



# Understanding the Early Years

## Early Childhood Development in the South Eastman Community, Manitoba

An Analysis of the  
Communities Survey

The views expressed in this report are those of the authors and do not necessarily reflect the position of Human Resources and Skills Development Canada or of the federal government. All narrations and data analysis results presented here were prepared by the authors.

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## Foreword

Early childhood is a key time for growth and development as children interact with the world around them: their families, other children, childcare providers, community programmers and more. Research shows that while what happens in early childhood does not *determine* what happens later, it does place children on developmental pathways that become increasingly difficult to alter as time passes.<sup>1</sup>

There is strong consensus that one of the key “enabling conditions” for healthy child development is supportive communities – communities that are safe and secure and that provide access to programs and services for families with children. In turn, the future of our communities is dependent on the healthy development of their children. Given the important role communities play in healthy child development, it is critical that policy and program decisions taken at that level be based on a sound understanding of the outcomes and needs of children in the community.

Understanding the Early Years (UEY) is a national initiative that provides communities with local information that can help them make informed decisions about the most appropriate programs and services for their young children. Information collected through the UEY initiative helps communities understand how their children are doing physically, socially and cognitively, as well as how families and the community are supporting those children. Parents, educators, community organizations and others learn about what is going well in their community and work together to make their community a better place for young children and their families.

This report for the South Eastman community is one of seven community reports produced for the second pilot phase of the UEY initiative. The reports describe the developmental outcomes of young children, and explore how these outcomes are influenced by demographic characteristics and by family and community factors in each of the seven communities that have participated in the initiative since 2001. The seven communities are Hampton/Sussex, New Brunswick; Montréal, Quebec; Niagara Falls, Ontario; Dixie Bloor (Mississauga), Ontario; South Eastman, Manitoba; Saskatoon, Saskatchewan; and Abbotsford, British Columbia.

The South Eastman report provides a profile of how young children in the community are doing, based on an analysis of two cycles of data collected in 2001 and 2005 by Statistics Canada, using the Communities Survey (adapted from the National Longitudinal Survey of Children and Youth). Specifically, the report provides findings about the developmental outcomes of kindergarten children, including outcomes relating to their physical health and well-being, cognitive skills and behaviours. The report also explores factors that may be related to these children’s outcomes, by looking at changes in demographics, family processes and community factors between 2001 and 2005.

We hope that the South Eastman community – parents, educators, schools, businesses and community organizations – can draw useful information from this report. In better understanding how well their youngest citizens are developing and the variables that may influence that development, they can work together to improve the community for their young children.

We also hope that the community profiles in the set of seven reports provide valuable lessons about the needs and strengths of communities with different economic, social and physical characteristics, as well as about factors that enable young children to thrive.

**John Connolly**, Director

Partnerships Division  
Community Development and Partnerships  
Directorate (CDPD)  
Human Resources and Social Development  
Canada (HRSDC)

**Mireille Laroche**, Director

Research Division  
Strategic Policy Research Directorate  
(SPRD)  
Human Resources and Social Development  
Canada (HRSDC)

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<sup>1</sup> Moore, 2005:17.



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## Authors

**Gong-Li Xu** (Community Development and Partnerships Directorate, HRSDC)

**Nina Ahmed** (Strategic Policy Research Directorate, HRSDC)

**Chahreddine Abbes** (Strategic Policy Research Directorate, HRSDC)







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## Executive Summary

This report presents survey findings from two cycles of data collection in South Eastman, Manitoba. The study was conducted by Statistics Canada as part of the second pilot phase of the Understanding the Early Years initiative (UEY-II), using the Communities Survey, a research tool adapted from the National Longitudinal Survey of Children and Youth (NLSCY). The first cycle of data collection took place in 2001, whereas the second cycle occurred in 2005.

The Communities Survey consisted of two main activities: direct assessments of kindergarten children in South Eastman and interviews with parents.<sup>2</sup> The results from the survey paint a portrait of early childhood outcomes in South Eastman, including outcomes related to physical health and well-being, cognitive skills and behaviour. The parental interviews offered information on a plethora of factors that may have influenced these developmental outcomes. The factors include the demographic characteristics of the children (e.g., age, gender), family income, parental education, parenting practices, childcare arrangements, literacy activities in the home, mutual support among neighbours, neighbourhood quality and safety, and use of the community's recreational, cultural and educational resources.

By analyzing the two cycles of survey data together, the report also offers some insights into changes in demographic characteristics, family processes and community factors in South Eastman between 2001 and 2005, and how these changes may have affected the development of kindergarten children living in the community.

To facilitate understanding of the survey results, the developmental outcomes of South Eastman children are compared with the averages for the seven UEY-II pilot communities and, where possible, with averages for Canada as a whole.

The remainder of this summary presents highlights from the report.

### South Eastman Children: Developmental Outcomes

In both 2001 and 2005, the vast majority (over 90%) of kindergarten children in South Eastman, according to their parents, were in good or excellent health, although close to one in five were reported to have a long-term health condition.

South Eastman children made marked progress in cognitive skills between 2001 and 2005. The average score on receptive vocabulary skills (assessed using the Peabody Picture Vocabulary Test – Revised, described in Chapter 2) in 2005 was significantly higher than in 2001, though still below the average among the seven UEY-II communities and the national average. About 28% of South Eastman children were classified as delayed in vocabulary development.

However, the performance of South Eastman children on the Who Am I? (pre-literacy skills) and Number Knowledge assessments (both of which are described in Chapter 2) was either better than or close to the average performance of children across the UEY-II communities. Only 11% of children were considered potentially at risk in general cognitive development.

In the emotional and behavioural domains, South Eastman children scored similarly in 2001 and 2005. That is, no statistically significant changes were observed in the proportions of children showing emotional problems or exhibiting aggressive or indirectly aggressive behaviours. The only exception was in the area of hyperactivity or inattention, where the data showed a substantial decline in the percentage of hyperactive children during these 4 years.

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<sup>2</sup> Each interview was conducted with the person deemed most knowledgeable about the child (PMK). About 85% of PMK were mothers.

## **South Eastman Children: Characteristics**

Between 2001 and 2005, the number of kindergarten children in South Eastman doubled from 365 to 782. During the same period, the proportion of these children who were born outside North America increased significantly, up from fewer than 1% in 2001 to over 8% in 2005. As well, the percentage of children whose mother tongue was neither English nor French almost tripled, reaching 12% in 2005, while the proportion of Francophone children declined from 21% to 10%.

Findings from the study show that vocabulary skills, social behaviours and attention spans were related to children's gender, place of birth and first language, with the latter two characteristics being particularly strongly linked to differences in vocabulary development.

## **South Eastman Families: Characteristics**

The average annual household income for South Eastman families with kindergarten children dropped considerably between 2001 and 2005, falling by almost \$5,000, and the percentage of high-income families decreased from 18% to 12%. However, the proportion of children living below Statistics Canada's low-income cut-off (LICO) stayed at about 12%.

Between 2001 and 2005, the proportion of parents interviewed who held a university degree or college diploma declined from 37% to 32%. At the same time, the proportion of interviewees who had not completed secondary education increased from 17% to 19%. The percentage of interviewees working outside the home declined from 77% to 70%, and the proportion of children living in families with no parent working outside the home increased from 7% to 9%.

In 2005, about 83% of South Eastman children lived in two-parent families, and almost 90% had one or more siblings. Both statistics are considerably higher than the averages across the UEY-II communities.

The study found that children living below LICO in South Eastman were considerably more likely than other children in the community to show delayed vocabulary development. Low family income was also related to low levels of participation in coached sports, music and art lessons, and dance, gym and martial arts classes. However, participation in activities such as uncoached sports, community clubs or leadership programs was not associated with family income.

Children's developmental outcomes were also related to mother's birthplace, level of education and parental employment. Children with mothers born outside Canada, children with mothers who had not completed secondary school, and children from no-earner families were significantly more likely to experience delayed vocabulary development and emotional problems and to exhibit aggressive behaviours.

The results from both data collection cycles also suggest that children living in single-parent families were more likely than other children to show signs of emotional problems and hyperactivity, exhibit aggressive behaviours and experience difficulties in vocabulary development.

## **South Eastman Families: Family Processes**

The majority of children's families (over 90%) functioned well as a cohesive unit; however, between 2001 and 2005 there was a slight increase (about 3 percentage points) in the proportion of families functioning at a low level.

More than 85% of parents were positive, consistent and effective in their parenting practices. They were also actively engaged in learning activities with their children at home. Between 2001 and 2005, the proportion of parents reporting that they read or taught words or numbers to their child (either daily or at least a few times a week) increased to reach about 95% and 80% respectively.

The results from both the 2001 and 2005 surveys indicate that a low level of family functioning was associated with children's aggressive and indirectly aggressive behaviours, as well as with hyperactivity. The results also show that children whose parents set clear and consistent rules for them are far more likely to show better outcomes in emotional and social development.

## **South Eastman Childcare Arrangements**

In contrast to the other UEY-II communities, the proportion of South Eastman children receiving non-parental childcare declined between 2001 and 2005, from 47% to 40%. The most common type of non-parental childcare reported in both survey years was care by a non-relative outside the home. About 42% of children received this type of care in both 2001 and 2005, a substantially higher proportion than the average across the UEY-II communities. The second most popular arrangement was care by a relative outside the home. About 30% of South Eastman children who received childcare in 2005 benefited from this type of arrangement, almost double the level recorded in 2001 (16%) as well as the average across the UEY-II communities.

A daycare centre was the third most popular form of childcare arrangement. Centres were attended by 21% of children in 2001 but by fewer than 10% in 2005.

## **South Eastman Community: Neighbourhood Qualities**

South Eastman parents said that there were many families with young children in their neighbourhoods. In both the 2001 and 2005 surveys, the vast majority (over 94%) of parents agreed that their neighbourhoods were generally safe and clean, and that the schools or nursery schools were good. They also agreed that neighbours supported one another in a number of ways. However, they gave facilities for children, including health facilities, fairly low scores. Public transportation received particularly low scores.

In addition, in the 2005 survey, about one in five parents in South Eastman did not agree that parks and play spaces were safe for children; and about 15% did not feel that neighbours dealt with problems together – an increase of about 5 percentage points since 2001.

## **South Eastman Community: Resources for Young Children**

Between 2001 and 2005, the proportion of parents reporting access to local educational resources (other than schools) increased from about 43% to 52%, while the proportion reporting access to community recreational resources experienced a slight drop, falling from about 42% to 38%. Overall, children in this community had low levels of access to all three types of community resources – educational, cultural and recreational – compared with average levels across the UEY-II communities.

The use rates for community resources in South Eastman were also lower than the average across the UEY-II communities, except for museums, spectator sports events and swimming pools. More than 70% of children did not take advantage of the educational programs or services available, and the proportion of non-users increased between 2001 and 2005. In contrast, participation rates in cultural activities, such as movie going and museum attendance, and in spectator sports were much higher, attracting 50% and 65% respectively of South Eastman children in 2005. However, most of these children took part in such activities only a few times a year.

Recreational facilities experienced the highest rate of use among the three types of community resources. Parks or play spaces were the most popular facilities, being used by more than 42% of children at least weekly in 2005. Pools were the next most popular; however, the proportion of children attending these facilities weekly declined from 33% in 2001 to 22% in 2005.

About 40% of South Eastman children took part in organized sports once a week in 2005, while weekly participation in unorganized sports was as high as 67%. Between 2001 and 2005, participation in organized sports and in music and art lessons declined, while participation in unorganized sports and in community clubs, groups and leadership programs increased. Overall, the participation of South Eastman children in group activities was lower than the average across UEY-II communities, except for community clubs and leadership programs. About 45% of children were active in community clubs or leadership programs in South Eastman in 2005; in contrast, the average participation rate across UEY-II communities was only 24%.

In 2005, parents gave slightly different reasons than in 2001 for their inability to access community resources. In the 2001 survey, “programs of interest unavailable,” “programs [available only] for older children” and “not enough time” were the three barriers most frequently mentioned by parents. In the 2005 survey, while “programs of interest unavailable” remained the top barrier, the other two major reasons were “not enough time” and “unaware of programs.”

It is also noteworthy that, when asked about lack of access to programs, parents were much less likely in 2005 than in 2001 to say programs of interest were unavailable or available only for older children. This shift may indicate that community service providers have made significant progress in improving access to services by creating new programs, expanding popular programs and adjusting business hours. Despite this progress, some institutional barriers remained high and some even increased between 2001 and 2005. For example, program costs were mentioned by a higher percentage of parents as a major access barrier to wanted or needed programs or services.

# 1. Introduction

The nurturing and stimulation that children receive during their first 5 years can affect the rest of their lives. Research shows that neighbourhoods and communities have a major impact on the quality of this nurturing and stimulation, influencing the ability of parents and schools to provide the conditions that will result in the best developmental outcomes for children.

Understanding the Early Years (UEY) is a national initiative that (a) gathers information about the influence of family, neighbourhood and community factors on children's early development and (b) provides this information to families and community organizations so that they can use it in monitoring children's development and creating effective community-based responses. The goal is to help families and their communities make informed decisions about the best and most appropriate policies, programs and services for young children.

The pilot phase of the UEY initiative (UEY-I) was launched with a study in York region (now the North Quadrant of Toronto, Ontario) in 1999. Then, in 2000–2001, five communities – Prince Albert, Saskatchewan; Winnipeg (School District No. 1), Manitoba; Prince Edward Island; and Southwest Newfoundland – joined UEY-I. UEY-I was followed by a second pilot phase (UEY-II), when another seven communities became pilot sites in 2001–2002: Hampton, New Brunswick; Montréal, Quebec; Dixie Bloor (Mississauga), Ontario; Niagara Falls, Ontario; South Eastman, Manitoba; Saskatoon, Saskatchewan; and Abbotsford, British Columbia.

This report presents results from the South Eastman pilot site. The findings – based on data collected by Statistics Canada in 2001 and 2005 using the Communities Survey – focus on the outcomes of South Eastman kindergarten children in major domains of child development, including physical health and well-being, cognitive skills and behaviour. The report also explores factors that may have influenced developmental outcomes, by looking at changes that took place between 2001 and 2005 in demographic characteristics, family processes and community factors.

The remainder of this chapter offers brief descriptions of South Eastman as a milieu for the development of young children, the local UEY project sponsor, and research activities implemented in the community as part of the overall UEY initiative.

## 1.1 South Eastman Community

The region of South Eastman, located close to the city of Winnipeg, extends east to the Ontario border and south to the U.S. border. This vast region covers approximately 10,000 km<sup>2</sup>, encompassing 13 municipalities, one small First Nation community, unorganized territory and more than 80 individual communities. It is home to about 60,000 people, most of whom live in rural areas. The largest urban community is the small city of Steinbach (10,000 inhabitants). The residents of southeastern Manitoba come from a variety of cultural backgrounds, with a high concentration of Francophones and German immigrants. French and German are the predominant second languages. In 2001, there were 4,010 children aged 0 to 4 years living in South Eastman. There are 34 elementary schools and five school boards.

The South Eastman population is not affluent. Socio-economic levels are in the lower to middle ranges, and there is a marked income differential across municipalities. Educational levels are much lower than in Winnipeg, even among younger adults. Forty-three percent of South Eastman adults lack a high school diploma, compared with 28% in nearby Winnipeg. Unemployment rates are generally below Manitoba averages, with most of the South Eastman working population holding blue-collar jobs. Average employment income across almost all South Eastman municipalities is below Manitoba averages. There are limited resources for young children, and most of these are located in Steinbach. Additionally, childcare is in short supply across South Eastman, which can present challenges to families living in outlying areas of this geographically dispersed region.



## 1.2 Understanding the Early Years Pilot Project in South Eastman

The Understanding the Early Years project in South Eastman is sponsored by the regional health authority – South Eastman Health – in partnership with five school divisions: Hanover, Seine River, Division Scolaire Franco-Manitobaine, Red River Valley and Border Land. South Eastman Health is a mid-sized rural regional health authority catering to the needs of a relatively young population. It strives to ensure the best health of its population through consultation, evidence-based decision making and innovation. In South Eastman, the UEY project sponsoring organization works with a community coalition – the South Eastman Early Years Regional Team (SEAYRT) – to engage the community on the importance of early childhood development. The coalition collaborates with stakeholders working with young children (aged 0 to 6 years) to improve community capacity by promoting early childhood development through the delivery of evidence-based programming. SEAYRT includes members from the provincial health, education, family services, housing and recreation departments.

Research related to the UEY project in South Eastman consisted of the following activities:

**Teacher Assessment of Children’s Readiness to Learn at School** – Kindergarten teachers in South Eastman used the Early Development Instrument (EDI) questionnaire, developed by McMaster University, to assess their pupils’ readiness to learn prior to Grade 1. The instrument measures the five domains of readiness to learn: physical health and well-being, social competence, emotional maturity, language and cognitive development, communication skills and general knowledge. All the children in their second year of kindergarten in South Eastman elementary schools were assessed, and the results served as an indicator of how South Eastman children were supported and prepared during the preschool years for learning and entry into school.

**Communities Survey** – Statistics Canada conducted this survey to gather information on a representative sample of second-year kindergarten children in South Eastman elementary schools. Data were collected through interviews with the person most knowledgeable about the child, usually a parent or guardian, and three direct assessment activities with the child. The results were analyzed to determine any relationships between children’s development and various family and community factors that could influence that development. (For more information, see Chapter 2.)

**Community Mapping Study** – This study, carried out by the South Eastman community itself, consisted of the following three components: (1) an analysis of census data on distributions of children aged 0 to 6 years in relation to the socio-economic characteristics of the community (e.g., cultural, ethnic and linguistic diversity; household income; parents’ employment and level of education; and level of criminal activity in the community); (2) development of an inventory of local programs and services available for families with young children; and (3) a study to examine in detail the infrastructure and physical environment, risk factors and assets of the neighbourhoods of South Eastman. The results of this study were mapped to illustrate how community and socio-economic resources, as well as other factors, are linked to children’s development.

The EDI and Communities Survey entailed two cycles of data collection, the first on the 2001 cohort of kindergarten children and the second on the 2005 cohort. Both cycles of data collection had the same objectives. However, the fact there were two cycles enabled researchers to assess any changes in children’s readiness to learn and how these might have been influenced by changes in the community’s characteristics (including demographic and family characteristics) between 2001 and 2005.

In addition to research, the South Eastman UEY project was responsible for organizing a two-day intersectoral workshop to discuss literacy and for introducing a number of initiatives to improve the well-being of children in the community. Other UEY activities include Baby Steps and Little Learner Bags, a program that provides all babies born in South Eastman and all children registering for kindergarten with a bag that contains literacy-promoting books, toys, school readiness items and information kits. In addition, since 2001, over 5,000 copies of a family resources guide have been distributed to families, schools and community agencies, while a family literacy guide has been developed to address the community’s need for an inventory of local literacy resources. More information regarding the South Eastman UEY project is available from South Eastman Health at [www.sehealth.mb.ca](http://www.sehealth.mb.ca).

## **2. Background to the Communities Survey**

This chapter presents a summary of theories on early childhood development and offers a brief description of the Communities Survey and its implementation in South Eastman. Its purpose is to provide background that can help in understanding what the study is about as well as the analysis of data reported in the following chapters.

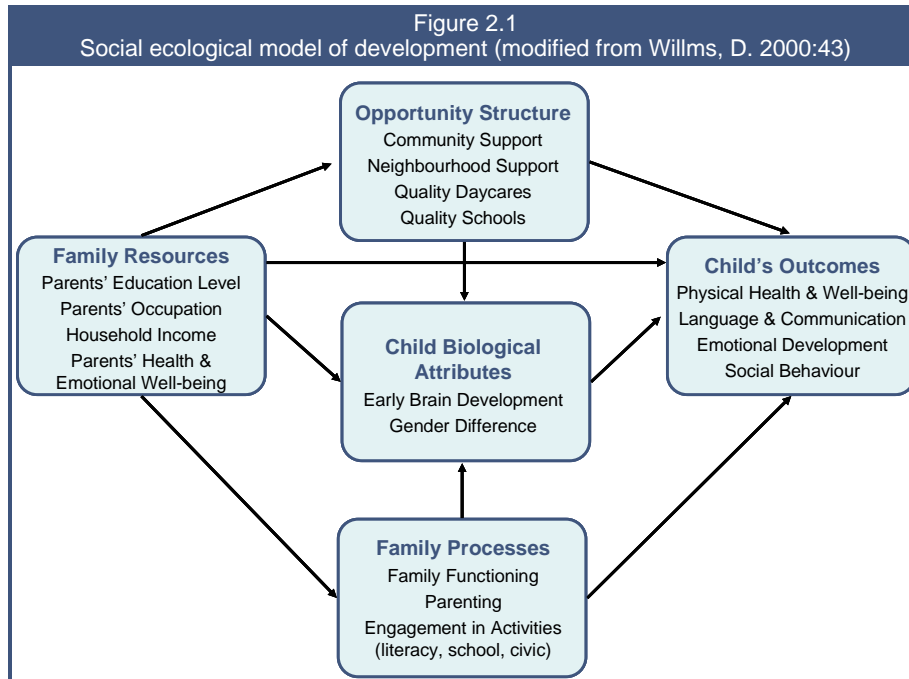
### **2.1 Early Childhood Development: Main Theoretical Perspectives**

Research on early childhood development has been influenced primarily by three theoretical approaches (Willms 2002). The first approach is represented by “investment theory,” an economic theory that presumes that children receive an endowment from their parents. This endowment includes biological attributes as well as their parents’ norms, values, preferences, wealth and access to resources. Parents invest time and money in their children, mainly through expenditures on education and health care. Many studies of childhood outcomes are based on this theory.

