Understanding the Early Years:

Selkirk-Interlake, Manitoba

A Community Research Report

Prepared for:
Human Resources and Skills Development Canada

J. DOUGLAS WILLMS
KSI RESEARCH INTERNATIONAL INC. WITH
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EXECUTIVE SUMMARY

The Selkirk-Interlake Understanding the Early Years (UEY) project includes the kindergarten children from the Lord Selkirk School Division region and their families. The region covers a geographically diverse and unevenly populated area north of Winnipeg, Manitoba, stretching along both sides of the Red River, from the southern suburban communities of Lockport and St. Andrews; through the farming areas of Clandeboye, Petersfield, East Selkirk, and Libau; to the lakeshore communities of Grand Beach and Victoria Beach on Lake Winnipeg. Data from the 2006 Canadian Census indicated that Selkirk-Interlake had a population of about 28,000, which included about 6,600 children and youth aged 0-18. Of these, 1,500 were children aged 0-5.

The Lord Selkirk School Division offers a wide variety of programs and services for its approximately 5,000 students. The Selkirk-Interlake UEY project is being hosted and managed by this school division. It includes a Hutterite colony school, a French Immersion school, and a Ukrainian bilingual school. The community is proud of its cultural heritage which includes the Brokenhead Ojibway Nation, the Scottish pioneers, the Netley Hutterite Colony, the French Canadian voyageurs, and the Ukrainian settlers.

Understanding the Early Years is a national initiative aimed at strengthening the capacity of communities to use quality local research to help them to make decisions to enhance children's lives. This report is based on information collected during the 2008-09 school year with the *Parent Interviews and Direct Assessments of Children Survey (PIDACS)* in the community of Selkirk-Interlake, as well as 2006 Canadian Census data. The PIDACS provides information on developmental outcomes of children and their families and neighbourhood environments and experiences.

The City of Selkirk is the hub of the region for economic, medical, social, and educational activities. Regional services are provided by the Selkirk and District General Hospital, Selkirk Mental Health Centre, Red River North Regional Library, Nova House Shelter for Women, Selkirk Friendship Centre, Growing Years Family Resource Centre, Selkirk and District Chamber of Commerce, and others.

One of the challenges of service provision in the region is trying to reach families across the vast area covered by the region. Many of the families that live outside the City of Selkirk are unable to attend the parenting, nutrition, family literacy, and children's day programs. Another challenge is that local early childhood development programs, which are found mostly in the City of Selkirk, are often over-subscribed, reaching less than 20% of the children aged 0-5. A priority of the community is to create more programs in the region and increase awareness of existing programs.

The data in this report, which were collected from parents and their kindergarten children using the PIDACS, are a snapshot from late 2008 to early 2009 of the lives of kindergarten children whose parents agreed to participate in the survey. The 189 parents who were interviewed and 206 children who completed the direct assessments provide information on how kindergarten children in Selkirk-Interlake are doing. Other local information available through the UEY project includes the results of kindergarten teacher assessments of children's development using the *Early Development Instrument*, information on the availability and accessibility of programs and services, and data from the Canadian Census

describing local socio-economic characteristics. Taken together, these data can be used to start conversations in the community about the implications of the research and the needs of children in Selkirk-Interlake. This process can help communities develop a community action plan aimed at addressing the needs of the community.

The 2006 Canadian Census data indicated that the average family income of the community was about $79,000, which was slightly below the Canadian average of $82,000. However, at $70,000, the median income in Selkirk-Interlake was above the national median of about $66,000. The unemployment rate and the prevalence of families with incomes below $30,000 were below the national averages.

About 17% of mothers surveyed were experiencing depression, which was well above the Canadian PIDACS average of 10%. Also, only 46% of parents considered their neighbourhoods to be of high quality, which was considerably lower than the Canadian average of 77%. Despite these issues, the prevalence of parents displaying positive parenting practices was comparable to the Canadian average, but the rate of parents reading daily to their child was below the Canadian average. Also, children tended to be actively engaged in unorganized sports, with an average rate of 4.6 times per week, and their use of entertainment and cultural resources was comparable to the Canadian average. An important concern was that the kindergarten children in this community watched television or videos on average about 1.9 hours per day, which was well above the Canadian average of 1.6 hours per day. This finding was coupled with a relatively low use of libraries and book-mobiles.

The most prominent barriers to participation in children's programs were that programs were not available at convenient times (54%), parents were unaware the resource was available (47%), programs were only available to older children (41%), parents felt that there was not enough time (41%), and that programs were too costly (39%).

About 62% of the families in this community used some form of child-care arrangement while working or studying. The most frequently used type of care was care in someone else's home by a non-relative.

This study shows that most kindergarten children in Selkirk-Interlake were generally faring well; the average score on receptive vocabulary was comparable to the Canadian PIDACS average, and the average scores on assessments of pre-literacy skills and number knowledge were considerably higher than the Canadian averages. The prevalence of children with behavioural problems in Selkirk-Interlake was comparable to the Canadian average, as was the prevalence of children with significant health problems based on assessments of general health, asthma, allergies and other chronic conditions.

As the community works towards developing its action plan, it can consider the strengths and weaknesses uncovered by this local research. The UEY initiative stresses the importance of a coordinated approach that involves families, teachers, and the wider community to determine the best programs and services to meet children's needs during their formative years.

