parents as Teachers project [29]

Participants in this research study were randomly assigned to the program and control groups. Most of the families were low-income, with one in five receiving social assistance. Nearly half of them were headed by single mothers. At the end of the two years of the program data were collected on:

- The children's health status, e.g. immunization history, use of emergency services.
- The children's physical, cognitive, communication, social, and self-help skills.
- The parent's knowledge of child development.
- The parent's sense of competence.
- The overall environment of the home using the *Home Observation for Measurement of the Environment* (HOME) [30] scale.

Only two significant differences were found between the program and the control groups. Children whose parents had received PAT had significantly better self-help skills while the parents in the control group obtained higher scores on the acceptance of the child's behaviour subscale of the HOME scale.

The researchers note that more than 40% of the families that completed the program had gaps of up to three months in their home visits each year. As a result, instead of the monthly visits for up to three years received by the participants in the Missouri pilot discussed above, the participants in this project had, on average, only 20 visits even if they did not drop out early. Furthermore, less than 15% of the participant families attended even one of the parent group meetings.

6.3c The Teen Parents as Teachers demonstration [31]

This research study involved random assignment of low-income teenagers who were pregnant or had a child under age six months into one of four groups;

- PAT program alone.
- PAT program and case management services.
- Case management services alone.
- A control group.

Almost one third of the teenagers was receiving social assistance and over 85% were unmarried. The four groups were equivalent on all major characteristics, for example, ethnicity, socio economic status and marital status, except for one. The PAT only group was significantly more likely to have dropped out of school.

This project lasted for two years with PAT-trained home visitors implementing the standard PAT program. Case management services focused on improving the teen mother's life, for example, encouraging further education. This involved face-to-face meetings as often as needed by the teen but at least quarterly. Case managers made referrals or arranged for services to address a range of needs from basic physical care to vocational or mental health services. In the combined PAT and case management group, both a case manager and a PAT parent educator worked with the teenager and contacts with the case manager were separate from PAT program visits. Thus, a teen mother in the combined program group received many more in-person contacts that one in the PAT program only group.

The outcomes for both the PAT only and the PAT plus case management groups were disappointing with PAT appearing to have no effect on participants' parenting knowledge, attitudes towards their children, parenting behaviours, child health status or child development. In contrast, the case management only program did have some beneficial results. Children whose parents received case management on its own had significantly higher rates of immunization and fewer incidents of requiring treatment for an injury. Children whose mothers had received either case management only or case management and PAT had significantly higher scores on a measure of cognitive development than did children in the comparison or the PAT only group.

Instances of the parent not being at home when the home visitor arrived for a scheduled appointment resulted in the participants in both the PAT only and in the PAT plus case management groups receiving, on average, only 10 home visits. Participation at group meetings was also low, averaging two meetings for the PAT only group and three for the group who received both case management and the PAT program.

6.3d Discussion

The failure of the universal Parents As Teachers (PAT) program to promote the development of at-risk children is consistent with the findings discussed in Chapter 4 regarding targeted programs that focus solely on the parent. Such failure has been attributed to a lack of synchronization between the child's emerging developmental needs and changes in parenting practices in those instances where such changes occur. Important aspects of child development occur on their own timetable. Optimal development requires that both emotional support and appropriate environmental stimuli be available when the child is primed to achieve new skills. For example, key neural pathways associated with language and dependent for their development on language stimulation are laid down in the first year of life. The child's need for positive social experiences and language stimulation cannot simply be put on hold to wait for the parent's behaviour to change.

However, the children of the middle income mothers who had an average of 14 years of formal education benefited from their mother's participation in the Missouri PAT pilot project. What might explain the differences in outcomes when the same, very structured, program is provided to mothers who have different characteristics? First, the mothers in the Missouri project sought out the program rather than being approached by researchers to participate in a study. This seeking out suggests an awareness of the importance of parents doing activities with their children and may reflect parents who already had positive parenting styles. As a result, fewer changes may have been required in the parents' behaviour to make it consistent with promoting children's development.

Second, the Missouri parents remained in the program for its duration and participated fully in its activities. Both the Northern California Parents As Teachers and the Teen Parents as Teachers projects report a high proportion of missed home visits. Drop-out rates were also high, 43% for the Northern California project [32] and 58% for the Teen Mothers As Teachers project. [33] Such lack of engagement suggests that either low-income parents do not perceive instruction on how to stimulate their child's development as a priority when faced with the more immediate challenges of trying to make ends meet or they find the requirements of the program too stressful or demanding. Whatever the reason, lack of engagement reduces the parent's exposure to the program and thereby the possibility of benefit for the child.

6.4 Conclusions

The research findings discussed above lead to two primary conclusions:

- Ordinary community group programs for children promote the development of at-risk children when the program provides a greater level of emotional support and developmentally-appropriate stimulation than is available in the child's own home. As noted in Chapter 3, full-day rather than part-day child care centre programs, and programs starting before age three, are more effective.

- Programs that focus solely on the parent do not promote the development of at-risk children, although, as discussed in Chapter 4, they may benefit the children's parents.