The second set of theories suggests that childhood outcomes result from family processes and parenting practices. Children are less likely to have behavioural problems or poor cognitive development when their parents are supportive, responsive and affectionate. On the other hand, child development is negatively affected when parents are less engaged in activities beneficial to emotional and intellectual development, or are experiencing marital breakdown, as well as when families function less well as a cohesive unit.

The third group of theories stresses the importance of social context in shaping, constraining and redirecting the actions of individuals (Coleman 1988). This set of theories has sparked a number of recent research projects linking child health and development to community and neighbourhood characteristics. According to this perspective, parents’ choices are influenced by the norms of their immediate community and the social supports available to them. For example, the amount of time parents spend with their children is shaped by the culture of the neighbourhood, friendship networks and the types of support provided in the community. Parents’ ability to provide a nurturing environment for their children can be either helped or hindered by the neighbourhood and wider community (Willms 2003). For example, the quality and safety of the neighbourhood and of its daycare centres and schools, as well as other social factors such as a strong network of supportive friends and colleagues, play an important role in a child’s development.

Theories that emphasize the roles of parenting, family functioning, neighbourhood and community have provided insights into the links between family socio-economic resources and children’s developmental outcomes. More important, these theories have shed light on the changes that are possible through the actions of families, the support of community and volunteer agencies, and informed social policy at the local, provincial and national levels (Willms 2003).



However, many studies on childhood development (summarized in Appendix A) indicate that all the factors identified in these theories play a role in a child's developmental outcomes. Thus, a new approach has emerged – the social ecological model of development – that views childhood development as the product of a combination of factors: individual characteristics, the family, the neighbourhood and the larger community (see Figure 2.1). This approach has gained broad acceptance in recent years. Under it, no single factor is predominant in determining a child's developmental outcomes. Rather, all factors interact in complex ways to influence outcomes.

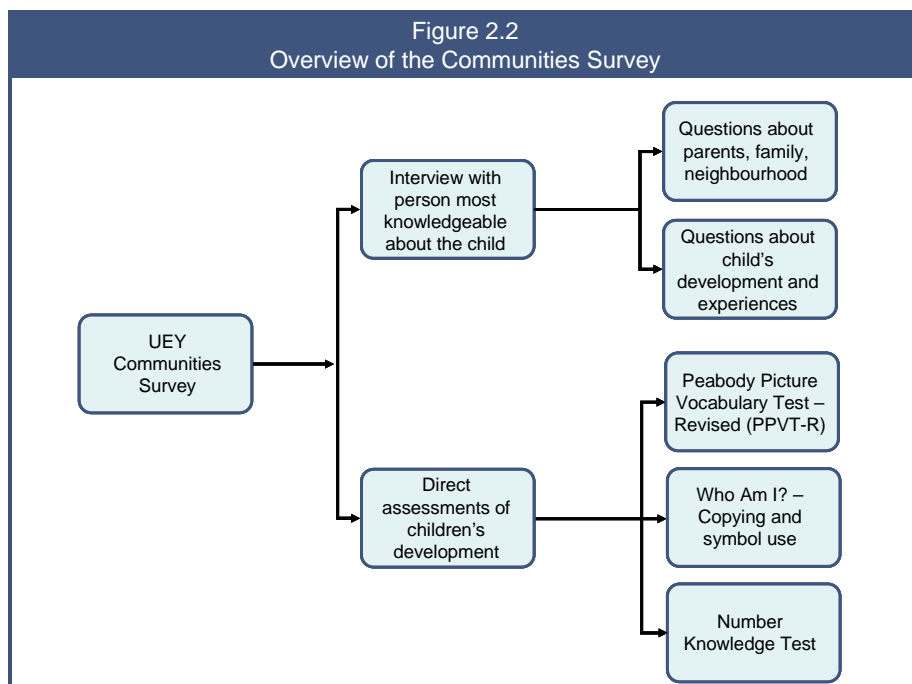
According to this model, studies of developmental outcomes need to include many individual, family and community factors in order to understand how these factors combine to affect a child's development. Research under the Understanding the Early Years (UEY) initiative, particularly the Communities Survey, has been heavily influenced by this social ecological thinking. The basic concepts have guided not only what types of data were collected at the UEY pilot sites but also how the data were analyzed.

## 2.2 Development and Content of the Communities Survey

The Communities Survey was developed by Human Resources and Social Development Canada and Statistics Canada for the UEY initiative. To ensure that the survey adequately addressed all relevant factors affecting early childhood development, the design phase included a multidisciplinary consultation. The selection of specific priorities and survey questions was then carried out with input and advice from the expert advisory group of the National Longitudinal Survey of Children and Youth (NLSCY), a group consisting of researchers in childhood development and other social sciences, representatives from other federal departments, and representatives from the provinces and territories responsible for childhood development programs.

The Communities Survey takes an ecological or holistic approach to understanding early childhood development and is designed to capture the diversity and dynamics of the factors that may affect children's development. Thus, it measures a set of developmental outcomes for children at 5 years of age, before they enter Grade 1, including those related to physical health, cognitive skills, emotional development and social behaviour. At the same time, it collects information on a broad range of factors that can explain these outcomes. This includes information about the child, the child's parent(s), family and neighbourhood characteristics, and the child's family life and community activity experiences. The Communities Survey employs the instruments used in the NLSCY for the cohort of 5-year-old children, enhanced with

supplementary questions on childcare arrangements and use of community resources. Figure 2.2 provides an overview of the instruments used in the Communities Survey.



The Communities Survey consists of two parts: interviews with the person most knowledgeable about the child (PMK), usually the child's mother, and direct assessment activities with the participating child. The principal instrument used for interviews with the PMK is a questionnaire that contains two sections: a Child Section, where the PMK answers questions about the child; and an Adult Section, where the PMK provides information about the PMK and PMK's spouse or partner (where applicable), family structure and neighbourhood. The topics and topic contents are summarized in Table 2.1.

**Table 2.1**  
**Topics and topic contents in the PMK questionnaire**

<b>Child Section</b>	
<b>Topics</b>	<b>Content</b>
Health	General health, injuries, limitations, chronic conditions, use of health services
Behaviour	Positive behaviours such as perseverance and independence as well as negative ones such as hyperactivity and physical aggression
Activities	Participation in non-school activities and interaction with peers
Literacy	Exposure to books and interest in participating in reading and learning activities with parents
Parenting	Methods parents use to control, discipline, encourage and respond to the needs of the child
Family history	Child's family arrangements (e.g., parents' marital status and, if parents are separated/divorced, age of the child at the time)
Childcare	Types of childcare and amount of time spent in childcare
Communication	Ability to understand an oral message and to pass the content on to someone else, as well as the general ability to communicate verbally
Community resources	Availability and use of educational and recreational resources in the community (e.g., museums, community centres) and reasons for not using these resources where available (e.g., inaccessibility or cost)
Socio-demographic characteristics	Ethnicity, country of origin, Aboriginal status, first languages, languages used at home
<b>Adult Section</b>	
Health	General health, physical limitations, chronic conditions, mental health (e.g., depression syndrome)
Education	Highest level of education attained
Income	Household income, sources of income, adequacy of income
Labour market participation	Employment status, occupation, industrial sector, work hours and shifts; if applicable, length of unemployment and reasons for unemployment
Family functioning	Quality of family relationships as indicated by the family's ability to communicate, make decisions and solve problems as a group, discuss feelings and concerns, and feel accepted for who they are
Neighbourhood safety	Perception of the neighbourhood as a safe or dangerous place to raise children, perception of social cohesion or neighbourliness
Social support	Support from friends, family members and members of the community
Socio-demographic characteristics	Immigration, ethnic background, languages spoken by household members, religious affiliation

The second component of the Communities Survey includes three assessment activities that are undertaken with each participating child:

- the Peabody Picture Vocabulary Test – Revised (PPVT-R); French-speaking children received the French equivalent of PPVT-R, the Échelle de vocabulaire en images Peabody, version révisée (EVIP-R);
- a shortened version of the Who Am I? instrument; and
- the Number Knowledge Test.

These assessment activities are summarized below.

### **Peabody Picture Vocabulary Test – Revised**

The PPVT-R is used to assess a child's level of receptive (or hearing) vocabulary, which can predict achievement in school. During the assessment, the child is given a card bearing four images. The assessor then reads out a word from the test, and the child has to point to the image on the card that the child believes represents that word. Pictures and words become progressively more difficult as the test continues. The PPVT-R was developed by Lloyd and Leota Dunn at the University of Hawaii and is widely used as a measure of receptive vocabulary for any age group (2.5 years to adult).

### **Who Am I?**

The Who Am I? instrument is administered to children upon entry into school. It assesses the cognitive processes that underlie the acquisition of early literacy and numeracy skills. The assessment consists of three scales: symbols (circle, cross, square, triangle and diamond), copying (printing name, letters, numbers, words and sentences) and drawing (a picture of self). However, because of time constraints, the drawing task was removed from the Communities Survey. The child is given a booklet containing various tasks. The child completes as many tasks as he or she can while the assessor turns the pages and gives instructions. The instrument was developed by Molly de Lemos and colleagues at the Australian Council for Educational Research and can be used with children from 3 to 7 years of age.

### **Number Knowledge Test**

This test assesses a child's understanding of the concept of quantity and the system of whole numbers. Children are asked to demonstrate their understanding of quantity (more vs. less), their ability to count objects, their understanding of number sequence and their ability to do simple arithmetic. Children who start school with this intuitive knowledge generally do well in math. Children who do not have this understanding, or who are working in a language that is not their mother tongue, often have difficulty mastering basic arithmetic and demonstrating number sense. The assessment was developed by Robbie Case at the Ontario Institute for Studies in Education, University of Toronto. It can be used with children from about 3.5 to 10.5 years of age. Dr. Case and his colleague Yukari Okamoto at the University of California developed a shortened version of this assessment for the National Longitudinal Survey of Children and Youth. The test is administered orally, and the questions are asked until the child fails to correctly answer more than half the problems in a level.

## **2.3 How the Communities Survey Was Conducted in South Eastman**

As in other UEY-II pilot communities, two cycles of Communities Survey data collection took place in South Eastman, with the first cycle in 2001 and the second in 2005. Both data collection cycles were completed using a sample of children who were of kindergarten age at the time, and both followed similar procedures. The data collection process used in 2005 is described below as an illustration.

The target population comprised all children enrolled in the second year of kindergarten at South Eastman schools in the fall of 2004 and who were still attending a school within the community in the winter of 2005 (during the household data collection period). This population was used to select a representative sample of children (and their parents) to participate in the survey. The sample size in 2005 was 438, representing 782 kindergarteners (the sample size in 2001 was 296, representing a kindergarten population of 365).

The survey was administered between February and June 2005. Household data were collected in February, March and April by Statistics Canada staff who contacted the parents and conducted interviews by telephone. At the time of the telephone interview, the initial household contact was asked to identify who in the household was the person most knowledgeable about the child. The PMK provided information about the selected child as well as socio-demographic information about the PMK and his or her spouse/partner, if applicable.

The vast majority of PMK were the children's mothers, as shown in the following breakdown of the relationship between PMK and children (averages across the seven UEY-II pilot communities in 2005):<sup>3</sup>

- For 87.9% of the children, the PMK was the mother (86.0% the biological mother and 1.9% the stepmother, adoptive mother or foster mother).
- For 10.8% of the children, the PMK was the father (10.5% the biological father and 0.3% the stepfather, adoptive father or foster father).
- For 1.3% of the children, the PMK was not their parent.

In May and June, Statistics Canada interviewers went into the schools to administer the direct assessment portion of the survey to children whose parents had provided written or verbal consent. Children who were not able to communicate in English or French were not assessed.

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<sup>3</sup> Special Surveys Division, Statistics Canada, 2005, *Communities Survey, 2005- User's Guide*. ([http://www.statcan.ca/english/sdds/document/5067\\_D2\\_T1\\_V2\\_E.pdf](http://www.statcan.ca/english/sdds/document/5067_D2_T1_V2_E.pdf))

### 3. Developmental Outcomes of South Eastman Young Children – Findings from the Communities Survey

This chapter discusses the developmental outcomes of South Eastman kindergarten children, focusing on their physical health, cognitive skills, and emotional and behavioural development. The findings are based on data collected from representative samples of children and persons most knowledgeable about the children (PMK) who participated in the Communities Survey in 2001 and 2005. The children underwent three direct assessments designed to evaluate their cognitive skills, while PMK (mostly mothers) were interviewed for their opinions on their children’s health, emotional development and behaviour. Data collection was carried out by Statistics Canada. Where appropriate, results for South Eastman are compared with averages across the seven communities participating in the second phase of the Understanding the Early Years (UEY-II) initiative.

Taken together, the data on these 5-year-old children provide valuable information about their abilities, attitudes and behaviours as they begin formal schooling. These attributes are important influences in early scholastic achievement. More significantly, by reflecting how children in South Eastman have been faring and how they are supported in their early years, the data provide important insights for the South Eastman community – parents, caregivers, educators, service providers and others – that can help in developing better programs and services to meet the needs of the community’s children.

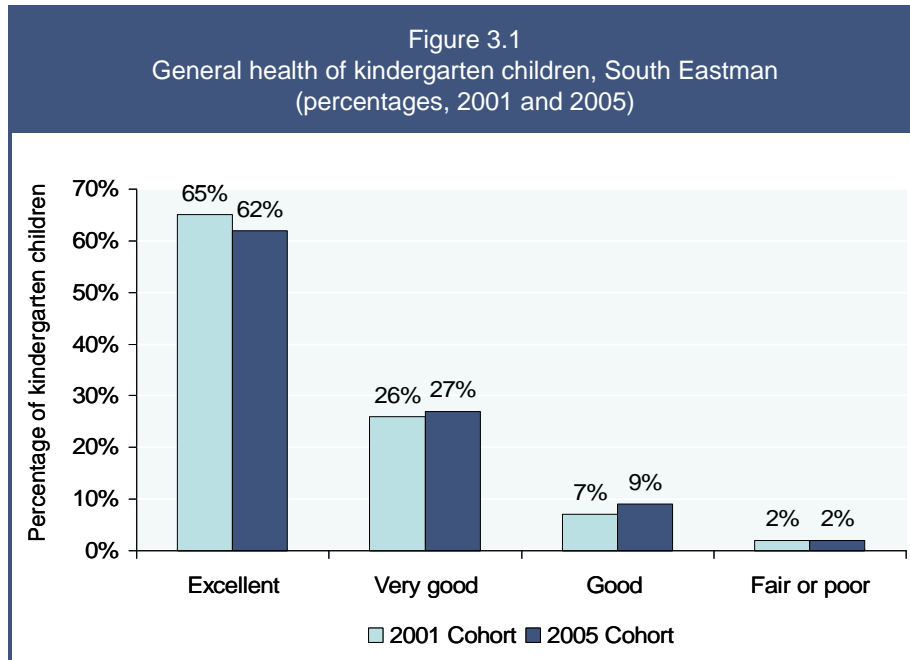
#### 3.1 Physical Health

Table 3.1 displays the mean values of three common measures of physical development – height, weight and birth weight of children – estimated by PMK during the interviews. The table also shows the percentage of children suffering from at least one long-term health condition, such as allergy, bronchitis, mental handicap or epilepsy, as reported by PMK. The average values of these measures for the combined data of the seven UEY-II communities are also provided for comparative purposes.

	South Eastman		UEY-II communities	
	2001	2005	2001	2005
Height (mean, cm)	110.0	109.0	110.6	110.0
Weight (mean, kg)	20.4	20.4	21.1	21.1
Birth weight (mean, kg)	3.4	3.5	3.4	3.4
Presence of chronic condition (%)	15.9	19.0	21.9	23.7

During the interviews, PMK were also asked to rate the general physical health of their children as “excellent,” “very good,” “good,” “fair” or “poor.” The results from both the 2001 and 2005 cycles of data collection are presented in Figure 3.1.





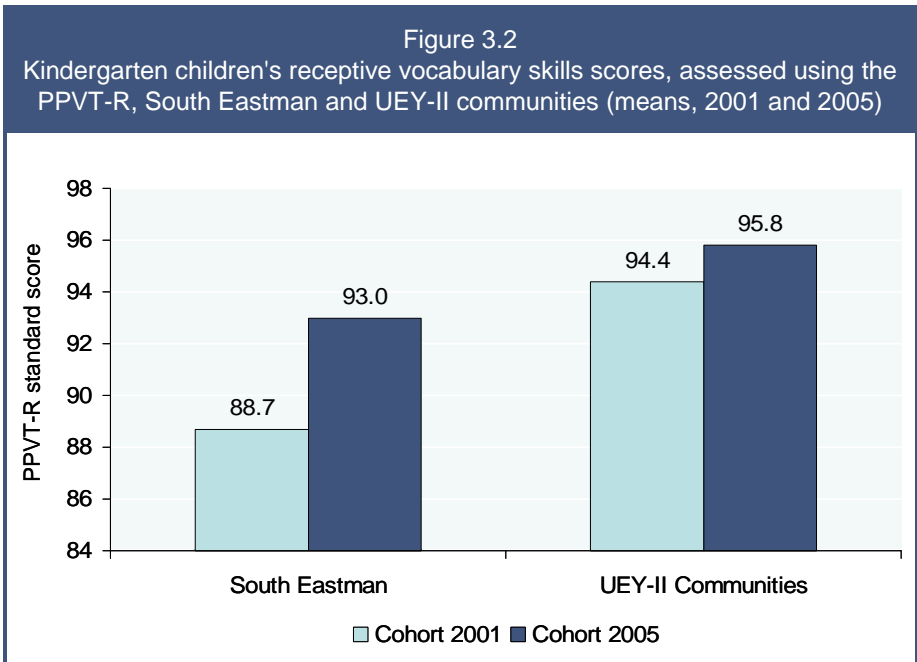
The results indicate that in 2005 about 19% of kindergarten children in South Eastman had at least one long-term health condition. This is 3 percentage points higher than the figure reported by PMK in 2001 (see Table 3.1). Although about one in five South Eastman kindergarteners suffered from a chronic health problem, close to 90% of PMK in 2005 rated their child’s general health as excellent or very good. Only about 2% of PMK ranked their child’s health as just fair or poor (see Figure 3.1).

### 3.2 Cognitive Outcomes

As noted in Chapter 2, the Communities Survey uses three direct assessments to assess kindergarteners’ cognitive skills: the Peabody Picture Vocabulary Test – Revised (PPVT-R), Who Am I? and the Number Knowledge Test.

#### 3.2.1 Peabody Picture Vocabulary Test – Revised

The PPVT-R assesses children’s level of receptive (or hearing) vocabulary in English (a French version is available to assess the level in that language). The standardized scores on this test range from 40 to 160, with 100 being the national average – a norm established based on results from the National Longitudinal Survey of Children and Youth (NLSCY). Figure 3.2 shows that the average score of South Eastman kindergarteners on receptive vocabulary was about 93.0 in 2005, up substantially from 88.7 in 2001. However, the performance of South Eastman children remained below the average of the UEY-II communities as well as the national average.



While means are useful, they may represent only how well an average child performs or most children perform on a test. Some children may perform much better than the average, while others may perform much worse. To identify the proportion of children who are potentially at risk in this developmental domain, we separated them into three groups based on their PPVT-R scores. Thus, we classified children who received a standardized PPVT-R score below 85 as being “delayed” in vocabulary development, children with scores above 115 as being “advanced,” and children scoring between 85 and 115 as being “average.” This classification is based on the NLSCY results, which indicate that about 70% of 5-year-old Canadian children score between 85 and 115 (i.e., within one standard deviation of the national average, with the standard deviation being 15), 15% score below 85 and the other 15% score higher than 115.<sup>4</sup> If a South Eastman child scored under 85 on the PPVT-R, that child was deemed to be weaker in vocabulary skills than the majority (85%) of Canadian children of the same age.

<sup>4</sup> This assumes the distribution of PPVT-R scores for the NLSCY national sample is a normal distribution.

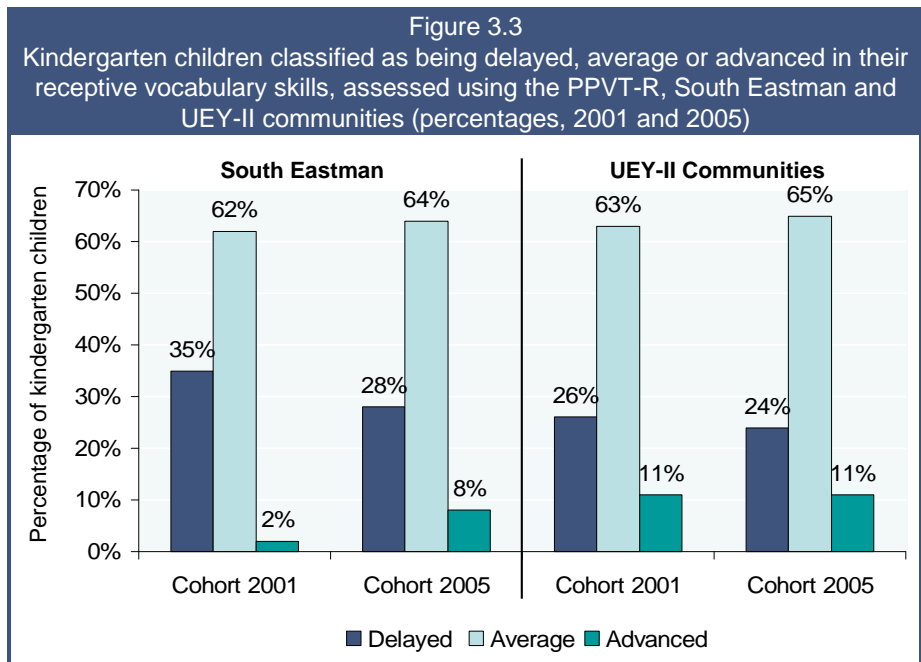


Figure 3.3 presents the results based on this classification of children’s vocabulary development. It shows that in 2005, about 72% of South Eastman children were at or above the level of average. At the same time, 28% of South Eastman kindergarteners were classified as delayed in their vocabulary development. This result indicates that South Eastman had a significantly higher proportion of children with delayed vocabulary development than the average across the UEY-II communities, which was 24% in 2005.