The research findings discussed in this chapter related to the ability of group programs to enhance the development of at-risk children are consistent with the findings related to child care centres discussed in Chapter 3. As noted in Chapter 3, the quality of the program matters and there is evidence that full-day rather than part-day programs starting before age three are more effective.

Notes

1. The term 'developmentally-appropriate stimulation' refers to the provision of activities that take into account the child's developmental level and existing knowledge and skills and uses these to promote further development.

2. Kohen and Hertzman, 1998, p. 2.

3. Caughy, DiPietro and Strobino, 1994.

4. The *Home Observation for Measurement of the Environment* (HOME) Scale (Caldwell and Bradley, 1984). In addition to assessing several aspects of parent behaviour, such as responsiveness, the HOME scale assesses the home's provision of materials and activities that support and promote children's development.

5. Caughy, DiPietro and Storbino, 1994, p. 466.

6. Ibid., p. 467.

7. Howes, 1990; Peterson and Peterson, 1986; Peisner-Feinberg and Burchinal, 1997; Vandell, Henderson and Wilson, 1988.

8. Peisner-Feinberg and Burchinal, 1997, p. 471.

9. Campbell et al. 1998, p. 148.

10. Burchinal, Lee and Ramey, 1989.

11. Osborn and Milbank, 1987.

12. Ibid., pp. 214-226.

13. Ibid., p. 226.

14. Richardson and Marx, 1989.

15. Kagitcibasi 1991; 1995.

16. Custodial care is care that protects the children's health and safety but lacks adequate language and cognitive stimulation to promote the children's development.

17. National Research Council and Institute of Medicine, 2000, p. 213.

18. Ibid., p. 326.

19. Ibid, pp. 316-317.

20. Arnett, 1987; Berk, 1985; Doherty et al., 2000a; Dunn, 1993; Fosburg, 1981; Galinsky et al., 1994; Goelman et al., 2000; Howes, 1983; Howes and Norris, 1997; Howes, Smith and Galinsky, 1995; Kontos, Hsu and Dunn, 1994; NICHD Early Child Care Research Network, 1996; Ruopp et al., 1979; Whitebook, Howes and Phillips, 1990.

21. Goelman et al., 2000; Howes, 1983; Howes and Rubenstein, 1985; Howes, Smith and Galinsky, 1995; Howes et al., 1988; Palmerus, 1991; Smith and Connolly, 1986; Smith et al., 1989; Whitebook, Howes and Phillips, 1990;

22. Allhusen and Cochran, 1991; Howes, 1983; Howes and Rubenstein, 1985; Kontos and Fiene, 1987; Ruopp et al., 1979; Stith and Davis, 1984.

23. Goelman et al., 2000.

24. Doherty et al., 2000a; Pence and Goelman, 1991; Pepper and Stuart, 1992.

25. Doherty et al., 2000a; Goelman et al., 2000; Helburn, 1995; Whitebook, Howes and Phillips, 1990; Whitebook, Sakai and Howes, 1997.

26. Goelman et al., 2000.

27. Doherty et al., 2000b.

28. Pfannenstiel and Seltzer, 1989, Winter, 1999.

29. Wagner and Clayton, 1999.

30. Caldwell and Bradley, 1984.

31. Wagner and Clayton, 1999.

32. Ibid., p. 98.

33. Ibid.

7

Policy implications

Improving child development is a question of improving the environments in which children grow up, live and learn...The issue is one of 'universal access' to environments that will support healthy child development, not just one of protecting those at high risk. Hertzman, 2000, p. 15.

7.1 INTRODUCTION

The lessons learned from the research literature reviewed in the previous chapters can be summarized as follows:

- The majority of young children living in low-income families are developing at a normal rate, as are the majority of young children living in lone-parent families.

- Factors associated with compromised development and developmental problems themselves occur across all income groups and among children in both lone- and two-parent families. Many more children live in middle- and upper-income families and in two-parent families than live in poverty and/or with a lone parent. As a result, while the incidence of risk is higher among children from low-income and/or lone-parent families, **numerically** there are more children at risk living in middle- and upper-income two-parent families.

- We know a great deal about what threatens children's optimal development; however, we do not have a good mechanism to identify at-risk children reliably or at an early age. Relying on the traditional 'markers' of neighbourhoods with a high concentration of low-income and/or lone-parent families to determine where to implement programs intended to enhance development among at-risk children has inherent limitations. This method inevitably excludes a substantial number of children who are at risk as a result of other factors, for example, a hostile parenting style or living in a dysfunctional family.

- Parenting education and/or parent support programs on their own do not result in improved developmental outcomes for children deemed at risk for developmental

problems even though they sometimes result in increased parental knowledge about child development and/or changes in parenting practices. Parent support programs in conjunction with a centre-based group program for the children may benefit the children's development. The extent to which the children benefit depends on the intensity of the children's group program and the types of experiences provided by it.

- The most effective way to enhance the development of children deemed to be at risk for developmental problems is through a centre-based program where challenging but developmentally-appropriate activities [1] are provided to small groups of children by supportive adults who understand child development and how to encourage it. Research also demonstrates that such programs support and promote the development of children whose development is not deemed to be at risk.

- Neither children whose development is at risk, nor children not deemed to be at risk, benefit from poor quality group programs for children that fail to provide adequate levels of support and stimulation. It fact, such programs constitute a threat to children's development regardless of the child's family background.

- The age at which the child begins the group program matters. Development is sequential and the developmental tasks that need to be mastered by the child at age four and five are dependent upon a scaffold of competencies developed at an earlier age. Research indicates that high quality group programs for children are more effective in enhancing the development of at-risk children when the children begin attending them prior to age three. In the U.S., the preschool Head Start program has been supplemented by an Early Head Start program for children under age three.

- The amount of group program received by the child matters. There is growing research evidence that full- rather than part-day group programs are more effective. In the U.S., both Early Head Start and Head Start centres are increasingly providing full-day rather than part-day programs.

This chapter looks at the policy implications of the research discussed previously by exploring:

- Where do many young children spend the majority of their waking hours? To what extent are these environments supportive of child development? Is the current situation likely to continue?

- To what extent is the current approach to targeting consistent with what we know about what is required to promote young children's development?

The chapter concludes that:

- Prior to school entry, a very substantial proportion of Canada's children spend long periods of time in child care that may fail to provide adequate stimulation and therefore is a threat to their development. This situation will continue unless governments take decisive action.

- Targeting as currently practised in Canada does not serve the best interests of children at risk. First of all, most targeted programs select their participants on the basis of the socio-demographic characteristics of the neighbourhood in which the children live. This means that many at-risk children are excluded because they live in a community that is not considered to be high risk. Second, most targeted group programs in Canada only begin to serve children when they are over age three and only provide a part-day program. Thus, they start at an age when the child may already lack the basic competencies to master the developmental tasks faced at age four and five and fail to provide an adequate intensity of programming.

- The most effective way to promote the healthy development of ***all*** children is through affordable group programs for children that provide a supportive environment and adequate levels of developmentally-appropriate activities (i.e. high quality child care) for any child whose parent wishes to use the service.

- Provision of high quality, affordable child care for all children whose parents wish to use the service could be accomplished through additional public funding in association with reasonable parent fees and would result in a net financial benefit to society.[2] The first way society would benefit would through a reduction of the need for grade repetition and/or special education for children who entered school lacking basic school-readiness. In the U.S., the cost of repeating a grade is estimated to be about $6,000 per year per child while the cost of special education is estimated to be roughly $8,000 per child annually. [3] The second way in which society would obtain financial benefit would be through increased parental employment resulting in increased income tax revenue and decreased reliance on social assistance. Society would also benefit through increased employee productivity and an increase in Canada's ability to be competitive in the global market place.

7.2 Children's environments

7.2a The high use of child care

The family, in all its diversity of forms, is the environment common to all young children prior to school entry. It is ***not***, however, the environment in which many spend the majority of their waking hours. In 1999, 61% of all women with at least one child under age three were engaged in the paid labour force. [4] Among mothers whose youngest child was between age three and five, the labour force participation rate was 69% in 1997. [5] Participation in the labour force by mothers with young children occurs across both lone- and two-parent families. According to census data, in 1996 there were 679,945 ***two-parent*** families where the youngest child was under age five and both parents worked.[6] It should be noted that the number of children under age five in families where both parents are in the labour force will be greater since some families have more than one child in this age range. Parents usually cannot look after their children during the time that they are engaged in paid work. With current high levels of family mobility, grandmother and other relatives may live miles away or in another province, territory, or country. Even if she is in close proximity, grandmother may not be available to assist. In 2000, 62% of women between the ages of 45 and 65 were engaged in paid employment.[7]

Most women who are engaged in paid employment, 67% work full-time. [8] Other women with young children are involved in post-secondary education as a means of increasing their employability or are participating in job training courses. Like their peers in the labour force, they require child care during those hours when they are otherwise engaged. The federal government has estimated that a child in full-time child care spends nine hours a day, five-days-a-week in the child care setting [9] — a period of time that, for infants and toddlers, represents more of their waking hours than is spent with the parents. In spite of the availability of one year of parental leave, just over half of employed women, 52%, return to work within six months after giving birth and within a year 86% have returned to work.[10] For many women the primary reason for this early return is financial, the amount of money they receive from the government does not compensate for their lost income.

Where are the children? In many cases, for many hours, they are in child care. They are in this situation during the period when they are developing the basic skills that will be the scaffold for later learning and for almost the equivalent amount of time that they will spend in class in elementary and secondary school combined. The federal government has noted that, *"A child entering child care at six months of age would receive 10,125 hours of care by age five."* In contrast, *"A child receives a total of 13,680 hours of class time in grades 1 through 12."* [11]

7.2b Is Canadian child care supportive of child development?

Research studies have shown that living in a home that supports children's development does not protect children from the negative consequences of spending substantial periods of time in a child care setting that lacks developmental opportunities. [12] Therefore, the extent to which the child care received by Canada's young children supports and promotes their development is crucial for the country's future.