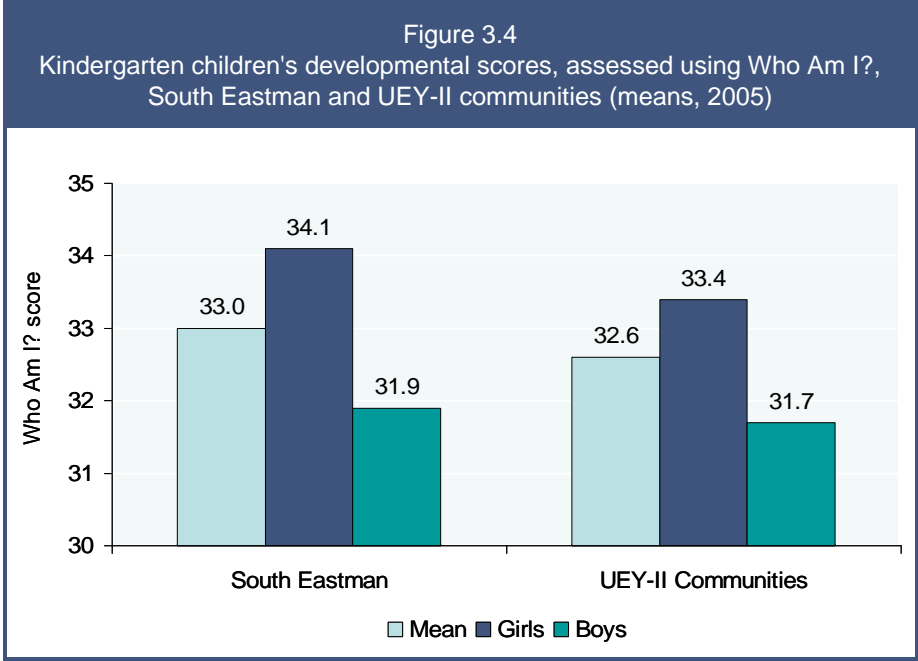
### 3.2.2 Who Am I?

Who Am I? is a developmental assessment designed to assess children’s ability to conceptualize and reconstruct a geometric shape, and to understand and use conventional symbols, such as numbers, letters and words. Because the tasks are not particularly language-dependent, the Who Am I? tool can be used to assess the development of children whose knowledge of English or French is limited.

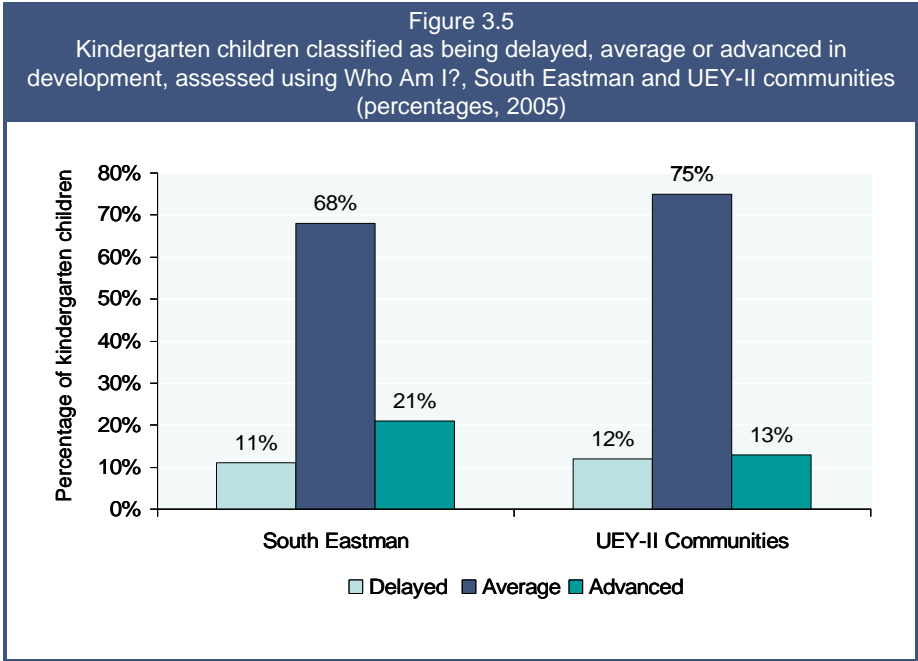
Children’s performance on the Who Am I? assessment is scored from 10 to 40. As Figure 3.4 shows, the average score of South Eastman children in 2005 was 33 out of 40, almost identical to the average score across the UEY-II communities.

To identify the proportion of kindergarten children in South Eastman performing less well than the majority of children in the UEY-II communities, we established a threshold based on the mean score of the UEY-II communities. Findings from the 2005 Communities Survey<sup>5</sup> indicate that the average score for children across the UEY-II communities was 32.6, with a standard deviation of 3.9. This implies that, if the scores were distributed normally, about 70% of kindergarteners in the UEY-II communities would be expected to score between 28.7 and 36.5. We thus classified children who scored below 28.7 as being “delayed” in copying skills and symbol use, and children who achieved higher than 36.5 as being “advanced.” If a South Eastman child scored below 28.7 on the Who Am I? assessment, that child was considered to be less developed in copying skills and symbol use than the majority (85%) of UEY-II children.

<sup>5</sup> Due to the large number of missing values in Who Am I? results from the 2001 Communities Survey, only the results from the 2005 survey are discussed in this report.



The results portrayed in Figure 3.5 indicate that 21% of South Eastman kindergarten children were advanced in copying skills and symbol use, compared with just 13% across the UEY-II communities. Altogether, about 89% of South Eastman children performed at or above the average level and only 11% were classified as being delayed, based on the UEY-II norm. By comparison, about the same percentage (12%) of children across the UEY-II communities were delayed in copying skills and symbol use.



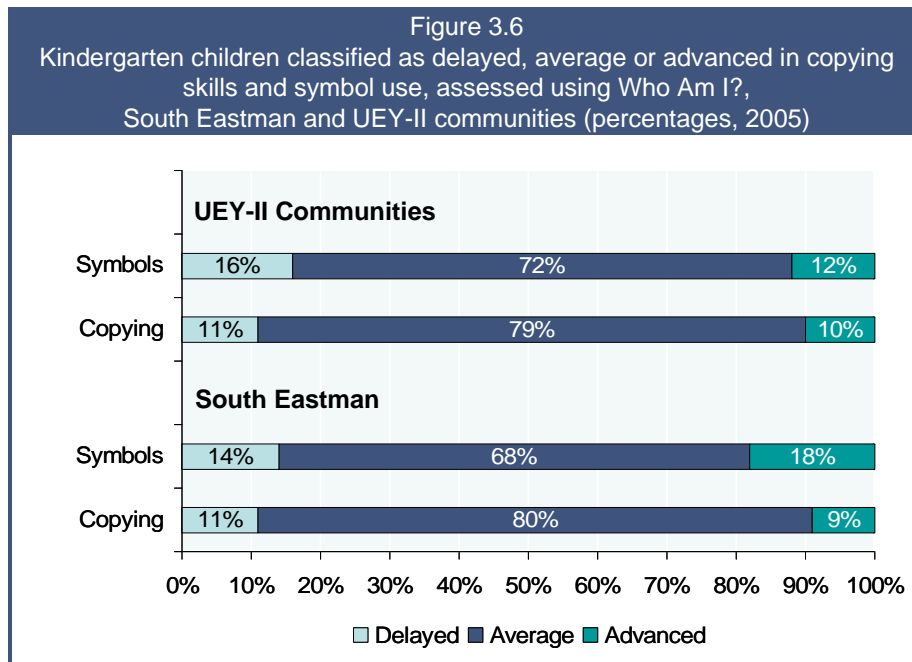


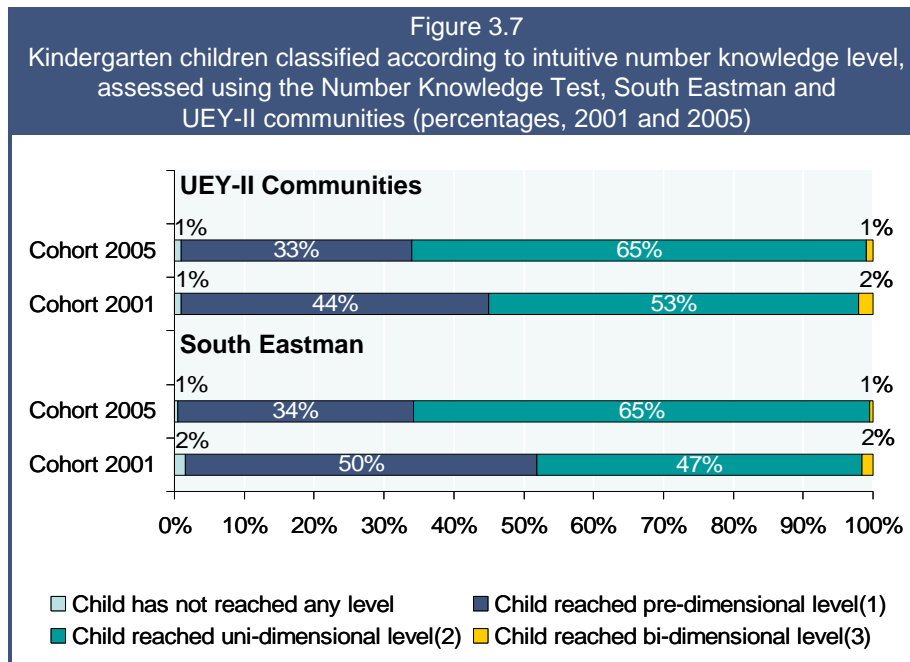
Figure 3.6 separates out the results from each component of the Who Am I? assessment: copying skills and symbol use. It shows that, on average, South Eastman children were stronger in symbol use than children across the UEY-II communities, with a higher percentage (18%) in the advanced category and a lower percentage (14%) in the delayed category. The corresponding percentages across the UEY-II sample were 12% and 16% respectively. On the other hand, the level of copying skills among South Eastman children was close to the average of the UEY-II communities, with almost identical percentages of children distributed in the delayed, average and advanced categories.

### 3.2.3 Number Knowledge Test

The Number Knowledge Test assesses children’s understanding of the numbering system, which is the basis of addition and subtraction. During the test, children are asked to demonstrate their understanding of quantity (more vs. less), ability to count objects, understanding of number sequence, and ability to do simple arithmetic.

The test contains questions organized by three developmental levels: each level provides the conceptual building block for knowledge at the next level. The three levels are designed to assess whether a child has reached the 4-year-old (level 1 – pre-dimensional), 6-year-old (level 2 – uni-dimensional) or 8-year-old (level 3 – bi-dimensional) equivalent of intuitive knowledge of numbers.

Results from the 2005 Communities Survey, illustrated in Figure 3.7, show that fewer than 1% of South Eastman children who participated in the test failed to reach level 1, the 4-year-old equivalent level. The majority of children (99%) reached either level 1 (34%) or level 2 (65%), the 6-year-old equivalent level. Very few, less than 1%, made level 3, the 8-year-old equivalent level.



These results are significantly better than those recorded in 2001, when 50% of children reached level 1 and only 47% achieved level 2. The 2005 Number Knowledge Test results for South Eastman are almost identical to the average recorded across the UEY-II communities in 2005.

### 3.3 Emotional and Behavioural Outcomes

As part of the Communities Survey, PMK were asked to provide information on their children's social, emotional and behavioural development. The questions, designed to discover the extent to which children exhibit various signs of developmental problems, were organized according to four behavioural measures:

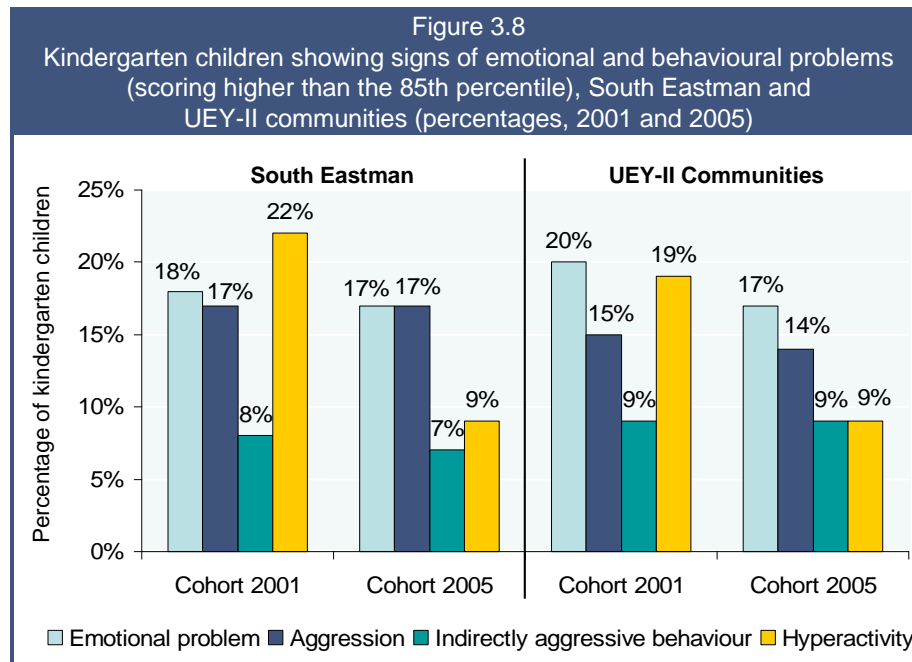
**Anxiety/emotional problems:** assesses the degree to which children seem unhappy or depressed; tend to be solitary; are nervous, high strung or tense; or have trouble enjoying themselves.

**Physical aggression/conduct disorder:** assesses the degree to which children are physically aggressive toward other people (including by kicking, biting or hitting). It also reflects behaviours related to threatening, bullying and cruelty to other children.

**Indirect aggression:** assesses the degree to which children who are angry with someone will try to make others dislike that person; become friends with someone else to take revenge on the person; say negative things about people behind their backs; or tell secrets to a third person.

**Hyperactivity/inattention:** assesses the degree to which children are restless or fidgety; cannot concentrate or pay attention for long; are impulsive; have difficulty waiting their turn; or cannot settle down to any task for more than a few moments.

On each of these four measures, the higher the score, the more the child exhibits behaviours consistent with those identified in the measure. For the purposes of this study, we designated scores equal to or greater than the 85th percentile score of the whole UEY-II sample as representing signs of behavioural problems. Thus, if a child's aggression score was equal to or greater than the 85th percentile score, that child was deemed more aggressive than 85 out of every 100 children who were assessed on this indicator of behaviour.



The results shown in Figure 3.8 indicate little change between 2001 and 2005 in the prevalence of kindergarteners with problem behaviours in South Eastman. Almost one in five children in South Eastman showed signs of emotional problems and about the same proportion exhibited physically aggressive behaviours, according to PMK. Fewer than 10% of children, in both survey years, showed indirect aggression. The main difference between the years was in the area of hyperactivity or inattention, with the proportion of children showing signs of hyperactivity falling from 22% in 2001 to only 9% in 2005.

### 3.4. Summary

Results from the Communities Survey indicate that the vast majority (over 90%) of South Eastman's kindergarten children continued to enjoy good health in 2005, even though close to one in five had a long-term health condition. There was also evidence that South Eastman children as a whole had made significant progress in cognitive development between 2001 and 2005.

Specifically, the average score on receptive vocabulary skills, as measured by the PPVT-R, showed a significant improvement over the 2001 result (93.0 vs. 88.7). However, it remained below the average recorded across the UEY-II communities (95.8) and the national average (100). It is noteworthy that more than 28% of South Eastman children were found to be delayed in their vocabulary development. This figure is higher than the average (24%) across the UEY-II communities, as well as the national average (15%).

On the Who Am I? assessment, the average score of South Eastman children was above the average across the UEY-II communities, with 21% of children classified as being in the advanced skills category in 2005. The corresponding proportion of children in the whole UEY-II sample was only 13%. Results from the Who Am I? assessment indicate that a considerably lower percentage of South Eastman children were potentially at risk in general cognitive development than in vocabulary development (as measured by the PPVT-R).

In the Number Knowledge assessment, the performance of South Eastman children was close to the average performance across the UEY-II communities. Within the community, a considerably higher proportion of children in 2005 than in 2001 reached the 6-year-old equivalent level of number knowledge (65.3% vs. 46.5%).

On the four measures of social, emotional and behavioural development, South Eastman children showed generally consistent performance in 2001 and 2005: no statistically significant changes were found in the prevalence of children showing signs of emotional problems or aggressive and indirectly aggressive behaviours. The only exception was in the area of hyperactivity or inattention, where the data showed significant improvement over the period.

As touched on in Chapter 2, the extensive literature on early childhood development points to a wide range of developmental influences: demographic factors, family resources, parenting practices, and physical and socio-economic environments. These include the gender of the child, income level of the child's household, parents' education and employment, and family structure. In addition, children's experiences in the home and community, such as relationships with parents, literacy activities in the home, and opportunities to participate in group activities in the community, have been linked to early developmental outcomes. In the following chapter, we will present more data from the Communities Survey and discuss the various factors that may have affected the development of children in South Eastman.





## 4. South Eastman Young Children, Their Families and the Community

In this chapter, we draw on results from the 2001 and 2005 data collection cycles of the Communities Survey in South Eastman to discuss how circumstances may have changed for kindergarten children during that 4-year period, and to explore how the changes may have affected these children. As in Chapter 3, results for South Eastman are compared, where appropriate, with averages across the seven communities participating in the second pilot phase of the Understanding the Early Years (UEY-II) initiative.

The information presented is based on analysis of interviews with the persons most knowledgeable about the children (PMK) that were conducted by Statistics Canada as part of the Communities Survey. PMK (the majority of whom were the children's mothers) provided valuable information that could help the South Eastman community better understand the needs and experiences of its children.

### 4.1 Children: Demographic Characteristics and Developmental Outcomes

#### 4.1.1 Gender, birthplace and first language(s) of kindergarten children

As part of the Communities Survey, information was collected on the major demographic characteristics of South Eastman children, including gender, birthplace and first language(s) learned at home. Research shows that these major demographic variables are often related to children's developmental outcomes.

As shown in Table 4.1, in 2001, just over half (51%) of South Eastman kindergarteners were boys. Although the size of the kindergartener population had more than doubled by 2005, the gender ratio remained virtually unchanged.

	South Eastman		UEY-II communities	
	2001 (N=365)	2005 (N=782)	2001	2005
Girls	49.0	48.9	48.7	49.1
Boys	51.0	51.1	51.3	50.9
Total	100.0	100.0	100.0	100.0

Like many Canadian communities, South Eastman is becoming increasingly diverse in ethnicity and culture (see Table 4.2). Although the vast majority of South Eastman children were born in Canada, this proportion declined from 98.3% in 2001 to 89.4% in 2005. Over the same period, the percentage of children born outside North America increased significantly: up from fewer than 1% in 2001 to almost 9% in 2005.

	South Eastman		UEY-II communities	
	2001	2005	2001	2005
<b>Birthplace</b>				
Canada	98.3	89.4	94.0	92.5
United States	1.1	1.8	0.6	0.9
Europe	0.6	4.7	0.6	0.8
Asia	-	0.3	0.8	1.0
Other	-	3.8	4.0	4.7
<b>First language(s) learned at home</b>				
English only	73.9	76.7	56.7	65.2
French only	18.6	8.8	23.7	14.8
English & French only	2.7	0.7	0.3	0.2
English & French & other	-	-	-	0.1
English & other (no French)	0.3	1.8	0.8	1.9
French & other (no English)	-	-	0.4	0.8
Neither English nor French	4.4	12.0	18.0	17.0
Total	100.0	100.0	100.0	100.0

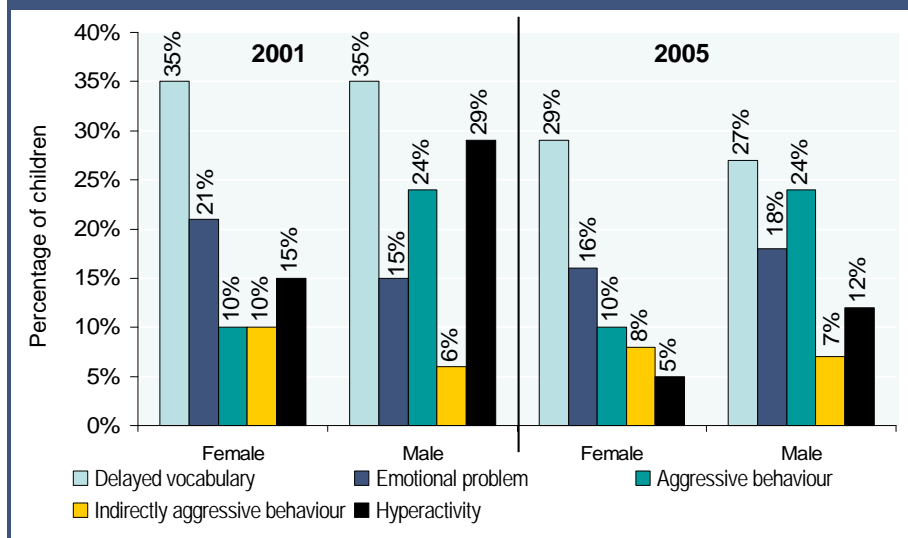
The growing diversity of the community is perhaps better reflected in the first language(s) that South Eastman children acquired at home. In 2005, about 79% of South Eastman children spoke English as one of their mother tongues, compared with 77% in 2001. A notable change is the drop in the proportion of Francophone children in the kindergarten population, from one in five (21%) in 2001 to fewer than 10% in 2005. Meanwhile, the percentage of children whose first language was neither English nor French almost tripled, from 4.4% in 2001 to 12.0% in 2005. This group may include children born in non-English-speaking or non-French-speaking countries as well as children of recent immigrants coming from those countries.