In 1994/95, the most recent year for which statistics are available, 61.7% of children under age five who were receiving child care on a regular basis received it an ***unregulated*** situation.[13] Unregulated child care does not have to meet any standards, not even those pertaining to health and safety, nor is it monitored by the government in any way. In contrast, regulated child care, whether centre- or home-based, has to abide by certain regulations pertaining to health and safety and the maximum number of children for whom one adult is responsible. All but two jurisdictions also require specialized training in early childhood development for at least some staff in each centre,[14] and some require training for regulated family child care providers. [15] Some unregulated child care situations may provide the warm, responsive care and the types of stimulation needed for children's development. However, research studies in both Canada [16] and the United States [17] have consistently found that unregulated child care as a whole is less supportive of children's development than regulated child care.

While research indicates that the quality of regulated child care is, as a whole, higher than that found in unregulated situations, regulation alone cannot guarantee the type of daily support and stimulation children need for their optimal development. Recent Canadian multi-jurisdictional studies found that safe environments, with warm, supportive adults are the norm in Canada's child care centres [18] and regulated family child care homes. [19] Unfortunately, however, only about a third of the centres and about a third of the homes were providing experiences that clearly support and encourage children's social, language and cognitive development. [20] Thus, Canadian child care continues to be characterized by lack of adequate stimulation to support children's development at a time when historic numbers of infants, toddlers and preschoolers are spending substantial periods of time in child care settings.

Are the child care environments in which many young children spend substantial periods of time supportive of their development? For many children the answer is *"No."* Most situations probably protect health and safety but the majority of children are not receiving the types of support and the experiences essential for the development of the skills they need to be ready for school.

7.2c *Why does the current situation exist?*

The high use of child care — most often care that is unregulated — exists for at least three reasons:

- The high rate of employment in the labour force by women with preschool-aged children, as already discussed.
- The cost of regulated child care.
- The shortage of regulated child care spaces.

The lack of adequate levels of stimulation to support children's development in many child care settings reflects a combination of: (1) the effect, sometimes unintended, of current provincial/territorial regulations, and (2) the current heavy reliance on parent fees to cover program costs.

Reasons for the use of unregulated child care

Parents often use unregulated child care because they cannot afford regulated care. Unlike kindergarten and targeted programs for children deemed at risk, regulated child care is not free-to-the-user. In 1998, the average monthly fee across Canada for full-day, centre-based child care was $531 for infants, $477 for toddlers, and $455 for preschoolers.[21] Thus, a family with an infant and a toddler or preschooler would have to pay just under $1,000 a month in ***after-tax*** dollars for regulated centre-based child care. In 1997, 47.6% of families with one or more children earned less than $50,000 before taxes. [22] For such families, $12,000 a year in ***after-tax*** funds represents a substantial portion of the family budget and often is not affordable. Child care fee subsidies are geared to low-income families through income ceilings for eligibility and, in some jurisdictions, may not be available for all eligible families because of ceilings on the fee subsidy budget or the number of subsidized spaces. In 1998, only 31% of children in regulated child care were receiving full or partial fee subsidies. [23] The Child Care Expense Deduction is often of little value to modest- or middle-income families because it must be deducted from the lower income when both parents work. When the income tax bracket of the lone- or lower-income parent is low, the deduction amounts to only a fraction of the actual cost.

A second reason for the high use of unregulated care is the fact that regulated child care spaces are in short supply. Government child care space statistics indicate that there are only regulated spaces for between four to 15% of children under age twelve, depending on the jurisdiction.[24] Infant and toddler spaces, perhaps because they are more expensive to provide, are particularly difficult to find. [25]

Reasons for the lack of adequate levels of stimulation

While safe environments with warm, supportive adults are the norm in Canada's regulated child care settings, only approximately a third of them provide the types of stimulation required to foster children's development, i.e. high quality child care. [26] In addition, the majority of children receiving regular child care receive it from unregulated providers who do not have to meet even basic standards for health and safety. The current situation reflects a combination of the effect of provincial/territorial regulations and the need for child care programs to rely heavily or primarily on parent fees for their operating revenue.

Canadian regulations pertaining to adult/child ratio and group size in the majority of jurisdictions are at or close to the levels recommended by child care experts. [27] However, this is not the case for the regulations pertaining to specialized post-secondary training for people providing child care even though research has consistently documented the importance of such training for high quality programs. No jurisdiction meets the desirable level of a two-year post-secondary Early Childhood Care and Education (ECCE) credential for all centre-based teaching staff, and only two jurisdictions require that at least one teacher working with a group of children have this level of specialized training. Only five jurisdictions require family child care providers to take any specialized training.[28] In some jurisdictions, current regulations actually act as a disincentive for an unregulated family child care provider to become regulated, even though so-doing might increase her access to training and other supports associated with higher quality such as provider peer- support networks. [29]

Right across Canada, except in Québec, child care programs have to rely heavily for their revenue on parent fees. At the same time, they have to keep their fees as low as possible so that parents can afford them and the program can keep its spaces filled and thus continue to operate. Once child care centres have covered their fixed costs related to wages and benefits, rent or mortgage, and utilities, on average less than 3% of their budget remains to cover food, toys and equipment, maintenance and repair of the physical facility, and in-service training for staff.[30] Operating on such a tight budget not only keeps wages low, a factor proven to fuel high turnover rates which in turn are associated with poor quality programs, it also means very little money for assisting staff to keep informed about new knowledge or for program materials and activities.

7.2d Is the current situation likely to continue?

All the evidence indicates that high rates of labour force participation by mothers who have young children will continue. For many lone mothers, employment in the paid work force or receipt of social assistance is essential to provide food, shelter and clothing for their children. In some two-parent situations, neither parent's wage is sufficient by itself to maintain the family above the poverty level. In 1996, 10.5% of two-parent families with children were poor. If both parents had not been working, the poverty-rate for two-parent families with children would have been 21.4%, that is, double. [31] In other two-parent families, the second income is needed to provide the children with developmental opportunities, such as organized sport which, in turn, assists the development of children's peer social skills and ability to work in a team. Even when two incomes in a family are not currently crucial, the second income provides back-up security. If one parent loses his or her job, the second income may be all that enables the family to provide food and shelter for its children. The financial pressure on mothers to engage in paid work is illustrated by the high proportion of women who return to work within six months of having given birth.

Mothers also work to maintain their employability and/or their personal long-term financial security — a critical consideration in light of the high rates of marital break-down. Workplace knowledge and technology is expanding at an ever increasing rate. The longer a woman is out of the work force, the greater the likelihood that her knowledge and skills will become obsolete thus reducing her ability to obtain a good job. An extended absence from the paid work force not only decreases life-long income, it may also reduce the size of the woman's Canada/Québec Pension Plan upon retirement.[32]

Some mothers might choose not to work outside the home prior to their youngest child's entry into the formal school system if the government paid an allowance that substantially compensated for lost income. This is highly unlikely to occur for at least two reasons. First, such an allowance would be extremely expensive for the government in terms of costs incurred and lost revenue from income tax. Second, Canada needs women in the work force. In 1999, women accounted for 46% of the paid workforce. [33] The loss of a substantial proportion of these women would have a negative effect on Canada's ability to be competitive. The need for women's labour force participation will steadily increase over the next decades as the baby boom generation moves into retirement. Not only will the potential pool of employees decrease, with increasing longevity there will be an increase in the number of retirees being supported by current income tax payers.

In summary, the high rate of labour force participation among mothers of young children is likely to continue. The undesirable high use of child care situations that fail to promote children's development will also continue unless governments address the need for adequate training for child care providers and adequate operating funds for child care settings so that they do not have to depend so heavily on parent fees for their revenue.

7.2e Summary

A substantial number of Canada's young children spend approximately nine hours a day, five days a week in a child care setting starting when they are infants. This is a situation that is unlikely to change. Many of these environments fail to provide what is required to support and promote children's development and therefore put children at risk for developmental problems even when they were not originally vulnerable. Large numbers of young children will continue to spend substantial periods of their waking hours in child care environments that fail to support their development unless governments recognize that the provision of high quality child care requires specific training and the provision of government operating grants to child care programs.

7.3 The impact of targeting

Targeting as currently practised in Canada neither serves the best interests of children whose development is at risk nor that of other children. Instead, targeting may actually contribute to increasing the number of children who lack school readiness at school entry.

7.3a The failure to address the needs of at-risk children

Targeting as presently practised in Canada fails children whose development is at risk in the following four ways:

- The reliance on neighbourhood socio-demographic characteristics to determine where to operate targeted programs means that many children who are vulnerable to developmental problems are excluded because they live in a community that is not considered to be high risk.

- Most targeted group programs providing early childhood care and education serve children between the age of three and five. However, development is sequential. The developmental tasks children need to master at ages three and four in order to be school-ready require a good scaffold of competencies developed at earlier ages. This scaffold may be inadequate if the child's earlier environment has not provided sufficient stimulation and support. In the U.S., the preschool Head Start program has been supplemented by an Early Head Start program for children under age three.

- Targeted group programs for children typically provide only a three-hour experience four or five days a week and some do not operate during the summer months. When the children are not in the targeted program they either are in a home environment deemed to place their development at risk or, if the parent is working or engaged in skills training, in a child care situation that may lack adequate levels of stimulation. Several child development experts have questioned whether a part-day program for one or two years is of sufficient intensity to bring at-risk children's school-readiness even close to that of peers whose development was not at risk. [34] In the U.S., both Early Head Start and Head Start centres are increasingly providing a full- rather than part-day program.

- The current part-day delivery of targeted group programs fails to support efforts to address child poverty, a major contributor to developmental problems. Poverty puts children's development at risk through factors directly related to the family's low-income such as inadequate nutrition and living in substandard housing. Assisting parents to engage in paid work that has an adequate salary is an effective method of reducing poverty. In 1996, 10.5% of two-parent families with children were poor. If both parents had not been working, the poverty-rate for two-parent families with children would have been 21.4%, that is double.[35] A part-day program for children limits parents' ability to engage in full-day academic upgrading or specific job training in order to become more employable. It also limits their ability to engage in full-time employment, unless they can obtain inexpensive child care. As a result, parents' ability to improve their family income and through this the environment in which their children live is limited.