#### **4.1.2 Gender, birthplace and first language(s) in relation to developmental outcomes**

Research has identified gender as an important factor influencing children's developmental outcomes. At the beginning of kindergarten, girls are generally slightly better than boys in reading and prosocial skills, about the same in math and general knowledge, and less likely to engage in problem behaviours. These gender differences were noticeable among South Eastman children, but there was also evidence that some gender gaps were changing (see Figure 4.1).

Findings from both survey years show that boys in South Eastman were more than twice as likely as girls to exhibit aggressive behaviours (24% vs. 10%). There were also twice as many hyperactive boys as girls, although the general prevalence of children with signs of hyperactivity declined considerably between 2001 and 2005.

Figure 4.1  
Gender and kindergarten children's developmental outcomes, South Eastman  
(percentages, 2001 and 2005)



However, gender differences in vocabulary development appeared minimal: in 2001, an identical percentage of girls and boys were delayed in vocabulary skills as measured by the Peabody Picture Vocabulary Test – Revised (PPVT-R). The results from the 2005 survey indicate that girls were slightly more likely than boys to register low PPVT-R scores (29% vs. 27%).

Research indicates that children's ethnicity, birthplace and first language(s) are important in explaining differences in developmental outcomes, especially with respect to language. This finding appears to be confirmed in South Eastman.

As shown in Figure 4.2, in 2001, 67% of children born outside Canada received low PPVT-R scores, compared with 35% of children born in Canada. In other words, foreign-born children were about twice as likely to experience difficulties in vocabulary development. By 2005, the gap had grown, with foreign-born children being three times more likely to experience such difficulties: 71% of foreign-born children and only 23% of Canadian-born children received low PPVT-R scores.

Compared with those in the other UEY-II communities, immigrant children in South Eastman appeared to be having more difficulties learning English or French. Across the UEY-II sample, foreign-born children were twice as likely as Canadian-born children to experience these difficulties in 2005 (50% vs. 22%).

Figure 4.2  
Kindergarten children's birthplace and receptive language development, South Eastman and UEY-II communities (percentages, 2001 and 2005)

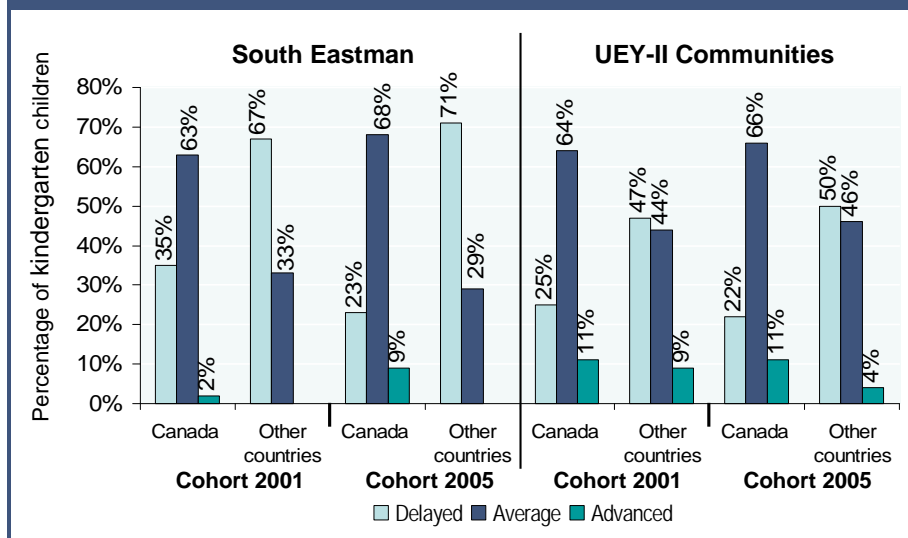
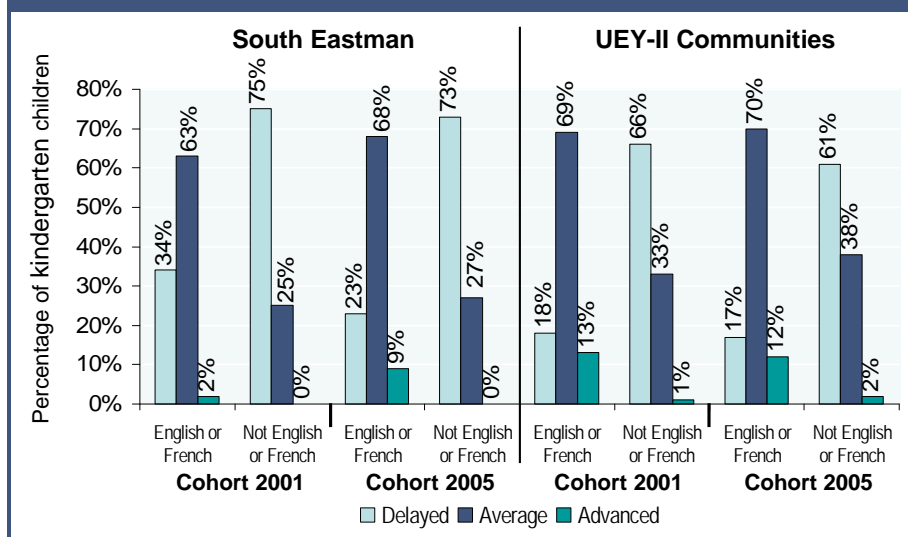


Figure 4.3  
First language(s) learned at home and receptive language development, South Eastman and UEY-II communities (percentages, 2001 and 2005)



As expected, first language(s) learned at home may be more significant in explaining vocabulary differences among South Eastman children than other child characteristics, such as birthplace. In 2001, children whose first language was neither English nor French were more than twice as likely as their peers to experience difficulties in vocabulary development (75% vs. 34%). This gap grew to 3.2 times in 2005 (73% vs. 23%). In the UEY-II communities overall, children whose first language was neither English nor French were 3.6 times more likely than their peers to experience difficulties (61% vs. 17%) in 2005.

## 4.2 Families: Characteristics and Resources for Children’s Development

This section describes the families of South Eastman children in terms of household income; parents’ birthplace, level of education and labour market participation; parents’ health; and family structure. (The descriptive data for South Eastman as well as for the whole UEY-II sample are presented in Tables 4.3 to 4.7.) The section also presents results that explore the relationships between the families’ socio-economic characteristics (“family resource variables”) and children’s developmental outcomes.

### 4.2.1 Household income

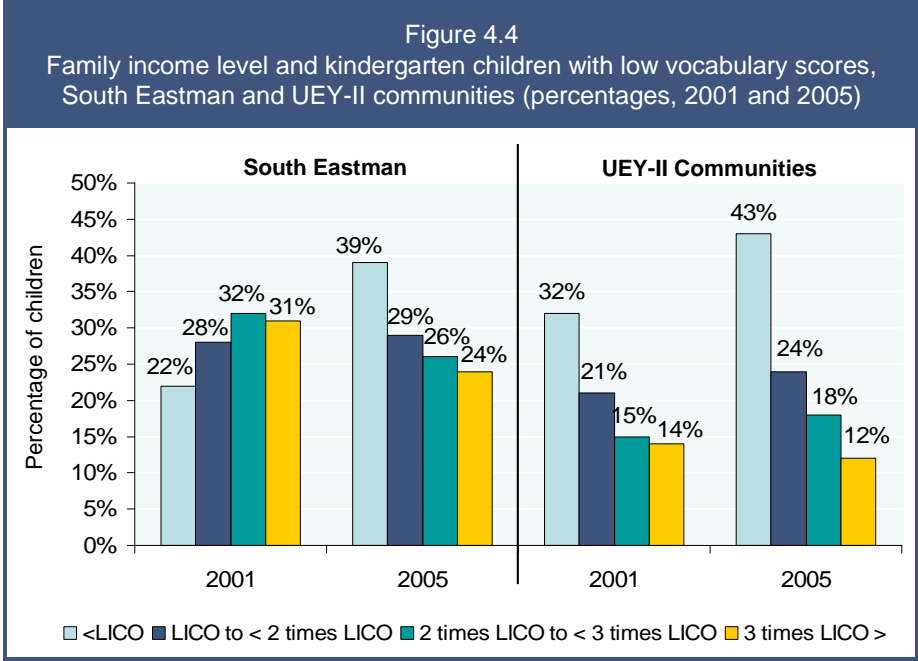
	South Eastman		UEY-II communities	
	2001	2005	2001	2005
<b>Household income</b>				
Mean (dollars, inflation-adjusted)	\$60,258	\$55,273	\$51,898	\$57,232
Below LICO	12.1	11.9	22.4	29.4
LICO to less than 2 times LICO	42.9	48.2	35.6	37.7
2 times LICO to less than 3 times LICO	26.6	27.6	24.3	20.6
3 times LICO or above	18.4	12.3	17.7	12.3
Total	100.0	100.0	100.0	100.0

Table 4.3 displays the average household income of South Eastman children’s families, adjusted for inflation.<sup>6</sup> It also presents the distribution of kindergarten children in South Eastman according to household income status. Income status was established by dividing household income by the value of the low-income cut-off (LICO) as reported by Statistics Canada. The low-income threshold takes into account differing urban and family sizes, and is updated annually using the Consumer Price Index.

The average household income for South Eastman children, adjusted for inflation, decreased substantially between 2001 and 2005, falling by almost \$5,000. (This trend may be related to a decrease in parents’ educational level and an increase in non-working parents in South Eastman, as shown in Table 4.5.) As well, the percentage of high-income families decreased from 18.4% in 2001 to 12.3% in 2005. However, over the same period, the percentage of children living in below-LICO families remained at about 12%. This result is not consistent with the findings for the UEY-II communities as a whole: these show that average household income increased by more than \$5,000, while the proportion of children living below LICO rose by one third, from 22.4% in 2001 to 29.4% in 2005.

Although the 2001 results did not provide clear evidence of a positive relationship between family income and PPVT-R scores, the 2005 results did. In that year, children living below LICO in South Eastman were considerably more likely to experience delayed vocabulary development than other children, with the largest gap found between below-LICO children and children from the highest-income families (defined as having an income of three times LICO or more) (38.6% vs. 23.9%). The corresponding gap in 2005 for UEY-II communities was even larger (42.6% vs. 11.6%).

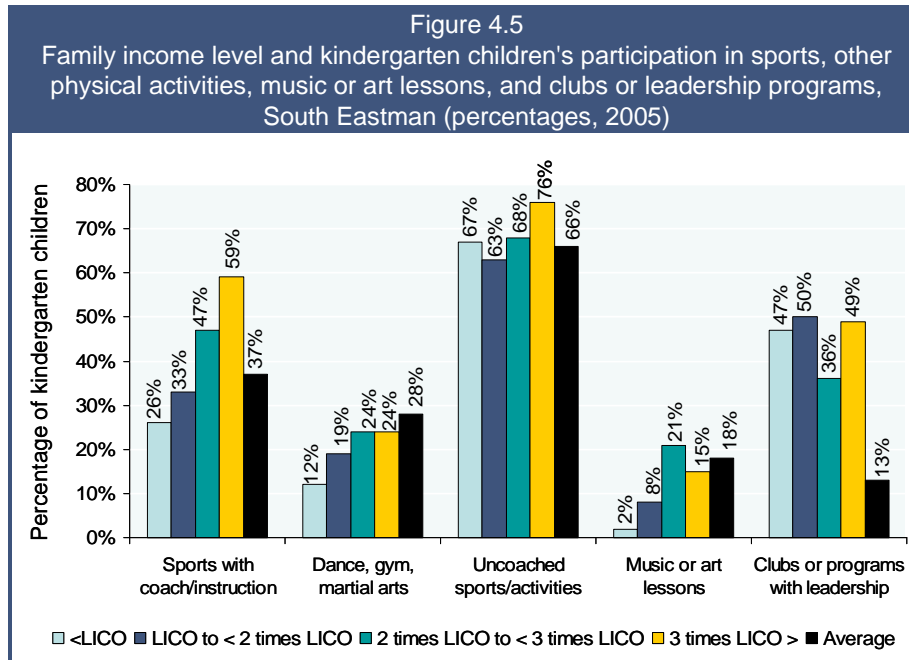
<sup>6</sup> Adjusted income is calculated using changes in the provincial (Manitoba) inflation rate between 2001 and 2005. The inflation rate is determined using the ratio of the Consumer Price Index (CPI) between the two survey years (i.e., CPI2005/CPI2001). For Manitoba, the inflation rate is 8.3%. The adjusted household income in 2005 = estimated household income in 2005 / (1+inflation).



The data also show that children with vocabulary difficulties came from all income groups, indicating that income is not the only factor influencing children’s vocabulary development. Other factors, such as parental education and parenting practices, can also affect vocabulary scores and school success.

On the other hand, research indicates that family income is strongly linked to children’s participation in early childhood activities, particularly supervised group activities. These activities are important to children because they build the foundation for core skills and success in school. In addition, children learn to socialize with their peers during these activities. Thus, by influencing children’s access to early childhood activities, family income may have an indirect influence on children’s outcomes.

The results illustrated in Figure 4.5 support this research finding. South Eastman children in families with higher incomes were much more likely to participate in sports with a coach or instruction; music or art lessons; or dance, gym or martial arts classes. For example, children with the highest family income level (three times LICO or above) were almost 2.3 times more likely than children living below LICO to be enrolled in coached sports (58.8% vs. 25.5%). However, activities such as uncoached sports, as well as participation in community clubs and leadership programs, did not appear to be associated with family income.



#### 4.2.2 Parents' birthplace

**Table 4.4**  
Distribution of kindergarten children by PMK birthplace, South Eastman and UEY-II communities (percentages, 2001 and 2005)

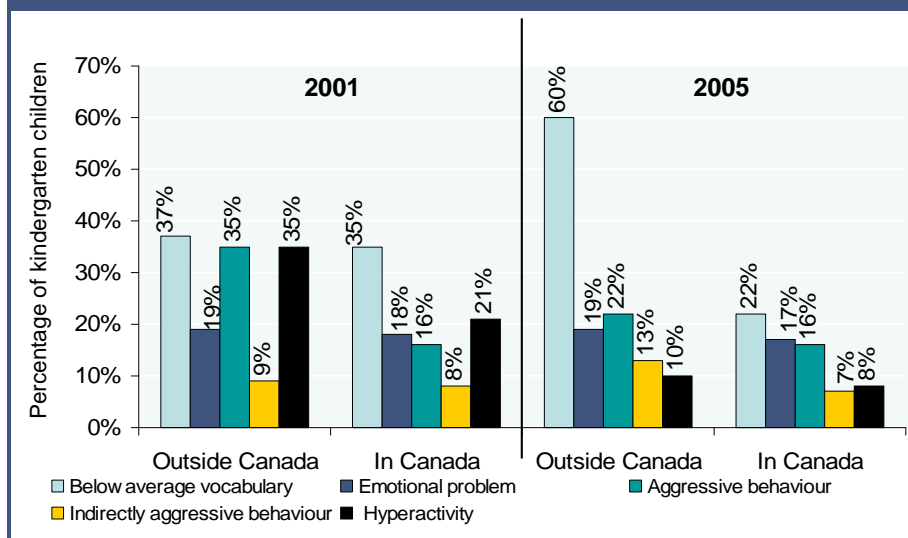
	South Eastman		UEY-II communities	
	2001	2005	2001	2005
<b>PMK birthplace</b>				
Canada	92.7	83.1	70.7	73.1
United States	1.1	1.6	1.0	1.2
Europe	2.0	1.0	5.0	2.6
Asia	1.1	0.6	7.1	7.2
Other	3.1	13.7	16.2	16.0
Total	100.0	100.0	100.0	100.0

South Eastman's increasingly multicultural composition is reflected in the rapid growth in the proportion of PMK born outside North America and Europe. In 2001 about 3% of PMK in South Eastman were born in "other" countries; by 2005, the figure had risen to almost 14% (see Table 4.4).

The results presented in Figure 4.6, particularly those from the 2005 survey, suggest there is a significant relationship between PMK birthplace (Canada vs. other countries) and children's developmental outcomes.



Figure 4.6  
 PMK birthplace and developmental outcomes of kindergarten children,  
 South Eastman (percentages, 2001 and 2005)



For example, children with PMK born outside Canada were about 2.7 times more likely to experience delayed vocabulary development (low PPVT-R results), compared with those whose PMK was born in Canada (59.6% vs. 21.5%). In addition, the former were also more likely to exhibit aggressive and indirectly aggressive behaviours.

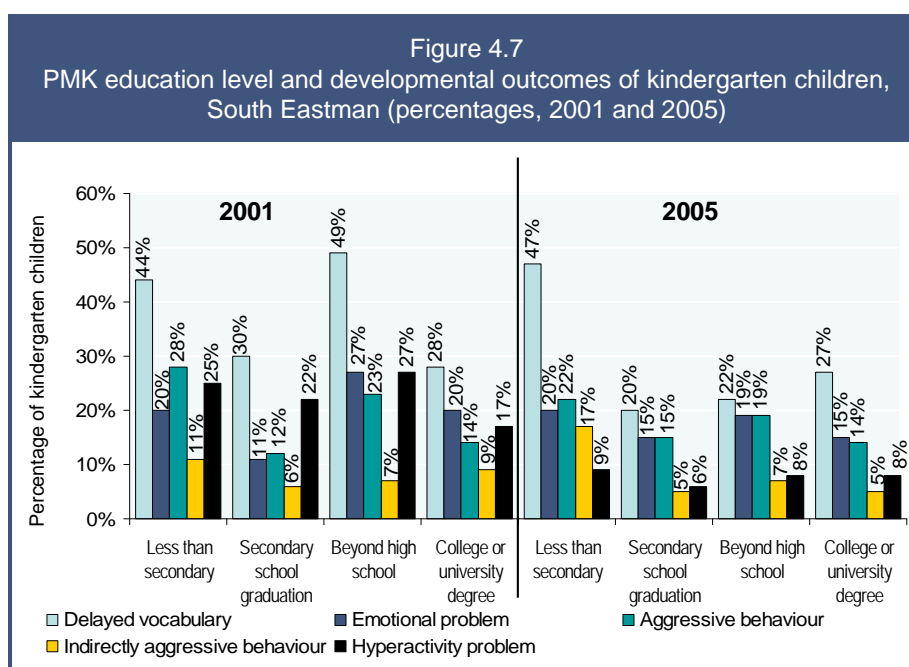
PMK born outside Canada reflect a variety of norms, values, ethnicities, cultures and linguistic backgrounds. Some characteristics – such as belonging to a racial or ethnic minority group – likely represent challenges related to labour market participation, health status and civic participation. Therefore, further studies are required to unravel the underlying relationships between parents’ birthplace and the developmental outcomes of young children.

#### 4.2.3 Parents’ level of education and employment status

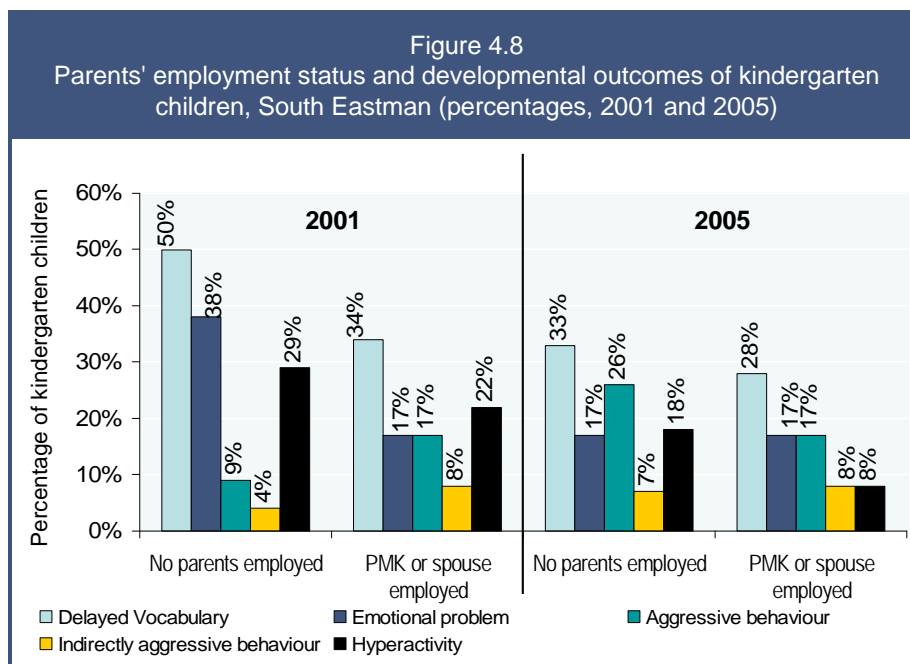
Across Canada, the percentage of young children’s mothers who have a university degree or college diploma has been increasing steadily since the 1980s. However, the opposite trend was observed in South Eastman between 2001 and 2005. During this period, the percentage of PMK with a university degree or college diploma fell from 36.8% to 31.9%. At the same time, the proportion of PMK who had not completed secondary school rose from 17% to 19%. This result is not consistent with the findings observed across the UEY-II communities.