7.3b The failure to address the needs of children who are not at risk

Many children whose homes do not put their development at risk spend considerable periods of time, often from infancy, in child care. Canadian research reports that experiences that support and promote children's development are more frequently found in regulated than in unregulated child care. [36] However, as noted in Section 7.2c, many employed parents cannot afford or cannot obtain regulated child care. Also, as noted in this section, only about a third of regulated child care settings provide the types of experiences that promote children's development. This situation reflects a combination of inadequate regulations pertaining to caregiver training in the majority of Canada's jurisdictions coupled with the need for programs to rely heavily on parent fees for their revenue.

7.3c Conclusions

The current targeting of early childhood services, either explicitly through programs such as Head Start or de facto as is the case of regulated child care, fails to meet the needs of Canada's children. As documented in Chapter 6, high quality ordinary community child care centre programs support and enhance the development of ***all*** children, including those deemed to be at risk for developmental problems as a result of environmental factors. Given the high use of child care for Canada's young children the most effective and efficient approach to enhancing the development of ***all*** children would be through a high quality, universal, publicly-funded early childhood education and care program for all parents who wished to use it. The following section addresses the concerns that have been expressed about the cost of such a program. It does so by beginning with a demonstration of the high price society is paying for the current situation and then by confirming that society would actually reap a financial benefit from the availability of universal, high quality child care.

7.4 Cost/benefit analysis

Many continue claim that Canada cannot afford universally available and accessible high quality child care, even if part of the cost is covered by parental fees geared to parental ability to pay. The following section demonstrates the reality that Canada cannot afford to permit the current situation to continue.

7.4a The multiple and high costs of inaction

The high cost to children themselves when they spend significant portions of time in unstimulating environments is well-known and well-documented. Therefore, this section looks at some, but not all, of the other negative effects and costs to society of the current situation:

- The high cost of school drop-outs.
- The failure to reduce dependency on social assistance.
- The restriction of the potential pool of workers.
- The reduction in employee productivity.
- The failure to reduce child poverty.

Society also incurs costs through the greater use of the juvenile and adult justice systems by people who failed to learn how to control their aggressive, impulsive behaviour as preschoolers, had problems in elementary school, and became involved in deviant behaviours as young teenagers.[37] Reviews of the research literature have concluded that assisting children to develop social skills and the ability to handle stress and frustration at

an early age is much more effective than interventions with a child who is already showing delinquent behaviour. [38] There is also evidence that children's early experiences influence their later susceptibility to hypertension, adult-onset diabetes and heart disease and thus the extent of their use of the medical system. [39]

The high cost of school drop-outs

Children who lack school readiness at the time of school entry have higher rates of grade retention and use of special remedial services, both of which result in additional cost to the taxpayer, and are at increased risk of dropping out of high school. In the U.S., the cost of repeating a grade is estimated to be about $6,000 per year per child while the cost of special education is approximately $8,000 annually per child. [40] The estimated drop-out rate in Canada is 14%, [41] resulting in a substantial number of people who will face increasing difficulty obtaining and maintaining employment as the use of technology increases. A study by the Conference Board of Canada estimates that the total loss to society due to failure to complete high school is $4 billion annually.[42] This estimate includes lost income tax revenue and the cost of providing government assistance during periods of unemployment. If drop-out rates were cut by about one-third, the overall benefit to society would be about $1.2 billion a year. [43]

Failed attempts to reduce dependency on social assistance

About 58% of lone mothers with young children receive social assistance, only about 20% of these report that they engage in full-time/full-year employment. [44] Several provinces have made concerted efforts to reduce usage of social assistance among lone mothers who have preschool-aged children by requiring them to actively seek employment, engage in job training or do voluntary community service as a condition of receiving benefits. However, experience in both New Brunswick [45] and Ontario [46] documents that reliable child care is an essential component for the success of these attempts to foster economic self-reliance. Lack of such care is a major barrier to exiting social assistance because it prevents participation in educational up-grading and job training. In 1998, the number of available regulated spaces would have accommodated between four to 15% of the child population under age 12, depending on the province. [47] Use of unregulated care is less dependable since the caregiver may not have back-up for periods when she is ill or otherwise unavailable. It also means that the child of a low-income, single mother who otherwise might have been the target of a special compensatory program such as Head Start instead is placed in a situation that may not foster development.

Mothers who exit social assistance often do not end up much better off financially by being employed. When a mother on social assistance enters the workforce her social assistance benefits decrease as her wage increases, her earnings are subject to income and other taxes,

and she faces work-related costs such as child care, work clothing and transportation. A recent study calculates that without at least some subsidization of child care costs, a lone mother earning $20,000 annually would only be better off by $3,000 a year as a result of engaging in paid employment.[48] Lone mothers who do not have the skills to qualify for jobs paying this type of salary have even less potential to improve their financial situation by engaging in paid employment. Faced with this scenario, the additional work and stress associated with being employed makes no sense so it is not surprising that some mothers leave their jobs and go back to reliance on social assistance.

The restriction of the potential pool of workers

In 1999, women accounted for 46% of the workforce. [49] As noted by the Vancouver Board of Trade, "*Our economy cannot meet the demand for workers without women in the workplace.*"[50] The demand for women in the workforce is going to increase. Canada's birthrate dropped below what is required to replace the population in the late 1970s and has remained below replacement level ever since.[51] With elderly people living longer, there is an increasing proportion of dependents (children and retirees) relative to the size of the working age population. The current lack of affordable child care that can be depended upon to be there when needed and that the parent trusts is a major barrier to women's work force participation, both in terms of their decision to engage in paid employment and in terms of whether to work on a full- or part-time basis. Two recent studies by Canadian economists using Canadian data illustrate this fact. Lisa Powell reports that among married women with preschool children, the rate of employment would increase by 38% if child care costs were fully subsidized. Child care subsidization would have a particularly strong positive effect on the mother's decision to work full- rather than part-time. [52] Using data from the *Canadian National Child Care Survey*, Cleveland and Hyatt show that a 10% increase in the price of child care reduces the likelihood of a lone-mother remaining in the paid labour force by nearly 7%.[53] Similar evidence that child care costs have a substantial negative effect on mother's employment decisions comes from research conducted in the U.S. [54]

Reduced employee productivity

Employee productivity is decreased as a result of the current situation in two ways. First, by the high rate of school drop-out which reduces the proportion of available workers who have the knowledge, skills, and ability to be innovative, and second by its impact on parents currently in the workforce. A Canadian survey of 1,600 organizations, and more than 11,000 public and private sector employees, found that workers experiencing difficulties juggling family and work responsibilities missed an average of four-and-a-half days days from work during the previous six month period. In comparison, workers reporting no difficulties

missed an average of two-and-a-half days during the same time period.[55] It cannot be assumed that the juggling difficulties reported were all child-related. However, it is reasonable to assume that at least some involved situations such as being unable to find a last-minute replacement when the unregulated child care provider is ill. Other researchers have reported that parents having difficulty with their child care arrangements not only are absent more often, they are also more likely to come in late or leave early and to have more stress-related health problems. [56] All of these factors reduce work productivity.

The failure to reduce child poverty

The number of children under age seven living in poverty rose from 21% in 1991 to 25% in 1996. [57] Access to affordable, reliable child care is a major barrier to employment for many poor parents who cannot obtain a fee subsidy or only one that covers a small proportion of the full fee. As noted by the National Council of Welfare in a document that includes a discussion of what is required to address child poverty:

> *The centrepiece of family policy must be a system of affordable, high quality child care. Child care is the essential ingredient in the workforce participation of parents of young children – especially mothers. Good child care is also an excellent way to provide better early childhood education that ensures that all children have an equal chance at good development.* National Council of Welfare, 1999, p. 1.

7.4b Investing in our society

Two University of Toronto economists, Cleveland and Krashinsky, have demonstrated that society would obtain a net benefit of $5.2 billion annually if it provided high quality, full-day child care for all two- to five-year-old children whose parents wished to use it. [58] This estimate is based on increased parental employment and hence revenue for governments through income taxes and costs not incurred for academic remediation. It also assumes a 20% parental contribution through fees scaled to income. Cleveland and Krashinsky note that they ***under-estimated*** the net benefit since they did not factor in the value of the income tax revenue from the significant number of new jobs that would be developed in the child care system. Another Canadian economist, Ruth Rose, observes that people working in child care are consumers. This means that the money they spend will generate other new jobs and other tax dollars. [59]

It would be unrealistic to assume that the provision of universal high quality child care would ensure that all children graduate from high school with good literacy and numeracy skills and the ability to work well with others and to be innovative. It ***is*** realistic to assume that a substantially higher proportion would do so than is now the case. However, as noted

by both Canadian[60] and American [61] experts, ensuring school readiness is necessary but not sufficient. The ability of the receiving school to support and enhance continued development is critical This ability includes having sufficient resources for programming materials and having well-qualified, motivated teachers who set high but realistic expectations and engage in positive interactions with the students.

7.4c Conclusions

Provision of high quality, publicly funded universal child care is affordable and sustainable. It is also essential to reduce the high price being paid by society for the current actual and de facto targeted approach to the provision of early childhood care and education programs.

7.5 Summary

Research has identified several variables in addition to low family income and living in a lone-parent family that put children at risk for developmental problems. However, we currently do not have good mechanisms to identify at risk children reliably or at an early age. Research also clearly indicates that the most effective intervention with children at risk is the provision of a high quality centre-based early childhood program, preferably on a full-day basis.