<b>Table 4.5</b>				
<b>Distribution of kindergarten children by PMK education level, and PMK and parents' employment status, South Eastman and UEY-II communities (percentages, 2001 and 2005)</b>				
	<b>South Eastman</b>		<b>UEY-II communities</b>	
	<b>2001</b>	<b>2005</b>	<b>2001</b>	<b>2005</b>
<b>PMK education level</b>				
Less than secondary school	17.0	19.0	16.8	10.4
Secondary school	29.0	30.1	17.6	18.5
Beyond secondary school	17.2	19.0	26.4	20.3
College or university	36.8	31.9	39.1	50.7
<b>PMK employment status</b>				
Currently working	76.5	69.5	66.0	68.2
Not working/worked last year	4.5	5.7	6.1	7.1
Not working/did not work last year	19.0	24.8	27.9	24.7
<b>Parents' employment status</b>				
At least one parent working	93.2	90.7	80.5	82.1
No parent working	6.8	9.3	19.5	17.9
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

Changes also took place in the labour market participation of PMK. In 2005, 69.5% were engaged in paid employment, a decrease from 76.5% in 2001. During the same period, the proportion of children in families with no parent in paid employment increased from 6.8% to 9.3%. Reverse trends, however, were observed across the UEY-II communities: the proportion of PMK who participated in the labour market rose slightly, while the proportion of children in families with no parent employed fell by about 2 percentage points.



Research indicates that maternal education level is positively associated with children’s academic achievement. As shown in Figure 4.7, the results from the 2005 survey confirmed this relationship, both in PPVT-R scores and measures of emotional development and social behaviours: children of PMK who had not completed secondary school were more likely to experience difficulties with vocabulary skills, show signs of emotional problems, and exhibit aggressive and indirectly aggressive behaviours. However, it is also noteworthy that some children of PMK who had not completed secondary education showed advanced vocabulary skills.



Parents’ employment status influences household income, which in turn affects the resources available for raising children. At the same time, parents’ employment status can also directly affect children’s health and educational outcomes. For example, working parents tend to place more emphasis than non-working parents on independence training for children, which can be an asset for children as they learn.

The data in Figure 4.8 indicate that parents’ employment status is strongly related to South Eastman children’s cognitive and behavioural development. For example, results from both 2001 and 2005 show that children with no parents working were more likely than other children to receive low PPVT-R scores and show signs of hyperactivity. The 2005 results also show that a higher percentage of children from no-earner families exhibited aggressive behaviours than other children, although the evidence from 2001 suggests otherwise.

#### 4.2.4 Parents’ health

Parents’ health, especially a mother’s physical and emotional health, can affect the quantity, as well as the quality, of time and attention that parents devote to their children. Since interaction between parents and children is instrumental to the healthy development of children, a parent’s poor health will likely negatively affect developmental outcomes.

	<b>South Eastman</b>		<b>UEY-II communities</b>	
	<b>2001</b>	<b>2005</b>	<b>2001</b>	<b>2005</b>
<b>PMK health status</b>				
Excellent	37.6	36.4	33.4	33.1
Very good	39.9	41.5	37.0	38.1
Good	17.4	18.8	21.0	22.3
Fair	3.9	3.0	6.5	4.9
Poor	1.3	0.3	2.1	1.5
<b>PMK with chronic condition</b>				
Yes	33.3	33.1	35.7	40.5
No	66.7	66.9	64.3	59.3
<b>Total</b>	<b>100.00</b>	<b>100.0</b>	<b>100.00</b>	<b>100.0</b>

As shown in Table 4.6, in both survey years, about one third of PMK reported they had a chronic health condition. This result remains slightly below the average of the UEY-II communities. Nevertheless, the vast majority of PMK (over 96%) rated themselves as having generally good to excellent health in the 2005 survey.

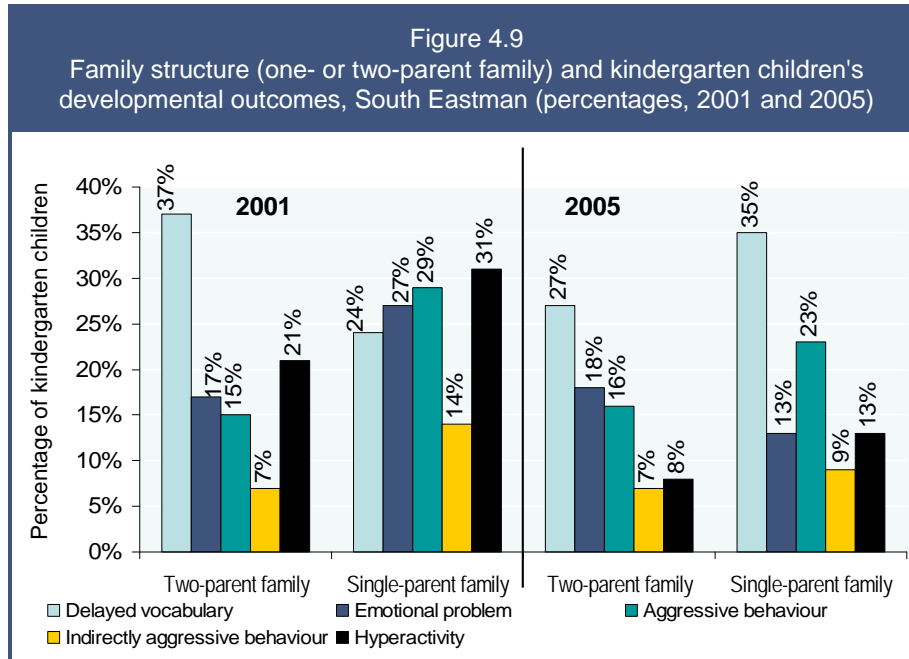
#### **4.2.5 Family structure**

Family structure and size can affect the quantity, as well as the quality, of time and attention parents devote to their children. They also influence the financial resources available for each child. Single-parent families are more likely to have low family incomes, which means they face more challenges and stresses in raising their children. In addition, larger family sizes can reduce the amount of resources available for each child and thus negatively affect developmental outcomes.

Table 4.7 shows that in both survey years about 83% of South Eastman children were living in two-parent families. This percentage is considerably higher than the UEY-II average. As well, about 90% of children in both years had one or more siblings –substantially higher than the UEY-II average (about 81% in 2005).

	<b>South Eastman</b>		<b>UEY-II communities</b>	
	<b>2001</b>	<b>2005</b>	<b>2001</b>	<b>2005</b>
<b>Number of parents in household</b>				
Two parents	83.2	82.9	69.5	75.4
One parent	14.0	17.1	28.0	24.1
Child does not live with a parent	2.8	-	2.5	0.4
<b>Number of children (0–17 years) in household</b>				
One child	10.7	9.3	23.3	18.6
Two children	42.0	39.5	44.2	46.9
Three children	29.4	32.4	21.7	24.2
More than three children	17.9	18.8	10.8	10.3
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

The results from both survey years suggest that children in single-parent families were more likely than their peers in two-parent families to have emotional problems and to exhibit aggressive behaviours and hyperactivity (see Figure 4.9). In addition, the evidence from 2005 indicates that South Eastman children in single-parent families were more likely to experience delayed vocabulary development than children living with two parents.



### 4.3 Families: Family Processes and Children’s Developmental Outcomes

This section focuses on some major family processes related to developmental outcomes: family functioning, parent–child interactions, parents’ engagement in learning activities with their children, and childcare arrangements.

#### 4.3.1 Family functioning

Family functioning refers primarily to the cohesiveness and adaptability of the family. It is more about how well the family functions as a unit than the relationships between spouses or between parents and their children. Studies have shown that family functioning is related to children’s developmental outcomes, especially children’s behaviour.

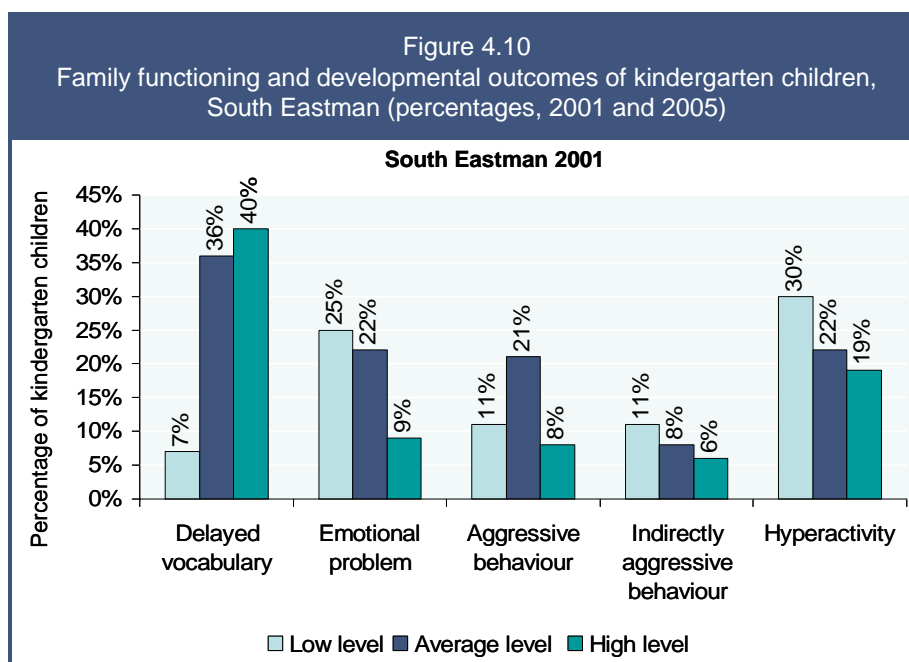
In both cycles of data collection for the Communities Survey, information was gathered on whether PMK thought their family members were able to communicate, discuss feelings and concerns among themselves; make decisions and solve problems collectively; get along well with one another; and feel accepted for who they are.

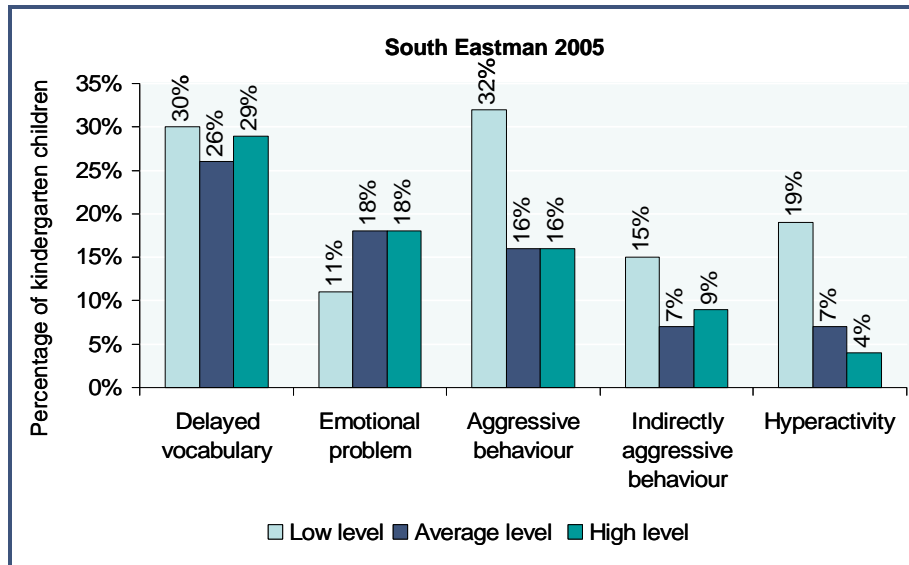
Table 4.8 Distribution of kindergarten children by level of family functioning, South Eastman and UEY-II communities (percentages, 2001 and 2005)				
	South Eastman		UEY-II communities	
	2001	2005	2001	2005
<b>Family functioning</b>				
Mean (rescaled to 100)	78.7	75.7	76.3	75.1
High level (mean + 1 standard deviation)	24.4	18.0	23.2	18.6
Average level (within 1 standard deviation)	70.0	72.8	64.4	69.5
Low level (mean – 1 standard deviation)	5.8	9.2	12.4	11.9
Total	100.0	100.0	100.0	100.0

As indicated in Table 4.8, the mean score for family functioning in South Eastman in 2001 was slightly above the UEY-II average, whereas the 2005 results were almost identical. However, means indicate only how well families function on average. They tell us nothing about what proportion of families function above or below the “normal” range or how above- or below-normal functioning may affect children’s developmental outcomes. To explore this issue further, we classified family functioning into three levels: “high,” “average” and “low.” A family functioning score that was one standard deviation below the UEY-II sample mean represented a low level of family functioning, a score one standard deviation higher than the UEY-II sample mean represented a high level of family functioning, and scores within one standard deviation of the mean were scores for an average or normal level of family functioning.

Based on this classification, the vast majority (more than 90%) of children in South Eastman had families that functioned well – either at the average level or above – in 2005. The results also indicate some slight changes between 2001 and 2005: the proportion of families that functioned at a high level declined from 24.4% to 18.0%, while the proportion of families with low functioning scores rose from 5.8% to 9.2%.

Figure 4.10 presents the results that explore the relationship between family functioning and children’s outcomes in vocabulary skills, emotional development and social behaviours.





The results from both 2001 and 2005 indicate that South Eastman children from families functioning at the low level were more likely than their peers to exhibit indirect aggression and signs of hyperactivity. The 2005 results also show that children from families at the low level of functioning were more prone to aggressive behaviours.

#### 4.3.2 Parent–child interactions

The nature of parent–child interactions and the degree of cognitive stimulation in the home are other factors influencing developmental outcomes. For example, children who experience positive interactions with a nurturing, involved parent have been found to have better academic and social outcomes than others.

The Communities Survey explored parent–child interactions according to whether they were “positive,” “consistent,” “rational” or “effective.” The positive parent–child interactions score was based on PMK responses to questions asking how often they praise their children, how often they talk and play with their children, and how often they laugh together. The consistent parent–child interactions score was based on PMK responses to questions asking how often children get away with things for which they should have been punished and how often PMK make sure their child follows a command to do something. The rational parent–child interaction score was based on PMK responses to questions on how they react to their children’s misbehaviour. For example, if a child misbehaved, did the parents scold or shout at the child, calmly discuss the problem, use physical punishment, or describe alternative and acceptable ways of behaving? Lastly, the effective parent–child interactions score was based on PMK responses to questions on whether they were often annoyed with their child for saying or doing forbidden things, often angry when they punished their child, and often had to discipline the child repeatedly for the same thing.

	South Eastman		UEY-II communities	
	2001	2005	2001	2005
<b>Parent–child interactions</b>				
Positive parent–child interaction	73.8	72.9	72.1	74.1
Effective parent–child interaction	67.6	68.9	69.0	68.9
Consistent parent–child interaction	70.3	73.7	67.3	68.7
Rational parent–child interaction	56.8	58.2	58.2	59.1

Table 4.9 presents the mean scores on the four parent–child interactions measures, with original scores rescaled on a 100-point scale to facilitate comparisons. Higher scores indicate higher performance on each measure. The data indicate that South Eastman PMK scored slightly above the UEY-II averages on consistent parenting, and similarly to the UEY-II average on effective parenting, rational parenting and positive parenting.

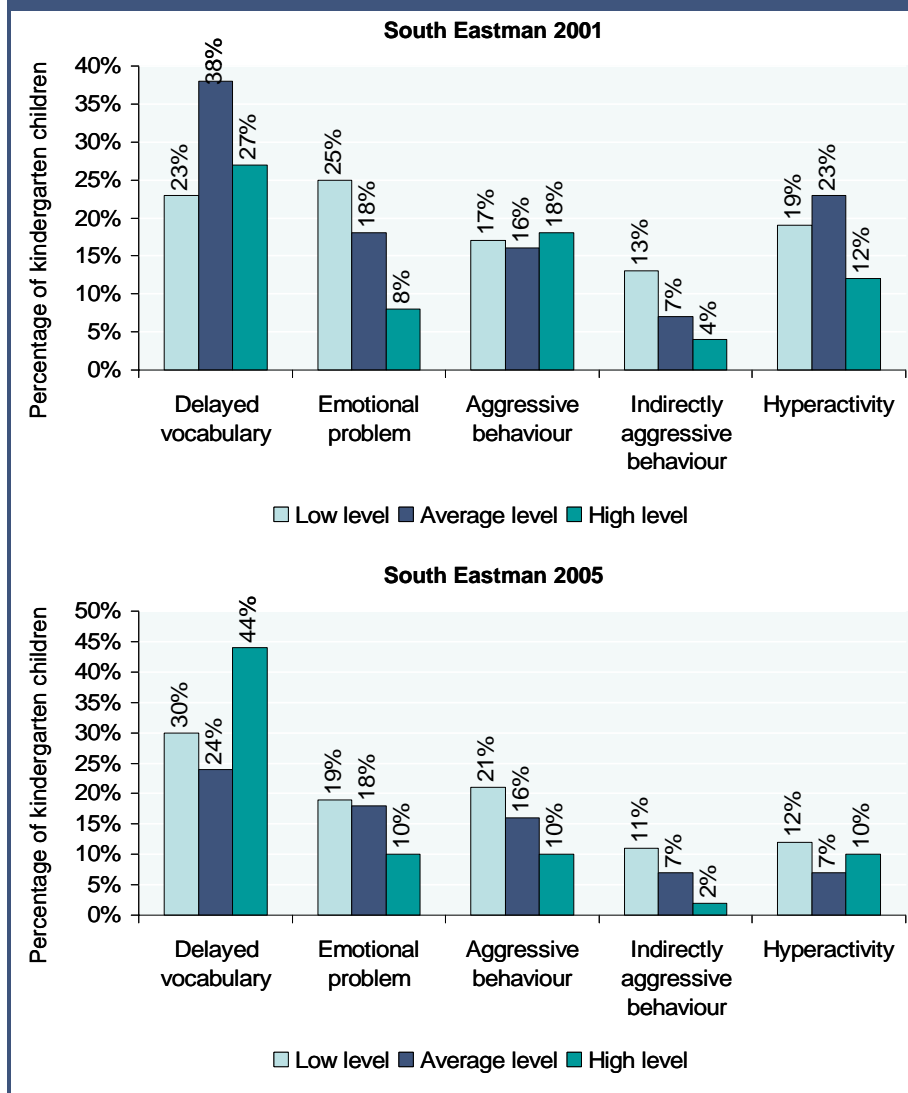
To explore how poor parenting practices were associated with developmental outcomes, we classified the parenting scores into three levels – “high,” “average” and “low” – based on the means and standard deviations of the UEY-II communities sample (in the same way that we established family functioning levels). The analyses presented in Table 4.10 indicate that more than 85% of South Eastman PMK performed at the average level or above on positive, consistent and effective parenting measures, based on the UEY-II norms. Compared with 2001, in 2005 more PMK performed at the high level of consistent parenting and more PMK performed at the low level of positive parenting. South Eastman PMK also compared favourably with the average performance across the UEY-II communities on consistent parenting, with about 93% of PMK performing at the high level in 2005, compared with about 85% across the UEY-II communities.

	<b>South Eastman</b>		<b>UEY-II communities</b>	
	<b>2001</b>	<b>2005</b>	<b>2001</b>	<b>2005</b>
<b>Positive parenting</b>				
High level	14.3	11.9	10.9	14.6
Average level	77.0	75.6	76.2	75.3
Low level	8.7	12.5	12.9	10.1
<b>Effective parenting</b>				
High level	13.9	14.9	18.9	16.9
Average level	71.9	73.2	67.0	69.7
Low level	14.2	12.0	14.1	13.4
<b>Consistent parenting</b>				
High level	17.4	21.6	13.1	16.9
Average level	70.8	71.9	69.4	68.0
Low level	11.5	6.4	17.4	15.1
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

Figure 4.11 displays the relationship between positive parenting and various child outcomes. Both the 2001 and 2005 data collection cycles provide some evidence that positive parenting may have influenced the emotional development and social behaviour of children in South Eastman. Children in families with low-level positive parenting were more likely to show signs of emotional problems and indirectly aggressive behaviours than their peers. The 2005 results also suggest that children from families with low-level positive parenting were more inclined to develop aggressive behaviours.