Currently, a substantial number of Canada's young children spend approximately nine hours a day, five days a week, in child care that may fail to provide what is required to support and foster their development. Major reasons for this situation include the lack of sufficient regulated child care spaces, the inability of many parents to pay the fee for a regulated child care space, and the lack of regulatory and financial supports to enable all regulated spaces to provide the types of stimulation children need. The current targeting of publicly-funded early childhood care and education programs — either explicitly in Head Start and similar programs or de facto in regulated child care — works ***against*** the optimal development of large numbers of children.

A cost/benefit analysis confirms that society would benefit from a publicly-funded, high quality universal child care system both through costs not incurred as a result of having diverted potential problems early and through a more productive workforce that would result in greater economic growth. A universal, high quality child care system could support parents' economic functioning and reduce some of the stress associated with balancing family and work responsibilities, provide a vehicle for the early identification of developmental problems, and provide an infrastructure for additional or specialized

services in specific situations while at the same time promoting the development of **all** children.

Notes

1. The term 'developmentally-appropriate activities' refers to activities that take into account the child's existing developmental level, knowledge and skills.
2. Cleveland and Krashinsky, 1998.
3. Currie, 2000.
4. Statistics Canada, 2000a, p. 1.
5. Cleveland and Krashinsky, 1998, p. 42.
6. Statistics Canada, 1999a.
7. Statistics Canada, 2000b.
8. Statistics Canada, 2000a, p. 1.
9. Human Resources Development Canada, 1994, p. 9.
10. Statistics Canada, 1999b, p. 1.
11. Human Resources Development Canada, 1994, p. 9.
12. Caughy, DiPietro and Strobino, 1994; Howes, 1990; Peisner-Feinberg and Burchinal, 1997.
13. Beach, Bertrand and Cleveland, 1998, Table 1.
14. Childcare Resource and Research Unit, 2000, Table 18.
15. Ibid., Table 17.
16. Goelman and Pence, 1988; Pence and Goelman, 1991; Pepper and Stuart, 1992.
17. Fosburg, 1981; Kontos et al., 1995.
18. Goelman et al., 2000.
19. Doherty et al., 2000b.
20. Doherty et al., 2000b; Goelman et al., 2000.
21. Doherty et al., 2000a, Table 10.6.
22. Statistics Canada, 1997.
23. Childcare Resource and Research Unit, 2000, Table 11.
24. Ibid., Table 3.

25. Doherty et al., 2000a, p. 116.

26. Doherty et al., 2000b; Goelman et al., 2000.

27. Doherty, 2001.

28. Ibid.

29. Doherty et al., 2000b., see section 9.7 for a discussion of how current regulations act as disincentives to become regulated and the need for all jurisdictions to determine if their existing policies and practices have this effect and, if so, to modify them.

30. Doherty et al., 2000a., p. 173.

31. National Council of Welfare, 1999, p. 12.

32. The provisions of both the Canada and the Québec Pension Plans are such that the years where earnings are nil or below career average while the mother (or single father) has a child under age seven are not counted when calculating the average earnings upon which pension benefits are based.

33. Statistics Canada, 2000a, p. 1.

34. Currie and Thomas, 1995; Hebbeler, 1985; Lee et al., 1990; Zigler, Styfco and Gilman, 1993.

35. National Council of Welfare, 1999, p. 12.

36. Goelman and Pence, 1988; Pence and Goelman, 1991; Pepper and Stuart, 1992.

37. National Crime Prevention Council, 1996; Tremblay and Japel, 1997; Yoshikawa, 1995.

38. Tremblay and Craig, 1994; Tremblay and Japel, 1997; Yoshikawa, 1995.

39. Hertzman, 2000.

40. Currie, 2000.

41. Statistics Canada, 1996, p. 2.

42. Lafleur, 1992, p. 1.

43. Vancouver Board of Trade, 1999, p. 4.

44. Cleveland and Hyatt, 1998, p. 4.

45. Lero, 1997.

46. KPMG National Consulting Services, 1999.

47. Childcare Resource and Research Unit, 2000, Table 3.

48. Cleveland and Hyatt, 1998, p. 11.

49. Statistics Canada, 2000a, p. 1.

50. Vancouver Board of Trade, 1999, p.6.

51. Vanier Institute of the Family, 2000, Table 2a.

52. Powell, 1997, p. 12.

53. Cleveland and Hyatt, 1996, p. 40.

54. Cleveland and Krashinsky, 1998, p. 43.

55. MacBride-King, 1990, p. ix.

56. Duxbury and Higgins, 1994, p. 31.

57. Canadian Institute of Child Health, 2000, p. 183.

58. Cleveland and Krashinsky, 1998, Table 15.

59. Rose, 1997, p. 33.

60. Willms, 1997.

61. Barnett, 1998; Currie and Thomas, 1997; Lee and Loeb, 1995.

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ABOUT THE CHILDCARE RESOURCE AND RESEARCH UNIT

The Childcare Resource and Research Unit at the Centre for Urban and Community Studies, University of Toronto, is a policy and research oriented facility which focuses on early childhood care and education. CRRU provides public education and policy analysis; consults on child care policy and research; publishes papers and other resources; maintains a comprehensive resource collection and computerized catalogue; and provides online resources and research through its website (www. childcarecanada.org).

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