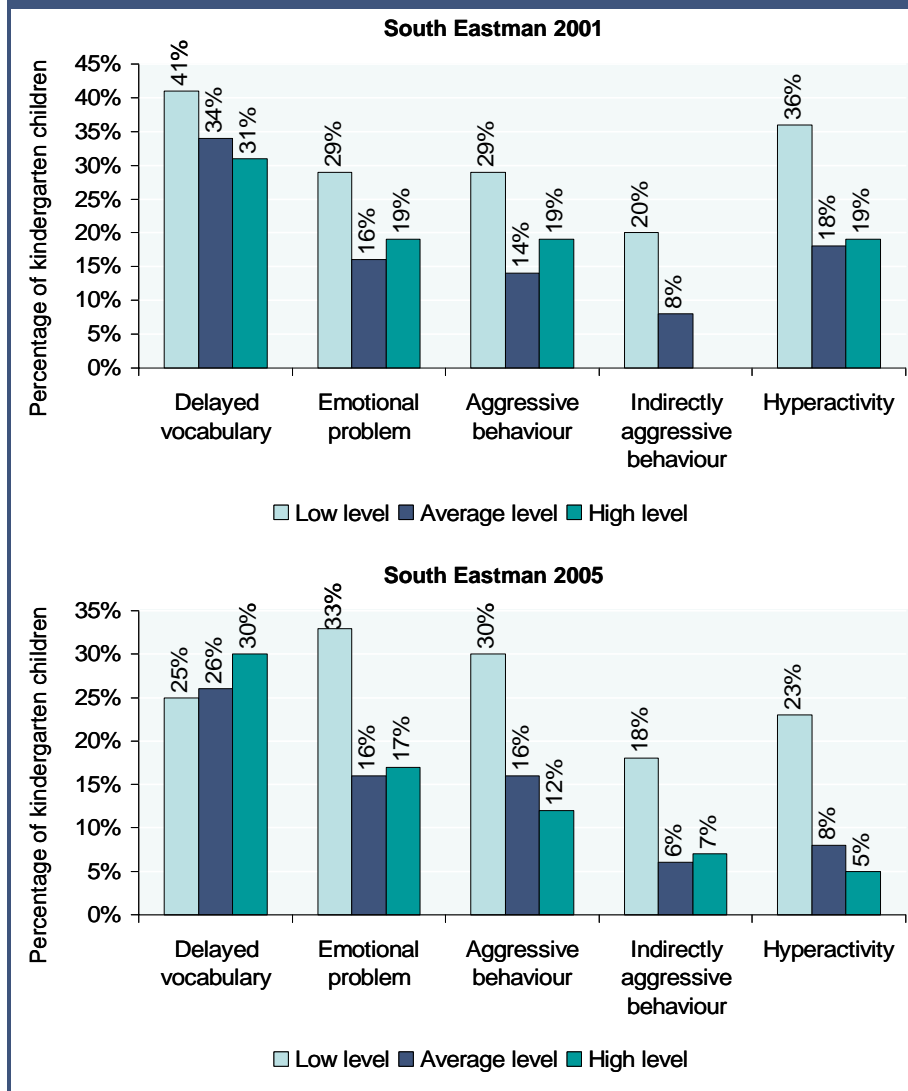


Figure 4.11  
Positive parenting and developmental outcomes of kindergarten children,  
South Eastman (percentages, 2001 and 2005)



The results presented in Figure 4.12 show how consistent parenting affected various child development outcomes in South Eastman. For instance, consistent parenting – by parents who set clear and consistent rules for their children – was strongly related to better outcomes with respect to emotional problems and social behaviours. Children of PMK at the average or high level of consistent parenting were much less likely to display signs of emotional problems or hyperactivity than children of PMK at the low level of consistent parenting. Children of PMK at the average or high level of consistent parenting were also much less inclined than other children to exhibit directly and indirectly aggressive behaviours. Although the data from 2001 showed that vocabulary skills may have been affected by consistent parenting, this relationship was not supported by the 2005 data.

Figure 4.12  
 Consistent parenting and developmental outcomes of kindergarten children,  
 South Eastman (percentages, 2001 and 2005)



#### 4.3.3 Engagement in literacy activities at home

Parents who engage in literacy-related activities with their children can have a major influence on developmental outcomes. In particular, studies find that the amount of time parents spend reading to their children can significantly affect their development regardless of a family's socio-economic status. As part of the Communities Survey, PMK were asked whether and how often they were engaged with their children in learning activities at home. These activities included reading and telling stories to their children, teaching them numbers and words, teaching them how to read and encouraging them to use numbers in daily activities.

<b>Table 4.11 Distribution of kindergarten children by literacy activities at home, South Eastman and UEY-II communities (percentages, 2001 and 2005)</b>				
	<b>South Eastman</b>		<b>UEY-II communities</b>	
	<b>2001</b>	<b>2005</b>	<b>2001</b>	<b>2005</b>
<b>How often is child read to?</b>				
Daily	74.1	70.7	58.1	67.9
A few times a week	25.1	24.2	30.2	25.2
Once a week	0.6	2.9	5.5	3.1
A few times a month	0	1.5	2.4	1.8
Rarely	0.3	0.6	3.8	1.9
<b>How often is child taught numbers?</b>				
Daily	47.5	43.6	45.7	53.4
A few times a week	39.8	37.0	38.3	33.4
Once a week	5.8	9.1	7.7	6.3
A few times a month	1.4	2.3	3.7	2.3
Rarely	5.5	7.3	4.7	4.2
<b>How often is child taught words?</b>				
Daily	42.1	51.0	39.9	48.5
A few times a week	33.1	30.1	31.3	29.8
Once a week	7.4	5.7	8.3	7.2
A few times a month	2.5	3.7	4.6	3.0
Rarely	14.9	8.7	15.9	11.2
Total	100.0	100.0	100.0	100.0

As shown in Table 4.11, results from both the 2001 and 2005 surveys indicate that the vast majority of South Eastman PMK had been actively engaged in providing a stimulating home environment for their children. For example, in 2005, about 95% of PMK in South Eastman read to their children either daily or at least a few times a week. This percentage is slightly lower than the 2001 figure, but slightly higher than the average across the UEY-II communities (about 93%). Similarly, in 2005, the percentage of PMK in South Eastman who taught words to their children daily or at least a few times a week was slightly higher (about 81%) than the 2001 figure, as well as the UEY-II average (about 78%). On the other hand, the percentage of PMK who taught their child numbers daily or at least a few times a week was lower in 2005 than in 2001, as well as lower than the UEY-II average (roughly 81% vs. 87%).

#### **4.3.4 Childcare arrangements**

National data for Canada indicate that about half of children aged 0 to 5 years are in childcare while their parents are engaged in paid work or further education and training. For these children, childcare is an important factor in their development.

According to PMK, the proportion of children receiving non-parental childcare in South Eastman had been decreasing: about 47% of children in 2001 were in a variety of non-parental care arrangements, with this figure falling to 40% in 2005. A contrasting trend was observed across the UEY-II communities: in 2005, children were about 20% more likely than in 2001 to be in non-parental childcare (55% vs. 46%).

	South Eastman		UEY-II communities	
	2001	2005	2001	2005
Other's home – non-relative	42.7	42.3	23.9	27.4
Own home – non-relative	8.2	3.8	6.0	4.8
Own home – relative (non-sibling)	10.5	6.4	9.0	9.3
Other's home – relative	15.8	29.2	12.5	15.8
Own home – sibling	1.2	4.5	1.6	2.0
Daycare centre	21.0	9.6	11.4	11.5
Before/after-school programs	-	2.9	30.6	26.3
Nursery/preschool	-	-	3.1	1.2
Child in own care	0.6	1.3	0.5	0.6
Other	-	-	1.4	1.1
Total	100.0	100.0	100.0	100.0

As shown in Table 4.12, the most common type of non-parental care in South Eastman was care outside the home by a non-relative, accounting for about 42% of children in childcare in both 2001 and 2005. This type of care was followed by care outside the home by a relative, which accounted for about 30% of the children who received childcare in 2005, almost double the level recorded in 2001 (about 16%) in South Eastman, as well as the average across the UEY-II communities in 2005 (also about 16%).

A daycare centre was the third most popular form of care arrangement, attended by 21% of children in 2001 but by fewer than 10% in 2005. The 2005 data also showed significant decreases in two other types of childcare, childcare in the child's home by a non-relative and childcare in the child's home by a relative. However, childcare in the child's home by siblings went up to 4.5% in 2005 from 1.2% in 2001.

#### **4.4 Community: Neighbourhoods and Resources for Young Children**

Neighbourhoods and communities provide important resources and activities such as daycare centres, schools, libraries and public pools, where children can play, learn and interact with adults and peers. Studies of the role of neighbourhoods and communities in child development indicate that both the social and physical characteristics of a community are important to a child's development. These characteristics include physical aspects relating to risk of injury or access to public facilities for children, neighbourhood/community safety, neighbourhood resources, community cohesion, quality of role models, and residents' engagement in community activities.

##### **4.4.1 Neighbourhood environment for young children**

To assess the neighbourhood environment for children, PMK were interviewed about their perceptions of their neighbourhood as a place to raise young children. For example, they were asked to rate neighbourhood features such as the prevalence of families with young children, quality of schools and nursery schools, adequacy of recreational and health facilities for children, residents' community involvement and access to public transport. PMK rated each of these features as "excellent," "very good," "good," "fair" or "poor."

	South Eastman		UEY-II communities	
	2001	2005	2001	2005
Lots of families with children	7.2	6.9	6.4	6.5
Good schools, nursery schools	7.3	7.4	6.8	6.9
Adequate facilities for children	4.2	4.6	6.1	6.1
Neighbourhood safe and clean	7.6	7.6	6.4	6.6
Presence of health facilities	4.9	4.9	5.8	5.8
Actively involved residents	5.9	6.2	5.3	5.7
Accessible public transport	1.8	1.2	6.3	5.6

Table 4.13 shows PMK responses to a variety of questions on neighbourhood quality. Overall, the results from 2001 and 2005 were almost identical, with PMK generally expressing satisfaction with the safety and cleanliness of their neighbourhoods, the quality of schools or nursery schools, prevalence of families with young children and residents' community involvement. They rated all these aspects of neighbourhoods as "good" to "very good." At the same time, they gave fairly low scores to facilities for children, including health facilities. In particular, PMK gave very low scores to access to public transport.

PMK perceptions of neighbourhood safety and support from neighbours were explored in more detail. For example, they were asked to indicate their level of concern for their children's safety while walking and playing in the neighbourhood. They were also asked to respond to a separate group of questions concerning neighbours' ability to work together in dealing with problems, help one another, watch out for one another's children, and provide children with role models. Table 4.14 presents the results, with PMK responses broadly grouped into positive or negative categories.

<b>Table 4.14</b>				
<b>Distribution of kindergarten children by PMK responses on neighbourhood safety and neighbour support, South Eastman and UEY-II communities (percentages, 2001 and 2005)</b>				
	<b>South Eastman</b>		<b>UEY-II communities</b>	
	<b>2001</b>	<b>2005</b>	<b>2001</b>	<b>2005</b>
<b>It is safe to walk after dark</b>				
Strongly agree/agree	94.9	95.3	73.4	77.8
Strongly disagree/disagree	5.1	4.7	26.5	22.2
<b>It is safe to play outside</b>				
Strongly agree/agree	99.7	98.5	86.1	88.2
Strongly disagree/disagree	0.3	1.5	13.9	12.7
<b>There are safe parks and play spaces</b>				
Strongly agree/agree	76.9	78.6	84.3	84.7
Strongly disagree/disagree	23.1	21.4	15.6	15.4
<b>Neighbours deal with problems together</b>				
Strongly agree/agree	89.7	84.6	86.1	88.2
Strongly disagree/disagree	10.3	15.4	13.9	12.7
<b>There are adults for children to look up to</b>				
Strongly agree/agree	96.8	95.4	82.4	86.2
Strongly disagree/disagree	3.2	4.6	27.6	13.8
<b>Neighbours are willing to help one another</b>				
Strongly agree/agree	98.3	97.3	87.0	89.6
Strongly disagree/disagree	1.7	2.7	12.9	10.4
<b>Neighbours watch out for children's safety</b>				
Strongly agree/agree	94.1	94.7	84.4	89.6
Strongly disagree/disagree	5.9	5.3	15.6	10.4
<b>Neighbours watch out for trouble</b>				
Strongly agree/agree	96.1	95.9	84.5	88.0
Strongly disagree/disagree	3.9	4.1	15.5	12.1
Total	100.0	100.0	100.0	100.0

As shown in Table 4.14, in both 2001 and 2005, the vast majority (more than 94%) of PMK in South Eastman agreed or strongly agreed that their neighbourhoods were safe for the children and that neighbours supported one another in a number of ways. The responses to all questions were considerably more positive than the averages across the UEY-II communities, except on two questions. One was about the safety of parks and play spaces – about one in five parents in South Eastman did not agree that these were safe for children. The other related to neighbours dealing with problems together – about 15% of PMK did not agree that neighbours dealt with problems together in 2005, up from about 10% in 2001.

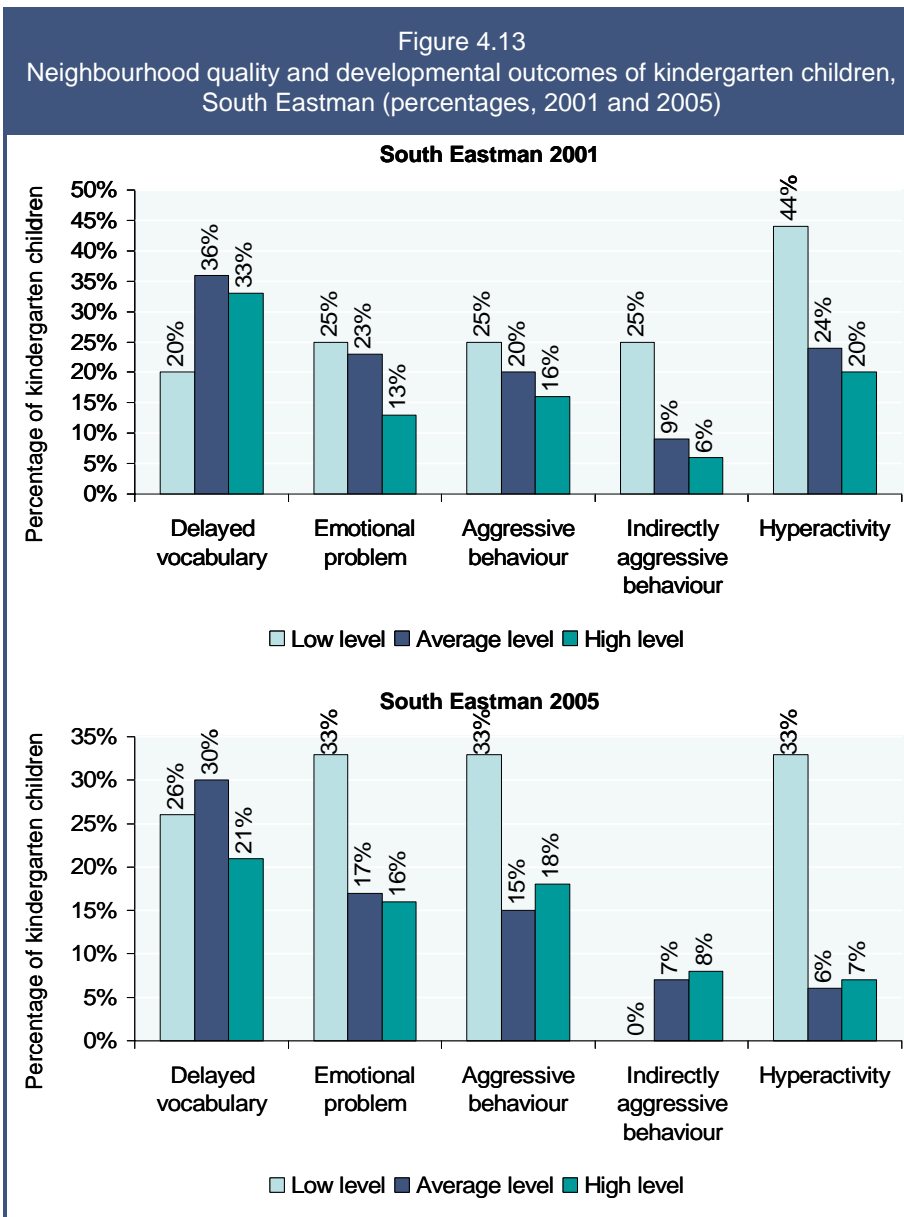


Figure 4.13 presents information showing how neighbourhood quality was related to the developmental outcomes of South Eastman children. For the purposes of the analysis, South Eastman neighbourhoods were classified into “low,” “average” and “high” levels of neighbourhood quality, based on the norm of the UEY-II sample. As Figure 4.13 shows, in both 2001 and 2005, children living in low-quality neighbourhoods were much more likely to show signs of emotional problems, aggression and hyperactivity. The 2001 data also provides some evidence that indirectly aggressive behaviours were related to neighbourhood quality; however, this was not confirmed in the 2005 results.

#### 4.4.2 Use of community resources

Young children can benefit from using neighbourhood resources that enable them to participate in various educational, cultural and recreational activities – activities that are believed to have important implications for their development. The following tables show the percentages of South Eastman kindergarten children making use of such resources.

<b>Table 4.15a</b>									
<b>Distribution of kindergarten children by use of educational resources, South Eastman</b>									
<b>(percentages, 2001 and 2005; figures for UEY-II communities in <i>italics</i>)</b>									
		<b>At least weekly</b>		<b>At least monthly</b>		<b>A few times a year</b>		<b>Not at all</b>	
<b>Book clubs/reading programs</b>									
	2001	12.3	<i>8.2</i>	8.4	<i>5.5</i>	8.4	<i>10.6</i>	71.0	<i>75.7</i>
	2005	8.4	<i>10.0</i>	4.7	<i>6.2</i>	9.8	<i>12.2</i>	77.2	<i>71.6</i>
<b>Education or science centres</b>									
	2001	2.5	<i>1.6</i>	3.3	<i>5.3</i>	29.4	<i>30.3</i>	64.8	<i>62.9</i>
	2005	0.9	<i>1.8</i>	3.0	<i>4.8</i>	24.2	<i>32.3</i>	71.9	<i>61.1</i>
<b>Family resources centres</b>									
	2001	3.9	<i>3.4</i>	3.0	<i>4.0</i>	8.6	<i>11.6</i>	84.5	<i>81.0</i>
	2005	3.5	<i>4.2</i>	5.5	<i>5.5</i>	8.0	<i>12.9</i>	83.0	<i>77.4</i>

Table 4.15a shows the percentages of children in South Eastman using educational resources apart from libraries, such as book clubs, reading programs, science centres or family resources centres. The data indicate that book clubs or reading programs were the most popular types of educational programs or services. However, the proportions of children who did not use educational programs or services increased between 2001 and 2005, to reach over 70%. Rates of non-use were the highest for family resources centres: about 85% in 2001 and 83% in 2005.

<b>Table 4.15b</b>									
<b>Distribution of kindergarten children by use of cultural resources, South Eastman</b>									
<b>(percentages, 2001 and 2005; figures for UEY-II communities in <i>italics</i>)</b>									
		<b>At least weekly</b>		<b>At least monthly</b>		<b>A few times a year</b>		<b>Not at all</b>	
<b>Movies</b>									
	2001	1.1	<i>3.5</i>	13.3	<i>22.9</i>	63.4	<i>55.6</i>	22.2	<i>17.9</i>
	2005	1.2	<i>6.4</i>	12.2	<i>23.9</i>	51.2	<i>51.0</i>	35.4	<i>18.7</i>
<b>Theatres or plays</b>									
	2001	1.1	<i>0.9</i>	2.5	<i>6.2</i>	45.0	<i>52.1</i>	51.4	<i>40.8</i>
	2005	0.3	<i>1.5</i>	1.8	<i>5.3</i>	48.5	<i>51.2</i>	49.4	<i>41.9</i>
<b>Museums</b>									
	2001	-	<i>0.5</i>	3.3	<i>4.4</i>	59.0	<i>49.6</i>	37.7	<i>45.6</i>
	2005	0.5	<i>0.6</i>	2.7	<i>5.5</i>	61.4	<i>54.8</i>	35.4	<i>39.0</i>
<b>Sports events</b>									
	2001	12.2	<i>9.5</i>	15.0	<i>9.4</i>	40.3	<i>32.6</i>	32.5	<i>48.4</i>
	2005	16.3	<i>11.9</i>	13.1	<i>12.2</i>	36.9	<i>34.4</i>	33.6	<i>41.4</i>

Table 4.15b gives the percentages of South Eastman children using cultural resources such as movies, plays, museums and sports events. The data indicate that use of cultural resources was much higher than use of educational resources. For example, in 2005, about 65% of South Eastman children went to the movies, visited museums and watched sports events; about 50% attended theatres or plays. However, of those who used cultural resources in South Eastman, most did so only a few times a year.



Table 4.15c displays rates of use for recreational facilities, which appeared to enjoy the highest use rates among the three types of community resources. Of the three types of recreational facilities for which data are presented, parks or play spaces were the most popular, being used by more than 42% of children at least weekly in 2005, down 5 percentage points from 2001.

		<b>At least weekly</b>	<b>At least monthly</b>	<b>A few times a year</b>	<b>Not at all</b>				
<b>Parks or play spaces</b>									
	2001	47.2	63.6	21.5	19.7	18.5	13.5	12.7	3.2
	2005	42.2	65.9	22.0	18.9	23.1	10.9	12.7	4.3
<b>Recreational/community centres</b>									
	2001	13.6	13.3	8.9	14.6	18.8	23.4	58.7	48.8
	2005	6.0	12.9	7.9	17.1	22.4	26.7	63.7	43.3
<b>Indoor, outdoor or wading pools</b>									
	2001	33.2	38.4	24.1	23.8	32.7	27.9	10.0	9.9
	2005	22.1	34.1	27.2	26.6	40.5	29.3	10.2	10.0

Pools, including indoor and outdoor facilities, were the next most popular venues for children; however, the weekly use rate of South Eastman children dropped from 33.2% in 2001 to 22.1% in 2005. The non-user rate was 10% for this type of resource, which was similar to the average across the UHEY-II communities. There also appeared to be a drop in the use of recreational/community centres in South Eastman, with the proportion of children not using this type of community resource rising from about 59% in 2001 to about 64% in 2005. Overall, the use rates for various community resources in South Eastman were lower than average levels across the UHEY-II communities, except for museums and spectator sports events.

Table 4.16 deals with children's participation in group activities. It presents PMK responses to questions about how often their child participated in organized and unorganized sports, other coached activities and the arts, and attended community clubs, groups or leadership programs, such as Beavers or Sparks.

About 40% of South Eastman children participated in organized sports on a weekly basis in 2005, while weekly participation in unorganized sports was over 66%. Between 2001 and 2005, participation in organized sports and music and art lessons declined, while participation in unorganized sports and in community clubs, groups or leadership programs increased. Compared with UHEY-II averages, lower percentages of South Eastman children took part in almost all group activities in 2005, with the exception of community clubs, groups or leadership programs.

	South Eastman		UEY-II communities	
	2001	2005	2001	2005
Organized sports with coaching/instruction	42.8	39.2	40.2	45.0
Other organized activity with coaching/instruction (e.g., dance, gymnastics, martial arts)	19.9	20.1	25.0	31.0
Unorganized sports or physical activity	62.5	66.6	62.9	69.0
Lessons in music, art or non-sport activity	13.4	11.5	14.0	14.9
Community clubs, groups or leadership programs (e.g., Beavers, Sparks)	30.3	45.4	21.6	23.9

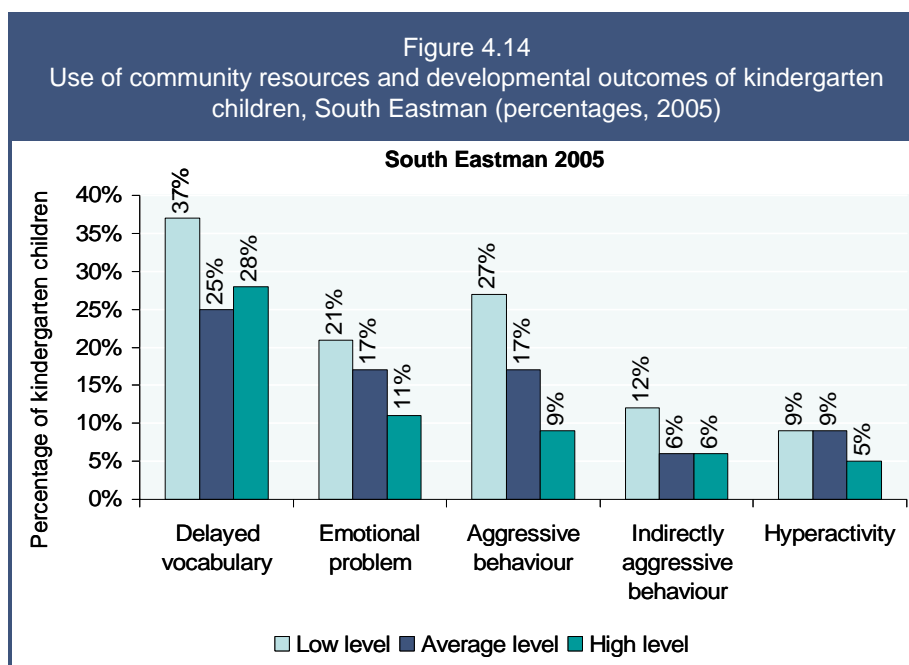


Figure 4.14 shows the relationship between use of community resources and child developmental outcomes, based on 2005 data. In these preliminary analyses, children were classified into three categories: “low-lever user,” “average-level user” and “high-level user” of community resources, based on an index created to indicate the extent to which a child used community resources, including educational, cultural and recreational resources. The 2005 data confirm a significant relationship between the level of resource use and children’s developmental outcomes: children who were classified as low-level users of community resources were much more likely to receive delayed PPVT-R scores, display signs of emotional problems and exhibit problem behaviours, including aggressive and indirectly aggressive behaviours.

#### 4.4.3 Accessibility of community resources and reasons for not using them

	South Eastman		UEY-II communities	
	2001	2005	2001	2005
Educational resources	42.9	51.8	75.2	75.8
Cultural resources	27.7	28.3	58.7	57.9
Recreational resources	42.4	38.3	57.9	56.3

Given the relatively low level of community resource use by South Eastman children, PMK were also asked whether educational, cultural and recreational resources were located within walking distance or a short drive or bus ride. The results, presented in Table 4.17, indicate that between 2001 and 2005 the accessibility of educational resources increased from about 43% to 52%, while the accessibility of recreational resources fell from about 42% to 38%, according to PMK perceptions. Overall, the results indicate that the children of this community had poor access to community resources compared with the average across the UEY-II communities.

During their interviews, many PMK reported difficulties accessing community programs and services. Reasons for not using community programs and services can be grouped as follows (see Table 4.18):

- situational: those due to the parents' circumstances in life, such as lack of time (because of work or family responsibilities) and health conditions;
- institutional: practices and procedures (on the part of service providers) that hinder participation, such as fees, program offerings, scheduling and accessibility; and
- dispositional: parents' attitudes toward programs or services.

It is interesting that slightly different reasons were cited by PMK as top access barriers to community resources in 2001 and 2005. In 2001, "programs of interest unavailable," "programs [available only] for older children" and "not enough time" were the top three barriers mentioned. In the 2005 survey, while "programs of interest unavailable" remained the top reason for non-use of community programs, "not enough time" became the second most frequently cited barrier, while "unaware of programs" ranked third.

It is also noteworthy that between 2001 and 2005 the percentage of South Eastman PMK mentioning institutional barriers fell, while the percentage pointing to situational factors grew. For example, PMK in 2005 were much less likely to say that programs or services were inaccessible because they were not offered (i.e., "programs of interest unavailable" or "programs [available only] for older children"). This finding could indicate that community service providers have improved access to services by creating new programs, expanding popular programs and adjusting business hours. On the other hand, a considerably higher percentage of PMK in 2005 than in 2001 picked "unaware of programs" as a major reason for not using programs or services available in the community.

<b>Table 4.18 Reasons given by PMK for not using community programs or services, South Eastman and UEY-II communities (percentages, 2001 and 2005)</b>				
	<b>South Eastman</b>		<b>UEY-II communities</b>	
	<b>2001</b>	<b>2005</b>	<b>2001</b>	<b>2005</b>
<b>Situational</b>				
Not enough time	32.1	33.8	41.0	41.6
Unaware of programs	24.9	32.0	23.8	29.7
Health reasons	1.6	2.3	3.1	3.2
<b>Institutional</b>				
Program costs	26.0	30.6	31.7	31.3
Program times not convenient	27.1	24.2	29.9	33.1
Programs for older children	37.5	26.2	27.6	28.4
Commute difficulty	24.4	21.5	15.9	18.2
Programs of interest unavailable	48.6	36.1	13.4	17.6
Programs not in preferred language	6.3	4.6	2.8	2.4
Not enough spaces	3.0	3.5	7.5	9.0
<b>Dispositional</b>				
Concerned about safety	5.5	2.7	8.3	8.9
Concerned about quality	4.4	4.7	5.1	6.1
Cultural or religious reasons	2.5	2.6	1.1	3.1

Finally, it is important to observe that some institutional barriers remained high and some even increased during the study period. For example, “programs of interest unavailable” remained the primary access barrier, while the percentage of PMK mentioning “program costs” rose slightly.

## 4.5 Summary

### 4.5.1 Young children in South Eastman

Between 2001 and 2005, the kindergarten population in South Eastman underwent several demographic changes, with the number of children doubling to 782 and the gender ratio remaining unchanged. As well, the proportion of South Eastman kindergarten children born outside North America increased significantly: up from fewer than 1% to over 8%. Moreover, while there was a slight increase in the proportion of children whose mother tongue was English, the percentage whose first language was neither English nor French almost tripled, from about 4% in 2001 to 12% in 2005. At the same time, the proportion of Francophone children in the kindergarten population dropped from 21% to 10%.

Findings from this study show that boys in South Eastman were more than twice as likely as girls to exhibit aggressive behaviours. There were also twice as many hyperactive boys as girls in South Eastman, although the prevalence of children with signs of hyperactivity declined considerably between 2001 and 2005. In contrast, gender differences in vocabulary development were minimal, as measured by the PPVT-R. In 2005, girls were slightly more likely than boys to receive low PPVT-R scores.

The study also shows that children’s ethnicity, birthplace and first language(s) are important factors in developmental outcomes. Children born outside Canada were two to three times more likely than Canadian-born children to experience difficulties in vocabulary development. First language may be even more significant than other child characteristics (such as birthplace) in explaining developmental differences among South Eastman children: children whose first language was neither English nor French were more than three times as likely as their peers to experience difficulty in vocabulary development.

#### **4.5.2 Characteristics of South Eastman families**

The average household income for South Eastman children, adjusted for inflation, fell by almost \$5,000 between 2001 and 2005, while the proportion of high-income families decreased from 18% to 12%. However, over the same period, the percentage of children living in below-LICO families remained at about 12%.

The results from 2005 indicate that children living below LICO in South Eastman were considerably more likely to experience delayed vocabulary development than other children. Children in families with higher incomes were much more likely to participate in coached sports; music or art lessons; and dance, gym and martial arts classes. For example, children with the highest family income level (three times LICO or above) were almost 2.3 times more likely than children living below LICO to be enrolled in coached sports. Participation in activities such as non-coached sports and community clubs, groups or leadership programs, however, were not associated with family income level.

The proportion of South Eastman PMK born outside North America and Europe increased significantly over the study period, from about 3% in 2001 to about 14% in 2005. Our survey data, particularly the results from 2005, suggest that various developmental outcomes may be related to PMK birthplace. For example, children of PMK born outside Canada were about 2.7 times more likely to experience delayed vocabulary development than children of Canadian-born PMK.

Across Canada, the percentage of young children's mothers who have a university degree or college diploma has been increasing steadily since the 1980s. However, the opposite trend was observed in South Eastman between 2001 and 2005, with the proportion of PMK with a university degree or college diploma falling from 37% to 32%. At the same time, the proportion of PMK who had not completed secondary school increased to 19% from 17%.

Children of PMK who had not completed secondary school were more likely to experience difficulties with vocabulary development, show signs of emotional problems and exhibit aggressive and indirectly aggressive behaviours. However, some children of mothers who had not completed secondary school did develop advanced vocabulary skills.

Changes also took place in the labour market participation of young children's mothers. In 2005, about 70% of PMK were engaged in paid employment, down from 77% in 2001. At the same time, the proportion of children in no-earner families increased from 7% to 9%.

Parents' employment situation was significantly related to South Eastman children's cognitive and behavioural development: children from no-earner families were more likely than other children to receive low PPVT-R scores and show signs of hyperactivity. Children in no-earner families were also more likely than other children to show aggressive behaviours in 2005.

About 83% of South Eastman children lived in two-parent families in both survey years, while almost 90% had one or more siblings. These percentages were substantially above the UEY-II averages.

The results from both 2001 and 2005 suggest that children in single-parent families were more likely than those in two-parent families to show signs of emotional problems and exhibit aggressive behaviours and hyperactivity. In addition, the evidence from 2005 indicates that children in single-parent families were more likely to experience delayed vocabulary development than children living with two parents.

#### **4.5.3 South Eastman families: family processes**

The majority of children's families (more than 90%) in South Eastman functioned well as a cohesive unit in 2005. However, the proportion of families functioning at the high level fell by about 6 percentage points between 2005 and 2001, while the proportion of children in families with a low level of functioning rose by about 3 percentage points.

The results from both 2001 and 2005 indicate that children in families functioning at the low level were more likely than others to exhibit indirectly aggressive behaviours and signs of hyperactivity. The 2005 results also show that children in families functioning at the low level were more prone to aggressive behaviours.

The majority of South Eastman PMK (more than 85%) performed at the average level or above on positive, consistent and effective parenting measures, based on the UEY-II norms. Compared with 2001, in 2005 more PMK performed at the high level of consistent parenting, and more PMK performed at the low level of positive parenting. South Eastman PMK also compared favourably with the average performance across the UEY-II communities on consistent parenting: the percentage of parents performing at the high level of consistent parenting was higher than the average of UEY-II communities in 2005 (93% vs. 85%).

Both the 2001 and 2005 surveys provided evidence that positive parenting was related to the emotional and social development of children in South Eastman. Children in families with a low level of positive parenting were more likely than their peers to display signs of emotional problems and indirectly aggressive behaviours. The 2005 results also indicate that children from families with a low level of positive parenting were more likely to develop aggressive behaviours.

Consistent parenting was strongly related to better outcomes in emotional and social behavioural development. Children of parents at an average or high level of consistent parenting were much less likely to display signs of emotional problems or hyperactivity than children of parents at a low level of consistent parenting. Children of parents at an average or high level of consistent parenting were also much less likely to exhibit physical and indirectly aggressive behaviours. The impact of consistent parenting on vocabulary development was unclear.

The vast majority of the South Eastman PMK worked to provide a home environment filled with stimulating activities for their children. For example, in 2005, about 95% of PMK read to their children either daily or at least a few times a week, higher than the average across the UEY-II communities. Similarly, the percentage of South Eastman PMK who taught words to their children daily or at least a few times a week was slightly higher than the UEY-II average (about 81% vs. about 78%). On the other hand, the percentage of parents who taught their children numbers daily or at least a few times a week was lower than the UEY-II average (81% vs. 87%).

#### **4.5.4 Childcare arrangements**

According to PMK, the proportion of South Eastman children receiving non-parental childcare has been declining, from 47% in 2001 to 40% in 2005. The opposite trend was observed across the UEY-II communities, with children in 2005 being 20% more likely than those in 2001 to be in non-parental childcare (55% vs. 46%).

The most common type of non-parental childcare in both survey years was care outside the home by a non-relative: about 42% of children were in this type of care arrangement in 2005 and 2001, a substantially higher percentage than the average across the UEY-II communities. This type of care was followed by care in another's home by a relative, accounting for about 30% of childcare arrangements in South Eastman in 2005 – almost double the level recorded in South Eastman in 2001 as well as the average level across the UEY-II communities in 2005.

Daycare centres were the third most popular form of care arrangement, attended by 21% of children in 2001 but by less than 10% in 2005. The 2005 data also showed significant decreases in two other types of childcare: care in own home by a non-relative and care in own home by a relative. However, the use of childcare in own home by siblings rose to 4.5% in 2005 from just 1.2% in 2001.

#### **4.5.5 South Eastman community: neighbourhoods and resources for young children**

Overall, the results from 2001 and 2005 were almost identical on this subject: on average, South Eastman PMK appeared satisfied with the safety and cleanliness of their neighbourhoods, the quality of schools and nursery schools, the level of community involvement, and the prevalence of families with young children. While all these aspects rated as good to very good, low scores were given to facilities for children, including health facilities. In particular, PMK gave very low scores to the accessibility of public transport.

The vast majority (more than 94%) of PMK in South Eastman agreed or strongly agreed that their neighbourhoods were safe for children and that neighbours supported one another in a number of ways. Approval ratings on all questions related to these aspects were considerably higher than the averages across the UEY-II communities, except for two questions: one on the safety of parks and play spaces (about one in five PMK did not agree that these were safe), and the other on neighbour cooperation in dealing with problems (about 15% of PMK did not agree that neighbours worked together to solve problems).

Results from 2001 and 2005 indicate that children living in low-quality neighbourhoods were much more likely than their peers to show signs of emotional problems, problem behaviours and short attention spans. The 2001 data also provided some evidence that indirectly aggressive behaviours were related to neighbourhood quality; however, this was not confirmed in the 2005 results.

#### **4.5.6 Use of community resources**

Besides public libraries, book clubs and reading programs were the most popular educational programs or services in South Eastman. However, more than 70% of children did not use these educational programs or services, and the proportion of non-users increased between 2001 and 2005. The proportion of non-users was the highest for family resources centres, at 85% in 2001 and 83% in 2005.

Participation rates for cultural activities were much higher than those for educational resources. In 2005, about 65% of South Eastman children went to the movies, visited museums and watched sports events; 50% attended theatres or plays. However, most took part in these cultural activities only "a few times a year." For example, in 2001, of those attending movies or sports events, more than 80% did so only a few times a year.

Usage rates for recreational facilities were the highest among the three types of community resources. Parks or play spaces in South Eastman were used by more than 42% of children at least weekly in 2005, although this proportion was down 5 percentage points from 2001.

Indoor and outdoor pools were the next most popular venue for children; however, the proportion of South Eastman children using these facilities weekly declined from about 33% in 2001 to about 22% in 2005. The use of recreational and community centres also fell, with the proportion of non-users rising from about 59% in 2001 to about 64% in 2005.

Overall, the usage rates of various community resources in South Eastman were lower than average rates across the UEY-II communities, except for museums, spectator sports events and swimming pools.

About 40% of South Eastman children participated in organized sports on a weekly basis, while weekly participation in unorganized sports reached 67% in 2005. Between 2001 and 2005, participation in organized sports and in music and art lessons declined, while participation in unorganized sports and in community clubs, groups or leadership programs increased. Compared with UEY-II averages, smaller proportions of South Eastman children took part in almost all group activities in 2005, with the exception of community clubs, groups or leadership programs.

The 2005 data confirmed a significant relationship between level of resource use and children's developmental outcomes. For example, children classified as low-level users of community resources were much more likely to have delayed vocabulary development, display signs of emotional problems and exhibit problem behaviours, including indirectly aggressive behaviours.

According to South Eastman PMK, between 2001 and 2005, access to educational resources increased by about 21% (from 43% to 52%), while access to recreational resources fell by about 10% (from 42% to 38%). Overall, the results indicate that the children of this community had low access to community resources, including educational, cultural and recreational ones, compared with average levels across the UEY-II communities.

Slightly different reasons were cited by PMK as top access barriers to community resources in 2001 and in 2005. In 2001, "programs of interest unavailable," "programs [available only] for older children" and "not enough time" were the three most frequently mentioned barriers. In 2005, while "programs of interest unavailable" remained the top reason for non-use of community programs, "not enough time" became the number two barrier and "unaware of programs" became the number three barrier.

The drop in the percentage of South Eastman PMK mentioning lack of availability as a barrier to program or service access is also noteworthy. This may indicate that community service providers have improved access by creating new programs, expanding popular programs and adjusting business hours. In contrast, a higher percentage of PMK in 2005 than in 2001 mentioned lack of program awareness as a major reason for not using programs or services available in the community. Given this finding, service providers may want to consider measures to raise awareness of community resources.

Finally, it is important to note that some institutional barriers remained high and some even increased during the study period. While lack of program availability remained the top access barrier in South Eastman, the percentage of PMK mentioning program costs rose slightly.





## 5. Concluding Remarks

The Communities Survey collects information on a wide battery of child, family and neighbourhood characteristics for the Understanding the Early Years (UEY) communities through interviews with parents and direct assessments of children's cognitive skills. It thus enables us to explore relationships between children's developmental outcomes and various individual, family and community factors. This report has presented results from preliminary analyses of this rich database.

As discussed in Chapter 2 (and Appendix A), numerous studies have examined the relationships between young children's development and resources and processes within the family and community. Studies that analyzed the first round of data collected in the UEY pilot communities have also enriched the existing literature by exploring these relationships within Canadian communities.

Rather than merely corroborate the findings from these studies, a major thrust of the current study has been to discover whether any of the factors and processes affecting early childhood development changed in the community between 2001 and 2005. The other focus has been to assess whether any of these changes have influenced young children's developmental outcomes. Readers can interpret the data results and draw conclusions in light of their own community context, as well as in reference to the existing literature, including findings from previous studies at the UEY pilot sites.

However, results presented here that appear to reflect changes (or no changes) at the community level should be interpreted with caution for a number of reasons. First, the results are based on relatively small samples. Second, the sample of children (and their parents) who participated in the 2001 survey may have different demographic characteristics from those who participated in the 2005 survey. Third, as Willms (2003) points out, UEY was designed to include a broad range of measures so that communities could get a general profile of their young children. To measure change in this context, especially UEY's impact on child development, would require more accurate measurement tools and studies of longer duration. Fourth, the data analyses presented in this report are mostly based on simple, bilateral cross-tabulations. To verify the nature of the relationships between individual, family and community factors and children's developmental outcomes, as well as to infer causal relationships, would require more rigorous analyses, using complex statistical models, or experimental research.

This report has presented only a small proportion of information gathered using the Communities Survey. Much more information can be drawn from this wealth of data through further work designed to address questions such as:

- What are the key factors associated with various children's outcomes as well as with their participation in different activities at home and in the communities?
- How do these factors compare in the way they affect developmental outcomes?
- Do these impacts change as circumstances change?

With the data from the Communities Survey, it is also possible to determine who is more likely to report lack of time or program costs as barriers to use of community resources, who is more likely to use educational, recreational and cultural resources, and whether the profiles of children and their families using different kinds of resources differ.

However, because the Communities Survey was designed to provide a broad picture of the participating communities, it is not an ideal tool for gathering the sort of detailed information required for planning concrete community action. For example, the Communities Survey has helped us identify some of the barriers inhibiting access to early childhood programs and services available in the community. Yet it does not provide information on what barriers are associated with specific community programs or services, what kinds of programs or services parents are looking for but are not yet available, or what types of programs or services are avoided because of their costs. New community-based data collections may have to be initiated in order to acquire such specific information.

A more significant contribution of the Communities Survey may lie in the example it has set for the types of data that need to be collected and the types of data collection strategies that need to be adopted by the community. By presenting data from the Communities Survey, this report is helping the UEY initiative achieve its twin goals of providing community-specific information related to early childhood development and encouraging evidence-based decision making at the community level.

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## **Appendix A**

### **Early Childhood Development: Findings from Research**

The literature on early childhood development is vast. For the purposes of this study, this section provides an overview of studies that focus on four categories of developmental influences. These categories are individual child characteristics, family resources, family processes and opportunity structures. They are similar to the categories illustrated in Figure 2.1.

#### **1. Individual Child Characteristics**

Individual child characteristics refer to a child's biological attributes and to demographic characteristics such as gender and ethnic and cultural background. The emotional, cognitive and behavioural characteristics of the child – which not only influence developmental outcomes but are outcomes in themselves – are also considered in this category.

##### **Gender**

Research has identified gender as an important factor in developmental outcomes. On entering kindergarten, girls are generally slightly better than boys in reading skills and prosocial behaviour (i.e., behaviour intended to benefit others), are about the same as boys in mathematics and general knowledge, and are less likely to exhibit problem behaviours than boys (Maxwell & Clifford 2004). These gender differences are found in Canadian data (i.e., National Longitudinal Survey of Children and Youth – NLSCY) as well as in data from other countries including the United States, the United Kingdom and Australia.

##### **Ethnicity, place of birth and first language**

Children's ethnicity, place of birth and first language are also significant in explaining some differences among young children. For instance, a 2002 study (cited in Noble et al. 2005) found that African American, Hispanic and other children had lower math and reading skills at the beginning of kindergarten than Caucasian or Asian children. Another study found that racial disparities in school readiness are important and can be persistent (Noble et al. 2005). Worswick (2001) finds that Canadian children of immigrants whose first language is either English or French have especially high outcomes in reading and writing compared with those whose first language is neither English nor French.

However, having immigrant parents is not necessarily a risk indicator for psychiatric disorder or poor school performance (Munroe-Blum et al. 1988). Children of new immigrants, despite generally higher poverty rates, are less likely to have mental health problems than non-immigrant children (Beiser et al. 1998). Worswick's study (2001) also shows that immigrant children who initially perform poorly in Canadian schools can catch up with non-immigrant children in reading, writing and mathematics by age 13.

##### **Social competence**

Studies that have examined the social competence of young children (e.g., responsiveness, flexibility, empathy, caring, communication skills and sense of humour) find that these characteristics are very important in child development (Parrila et al. 2002). Prosocial skills result in improved health and well-being, greater participation in the community and active engagement in socially beneficial behaviours, such as sharing, offering help, cooperating, showing concern for others and promoting positive social relationships (Parrila et al. 2002:4). Conversely, antisocial or aggressive behaviour is often associated with negative developmental outcomes. A difficult temperament in infancy has also been linked to later emotional and social problems. For example, boys showing signs of antisocial behaviour in kindergarten were delinquent in adolescence (Bertrand 2001). In contrast, good-natured and obedient children are less likely to manifest behavioural problems such as hyperactivity, physical aggression and oppositional behaviour (Willms 2002).

## **Emotional development**

Studies focusing on emotional development reveal that emotions can also help or hinder the growth of skills in children and are at the centre of children's lives. Emotions affect their sense of well-being, sense of self and understanding of the world (Daly 2004). Emotions provide the basis for human attachments and social interaction with others. Children do best when their self-esteem, self-confidence and self-reliance are nurtured, because "a confident, trusting child, secure in his belief in his own particular abilities and what it is that makes him unique, will play, concentrate, love, give and communicate better" (Daly 2004:23). As well, children with strong emotional skills are less often upset, are more relaxed, are more focused on tasks at hand, are more socially skilled, have fewer behavioural problems, and are in general better prepared for life and learning (Daly 2004).

## **2. Family Resources Factors**

### **Socio-economic status**

A major conclusion from childhood studies is that early childhood outcomes are strongly related to families' socio-economic status. As summarized by Bertrand, "from birth to death, higher socio-economic status is related to better academic achievement, lower rates of illness and even lower rates of accidents and suicides" (2001:4). The term "socio-economic status" refers to the relative position of a family or individual in society, based on access to or control over wealth, prestige and power (Willms 2000). In early childhood research, socio-economic status is often represented by a combination of factors including the family's income, the parents' level of education and their occupation.

Willms (2002) finds that children in high socio-economic status families are less likely than those in low socio-economic status families to score below national averages in vocabulary, mathematics, and motor and social skills. Results from other studies indicate that socio-economic status often affects other aspects of life such as the family environment. For example, it is related to the amount and quality of verbal interactions between parents and children, which ultimately affect children's language and cognitive development (Papalia et al. 2004).

### **Family income**

Among the factors contributing to socio-economic status, family income has received the most attention in studies of child development. Hernandez (1993) emphasizes that the family income indicates the level of economic resources available to a child. Many studies find that family income and wealth are significantly associated with the health and educational performance of children.<sup>7</sup> Ross and Robert (1999) report that over 35% of children in low-income families exhibit delayed vocabulary development, compared with 10% of children in higher-income families. A study of American Indian families also showed that when family income is no longer below the poverty line, there is a significant reduction in behavioural symptoms of oppositional/defiant and conduct disorder (Willms n.d). A recent study by Phipps and Lethbridge (2006) also concluded that higher income is almost always associated with better outcomes for children, particularly cognitive and behavioural outcomes. These findings indicate that a large number of Canadian children face risks associated with low family income. For example, recent statistics from the NLSCY reveal that about 35% of Canadian children experience at least one low-income year, while 11% live in low-income families for at least 5 or 6 years (findings from three cycles of NLSCY data) (Phipps & Lethbridge 2006).

### **Parents' level of education**

The parents' level of education also directly affects a child's health and educational outcomes: the higher the parents' education level, the higher the child's attainment tends to be.<sup>8</sup> Leibowitz (1974) argues that this is because educated parents are likely to spend more quality time with their children than less educated parents. More important, as Parcel and Menaghan (1994) suggest, parental education is perhaps one of the most significant factors affecting a child's developmental outcomes because education reflects the knowledge, experience and aspirations that parents bring to their children.

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<sup>7</sup> For instance, Sewell and Hauser (1975), Cornia (1984), Haveman and Wolfe (1994), Hill and O'Neill (1994), Lipman et al. (1994) and Dooley et al. (1998).

<sup>8</sup> See Haveman and Wolfe (1995) for a review of these studies.

## Parents' labour market participation

The parents' employment and work schedule have also been shown to directly affect a child's health and educational outcomes. Hoffman (1989) explains that parents in dual-earner families place more emphasis than other parents on independence training for children. The research finds that independence is a beneficial characteristic when children are involved in learning activities (Thomas 2006).

## Parents' health

Parents' health, especially the mother's physical and emotional health, can affect the amount and quality of time and attention that parents devote to their children. Since time and attention are instrumental in the healthy development of children, parents affected by depression or addictions will likely negatively impact a child's development. Willms supports this view, explaining that "mothers suffering from post-partum depression can adversely affect the quality of maternal-infant interactions, resulting in poorer social and cognitive developmental outcomes" (n.d.:11). Significant levels of parental depression, especially maternal depression, also increase a child's tendency to develop anxiety and behavioural problems (Landy & Tam 1998). Gerhardt expands on this finding by explaining how mothers who drink, take recreational drugs and have poor eating habits affect their children's stress response, making them overly fussy or temperamental (2004).

The health of the mother also directly affects the health and educational outcomes of her child. For example, children born to healthy mothers tend to have higher birth weights and, as a result, experience fewer health problems (Barrera 1990). Graham (1972) and Schultz (1987) also report that children of healthy mothers are healthier than children of unhealthy mothers. Poor parental mental health has been identified as a risk factor for psychiatric disturbances in immigrant and refugee children (McCloskey & Locke 1995; Mghir et al. 1995).

## Family structure

Studies find that single-parent families, families suffering marital breakdown, families in which the mother gave birth at a young age, and large families with little social support can negatively affect early childhood development. Kohen et al. (1998) and Willms (2002), for example, find that behavioural problems in children are related to many factors including female-headed households, large households and younger maternal age. Willms (2002) also finds that children who live in single-parent families are more likely to have behavioural problems than children who live with teenaged mothers but who have a second parental figure. Additionally, the risk of intellectual delays, as well as mental, emotional or physical health problems, increases for children aged 4 to 11 years who live in single-parent or adolescent-parent homes (Landy & Tam 1998).

Family size affects children's developmental outcomes because siblings compete for the limited time and financial resources of their parents. The larger the number of siblings, the less parental time and money there are for each child (Becker & Tomes 1976). In particular, as Hanushek (1987) suggests, private time spent with individual children, which is necessary to a child's development, decreases as family size increases. However, Hernandez (1989, 1993) argues that siblings who grow up in a large family can share the companionship of childhood, and this can influence childhood development in a positive way.

A number of studies find that single-parent status can have a significant negative impact on children's educational attainment.<sup>9</sup> Krein and Beller (1988) find that this negative effect increases with the number of years spent in this type of family structure, and the impact is greater for boys than girls. Other studies find that single-parent status is strongly associated with psychiatric disorders, poor school performance and social problems.<sup>10</sup> Also, because single parents often have to survive on only one income, they are likely to face more challenges and stress in raising their children (HRSDC and Healthy Manitoba 2003). Children living in single-parent families thus tend to be exposed to more parental stress and, as a result, may feel more distressed, depressed, fearful, sad, rejected and worried than children who live with two parents (Judith et al. 1980, 1989).

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<sup>9</sup> Blau and Duncan (1967), Freeman (1974), Featherman and Hauser (1978), Haveman et al. (1991), Sandefur et al. (1992) and McLanahan and Sandefur (1994).

<sup>10</sup> Dooley and Lipman (1996), Curtis et al. (1996), Dooley et al. (1998) and Curtis et al. (2004).

A mother's age at the birth of her child is associated with the child's developmental outcomes, including health and cognitive skills (Shariff & Ahn 1995; Hill & O'Neill 1994). The older the mother at childbirth, the better the child's developmental outcomes (Dahinten & Willms 2002), with children of adolescent mothers showing less favourable outcomes in most aspects of development. This may be because teenaged mothers tend to have lower socio-economic status and are more likely to raise their children as single parents. According to Parcel and Menaghan (1994), it may also reflect the fact that a mother's maturity, sense of control and patience, which affect child development, all tend to increase with age.

### **3. Family Processes Factors**

The family has tremendous influence on the healthy development of children. It is where children spend the majority of their time, especially in the first 5 years of life, and where they learn skills, values and attitudes that will help them participate in society and build self-esteem (Canadian Council on Social Development 2006).

#### **Parent-child interactions**

Research shows that the most important family processes include parenting style (the ways in which parents interact with their children), the cohesiveness of the family and the extent to which children are regularly engaged in learning activities (Willms 2003; Phipps & Lethbridge 2006). These factors help protect children from the impact of low socio-economic status and may explain why not all children in low-income families are unhealthy and not all children in middle- to high-income families are healthy.

Specifically, studies consistently indicate that positive and authoritarian parenting – by parents who are firm but loving and who set realistic standards as well as clear and consistent rules for their children – is related to better developmental outcomes in health, social competence, academic achievement, school completion, and emotional and behavioural development (Patterson et al. 1989; Chao & Willms 1998; Hoghughi 1998; Landy & Tam 1998; Ross et al. 1998; Feinstein & Symons 1999; Miller et al. 2002; Papalia et al. 2004). On the other hand, Kagan (1994) and Beiser et al. (1998) find that poor parenting (uncaring on the one hand or overprotective on the other) is strongly related to children's emotional and behavioural problems, sometimes more so than other family characteristics. A study by Landy and Tam (1998) finds that parenting practices are crucial to the development of at-risk children, such as those with a teenaged mother or those in a single-parent family, a dysfunctional family or a family with less social support.

#### **Family cohesion**

Research has shown that family cohesion is another important factor affecting healthy child development. Family cohesion refers to how well family members communicate with each other, work together, and how well family members function as a unit. Positive family functioning can help mitigate the influence of other factors in child development, such as family income and family structure (Schaffer 1998). In Canada, while the majority of children grow up in families that are functioning well, there is a small percentage who do not. (Human Resources and Development Canada and Statistics Canada 2000-2001). Children living in dysfunctional families are about 35% more likely to display signs of problematic behaviour such as aggression or difficult temperament than their counterparts living in families that are functioning well (Racine, Y. and Boyle, M. 2002). This relationship between family functioning and behaviour problems is particularly evident when examining the display of signs associated with aggressive behaviours, such as getting into fights, kicking, biting and/or destroying belongings.

#### **Parents' level of engagement**

Parents who are highly engaged with their children have a major influence on their children's development (Rutter 1990). Parental attention during a child's early years – specifically, the extent to which the parent is emotionally available – is particularly crucial to development (Gerhardt 2004). Furthermore, studies find that the time parents spend reading to their children has a significant impact on the children's development regardless of the family's socio-economic status (Willms 2003; FSU Center for Prevention and Early Intervention Policy 2005).

#### **4. Opportunity Structures: Neighbourhood and Community Factors**

As an African proverb says, “it takes an entire village to raise a child.” Researchers also point out that children’s “readiness for school success is a community responsibility, not just the responsibility of parents and preschool teachers” (Maxwell & Clifford 2004:2).

It is true that neighbourhoods and communities have always been at the centre of the learning and developmental activities of young children. They provide opportunities for children to play, learn, and interact with adults and peers by providing important resources and activities such as daycare, schools, libraries, public pools and parenting groups. However, research on community effects has been limited until recently (Connor & Brink 1999). The important role of the community in the development of young children is just beginning to be recognized and explored.

A general conclusion from studies of the role of communities in child development is that both the physical and social characteristics of a community are important (Jencks & Mayer 1990; Canadian Institute for Health Information 2006). These characteristics include physical conditions relating to the risk of injury to children, access to public facilities for children, neighbourhood/community safety (e.g., crime rates), neighbourhood affluence/resources, quality of childcare and schools, community cohesion, quality of role models, participation in community activities and the community’s willingness to intervene for the common good (Connor & Brink 1999; Curtis et al. 2004; Hertzman & Kohen 2003; Canadian Institute for Health Information 2006).

##### **Neighbourhood affluence**

Studies find that neighbourhood affluence is an important community characteristic. Affluent communities often have more resources and opportunities for young children and their families. Hertzman and Kohen (2003) find that a neighbourhood with plentiful resources promotes child well-being by providing stimulating activities. Specifically, their study finds that affluent neighbourhoods can have a positive effect on children’s IQ scores and verbal abilities. Another study (Canadian Institute for Health Information 2006) finds that neighbourhood affluence has a significant impact on children’s health, even after the effects of parental income, demographic characteristics and health factors are taken into account. Willms also concludes that “children’s development is more likely to flourish if families have access to educational, cultural and recreational resources: These are important not only because they contribute directly to children’s development, but also because they foster social support and increase social capital within the community” (2003:34).

##### **Childcare quality**

Childcare is second in importance to the family as the place where most early childhood development occurs, and over the years there has been an increasing reliance on childcare by non-relatives (Shonkoff & Phillips 2000). The quality of childcare is thus an important factor in the overall quality of community educational resources. Quality in childcare is defined by the types of interactions between children and care providers, resources within the care environment and the types of activities children are engaged in while in care.

The influence of childcare on child development can be positive or negative, depending on the quality of care (Friendly et al. n.d.). Studies find that children attending high-quality care tend to be more confident and self-regulated, while those attending low-quality care tend to be less cooperative and exhibit more behavioural problems (Doherty 1991; Connor & Brink 1999; Gagné 2003). High-quality childcare can also protect children against the effects of negative family experiences (Shonkoff & Phillips 2000) or low socio-economic status. A study by Raver and Knitze (2002:13) finds that low-income children in high-quality childcare are significantly better off, cognitively and emotionally, than similar children in poor-quality settings. In general, children attending centre-based care demonstrate higher cognitive and language outcomes and a higher level of school readiness than children in other types of settings (Connor & Brink 1999; O’Brien et al. 1994; Lipps & Yiptong 1999).

## **School environment**

Schools are an integral part of any community. Since children spend a great deal of time in school, their experiences there can have a major impact on their overall well-being. This impact is so profound that it has been claimed that education is key to children's capacity development (Canadian Council on Social Development n.d. B).

A number of factors influence a child's success in school. For instance, research has shown that successful children are those who were nurtured or stimulated prior to entering school. Within the school setting, it is how teachers interact with children that ultimately affects children's social and emotional outcomes (Raver & Knitze 2002). This interaction in turn can be affected by the way children behave. Children who act in antisocial ways tend to be less accepted by classmates and teachers, and receive less instruction and positive feedback (Raver & Knitze 2002). Teachers themselves can also perpetuate high levels of misbehaviour from children by ignoring problem behaviours or dealing too harshly with them (Raver & Knitze 2002).

There are 10 key ways that schools and/or communities can assist childhood development (Maxwell & Clifford 2004:2).

- Smooth the transition between home and school.
- Strive for continuity between early care and education programs and elementary schools.
- Help children learn and make sense of their world.
- Make a commitment to every child's success.
- Show they are committed to every teacher's success.
- Introduce and expand strategies that have been shown to improve achievement.
- Function as learning organizations that change their practices if they do not help children.
- Serve children in communities.
- Take responsibility for results.
- Maintain strong leadership.

## **Community cohesion**

Cohesive communities – those whose members are well connected and identify strongly with the community – have an important positive influence on child development and contribute to improved outcomes (Canadian Council on Social Development 2006). These communities offer parents and children an opportunity to interact with one another and with other families to share information, reduce uncertainty and lessen parental anxiety (Moore 2005). Children who grow up in this type of environment tend to be more prosocial. As Parrila et al. note, “parents that rated their neighbours as better role models or as more supportive or helpful tended to rate their children as more prosocial” (2002:35). Wilson (1987) also finds that neighbours' socio-economic status, educational level and performance, and values can influence children's ambition and drive.

## **Social support**

Research also shows that neighbourhoods that have high levels of engagement and are willing to intervene for the common good tend to be better places to raise children. This is because “(a) the high local expectations for informal social control and mutual support of children allow child surveillance and other parenting tasks to be shared with neighbours, and (b) parents are linked to each other through their participation in community activities, including organized worship and support of local schools” (Jones et al. 2002:7). In contrast, an absence of community networks often results in family isolation, lower levels of trust between neighbours and lack of political mobilization, all of which can lead to fewer amenities (Jones et al. 2002).

## **Peer interactions**

Children's peers are another important element in child development. They are part of the process of growing up and help children learn how to interact with others. Establishing relationships with others is one of the most important developmental tasks of early childhood, and the preschool years are a time

when social skills expand dramatically. The socialization process is so important during this stage of life that “the success with which young children accomplish this objective can affect whether they will walk pathways to competence or deviance as they move into middle childhood and adolescent years” (Shonkoff & Phillips 2000:180). Socialization teaches children the standards and values of society and allows them to become integrated into their larger social world (Daly 2004).

At 9 to 12 months of age, infants begin to watch other people, thus starting the socialization process (Shonkoff & Phillips 2000). Attachments developed early in life can lay the foundation for later social relationships and happiness. As Daly states, “no one can become fully human without social experiences” (2004:134). Close friendships have been linked to better social and academic outcomes (Canadian Council on Social Development 2006). Friendships also increase self-esteem and feelings of self-worth (Daly 2004). On the other hand, being rejected as a child is related to psychiatric problems and poor academic achievement (Shonkoff & Phillips 2000). However, it is not close friendships in themselves that are important to healthy development; these friendships have to be with prosocial peers.

## **5. UEY Findings on Neighbourhood and Community Factors**

At the core of the Understanding the Early Years (UEY) research is an intent to discover the relative importance of individual, family and community factors in the development of young children and their readiness to learn. The purpose is to provide communities with critical insights into what actions might be most effective in further improving children’s outcomes.

The results from the UEY pilot sites show that schools with the best average school population scores – assessed using the Early Development Instrument (EDI) – tend to be located in neighbourhoods with few socio-economic risk factors, while those with poorer average school population scores are often in the higher-risk areas. However, the spatial distribution of outcomes does not entirely match socio-economic status patterns. The average school population score in several low-risk neighbourhoods is unexpectedly low on all components of development assessed using the EDI, while the average school population score in some higher-risk neighbourhoods is high on many of the components of development. This observation indicates that many children in relatively poor areas are faring quite well compared with some children in affluent areas.

Analyses of the unique roles of the community in children’s developmental outcomes identified a number of community characteristics as being more important than others. They include neighbourhood quality and safety, the length of time residents live in the community (i.e., neighbourhood stability), social support (from family members and friends), social capital (support available collectively to groups within a community) and access to and use of community resources.

A general finding is that different community characteristics have an impact on different aspects of child development. For example, children in families receiving a high level of social support are less likely to be at risk in the cognitive domain, and living in a neighbourhood with a high level of social capital is associated with an increase in positive behavioural outcomes. As well, children living in neighbourhoods that contain many families with children are more likely to be well behaved, possibly because of the opportunities for social interaction.

Better outcomes are also seen in children who are more involved in their communities through their use of libraries, book clubs and educational centres, as well as those whose parents are involved in voluntary organizations. For example, families that make use of recreational, educational and leisure facilities have children with better cognitive scores. Vocabulary development is influenced by children’s use of community educational resources such as libraries, book clubs, literacy programs, educational centres or workshops. Other factors affecting vocabulary development are parental use of family and parent resource centres, as well as the mother’s education and the child’s knowledge of English. On the other hand, children of families who feel they encounter many barriers to participation in community programs and services achieve lower scores on learning assessments.



The UEY study data show that the average use of community resources is rather low, at 3.4 on a 10-point scale, even though about 70% of parents reported that most educational resources are within walking distance or are a short drive or bus ride away. About 50% said the same with respect to community cultural and recreational resources. The North York study, for one, found that participation rates in community educational resources, recreation centres and organized sports seem to be associated with family characteristics: mothers' educational level, household income, and parental employment, first language and immigrant status.

According to parents, the biggest barriers to using community resources are time, program costs and lack of knowledge about the availability of programs and services. However, barriers may also include physical and social obstacles. The effects of barriers are identifiable and cumulative, and pose a real problem for many families: the more barriers a family faces, the more likely their children are to experience problems.

The UEY findings suggest that the extent to which a community can promote developmental opportunities for young children is determined by both the nature of its offerings and its commitment to ensuring their availability. Just as important as the availability of the programs is the community's effort to ensure a sense of community and promote the message that opportunities are available to all children and families. The findings emphasize the need to promote social interaction and integration within a community, raise awareness about the importance and availability of community resources, ensure that resources are available and address access barriers.

In summary, the family has an extremely important role to play in a child's development. Research indicates that "during the pre-school years, the important [family] factors are parenting skills, the cohesiveness of the family unit, the mental health of the mother, and the extent to which parents engage with their children, especially in reading to the child" (Willms n.d.:30). Furthermore, although demographic characteristics of the family – such as household income and parental education and employment – play an important role in development, there are strong effects associated with approaches to parenting, engagement in the community, use of resources, neighbourhood social capital and social support that are independent of family demographics (Willms 2005:25).