I

INTRODUCTION

I. INTRODUCTION

A. SELKIRK-INTERLAKE, MANITOBA - MILIEU FOR YOUNG CHILDREN'S DEVELOPMENT

Research based on the earlier Understanding the Early Years (UEY) studies and the National Longitudinal Survey of Children and Youth has shown that the social and economic context of the community and the socio-economic demographics of the population are helpful in understanding the factors that may contribute to children's developmental outcomes.

The Lord Selkirk School Division region comprises a geographically diverse, unevenly populated area located north of Winnipeg, Manitoba. The region stretches along both sides of the Red River, from the southern suburban communities of Lockport and St. Andrews; through the farming areas of Clandeboye, Petersfield, East Selkirk, and Libau; to the lakeshore communities of Grand Beach and Victoria Beach on Lake Winnipeg. The historic City of Selkirk sits as the hub of the region. These communities encompass 1,760 square kilometers.

The communities of the Lord Selkirk School Division region celebrate the proud heritage and culture of the region – including the Brokenhead Ojibway Nation, the Scottish pioneers, the Netley Hutterite Colony, the French Canadian voyageurs, and the Ukrainian settlers.

When the 2006 Canadian Census was taken, the population of Selkirk-Interlake was approximately 28,000 (see Table 1-1). There were about 6,500 children and youth from ages 0 to 18, and of these about 1,500 were children aged 0 to 5 years. Selkirk-Interlake had levels of family income that were comparable to the rest of Canada; the average income was about $79,000 while the median income was about $70,000. The unemployment rate was also relatively low: 4.8% compared with the Canadian rate of 6.6%. The level of post-secondary education of adults was lower than the national average.

The 2006 Canadian Census data also showed that Selkirk-Interlake had a relatively large Aboriginal population, at 18.5%. Between 2001 and 2006 less than 1% of its population were recent immigrants. About 10% of the residents of Selkirk-Interlake had moved during the year preceding the 2006 Canadian Census, a rate that was considerably lower than the national average.

The children of the region attend school in one of the 16 schools in the Lord Selkirk School Division. Serving a population of approximately 5000 students, the Division offers a wide variety of programs and services. The schools include a Hutterite colony school, a French Immersion school, and a Ukrainian bilingual school. The majority of children outside the City of Selkirk travel to school by bus.

TABLE 1-1. 2006 Census Profile for Selkirk-Interlake compared with Manitoba and Canada

	Selkirk-Interlake	Manitoba	Canada
Total population	27,705	1,133,515	31,241,030
Number of children ages 0-18	6,555	280,045	7,154,210
Number of children ages 0-5	1,530	79,460	2,013,065
Average family income (economic families)	$79,020	$72,240	$82,325
Median family income (economic families)	$70,378	$60,754	$66,343
Economic families with income below $30,000 (%)	12.9	16.8	15.1
Education - Population 15 years and older with:			
No certificate, diploma or degree (%)	27.1	29.5	23.8
High school or equivalent (%)	27.4	26.7	25.5
Post secondary education (%)	45.5	43.8	50.7
Unemployment Rate (% adults 15 years and over)	4.8	5.5	6.6
Moved residence within previous year (%)	10.0	13.5	14.1
Aboriginal population (%)	18.5	15.5	3.8
Immigrated 2001-2006 (%)	0.3	3.0	3.6

Source: Statistics Canada custom tabulations from the 2006 Census

Note. The term "economic family" refers to a group of two or more persons who live in the same dwelling and are related by blood, marriage, common law or adoption. The term "post-secondary education" refers to any education following high school completion, such as education in vocational colleges, community colleges and universities.

The economy of the Selkirk-Interlake is dependent on the manufacturing, agriculture, and tourism industries. There is a common bond among the residents of the region because of shared services and activities. Selkirk is the centre of the community for economic, medical, social, and educational activities. Important regional services are provided by the Selkirk and District General Hospital, Selkirk Mental Health Centre, Red River North Regional Library, Nova House Shelter for Women, Selkirk Friendship Centre, Growing Years Family Resource Centre, Selkirk and District Chamber of Commerce, and others.

The vast area covered by the Lord Selkirk School Division region is a concern for community service providers. Reaching parents who live outside the City of Selkirk and who do not drive requires considerable time and resources. Many of these parents are not participating in the parenting, nutrition, family literacy, and children's day programs that are available in the urban centre. One challenge facing the Lord Selkirk School Division is that local early childhood development programs, which are found mostly in the City of Selkirk, are often over-subscribed, reaching less than 20% of the children aged 0-5 in the community. Therefore, a priority of the community is to create more programs for young children and their families, and increase awareness of the existing programs.

B. WHAT THIS STUDY IS ABOUT

Background: Understanding the Early Years Initiative

There is increasing evidence to support the importance of investing in the early years of children's development. Recent research shows that the formative years are critical, and that the kind of nurturing and stimulation that children receive in their early years of life can have a major impact on the rest of their lives. The evidence also suggests that neighbourhoods and communities in which children grow up and learn influence their development; these neighbourhoods affect parents' ability to provide a positive family environment and the ability of others in the community to support the development of children as they grow up.

Among neighbourhoods, communities and regions across Canada, policies and programs to enhance children's early development differ in important ways. They are shaped by a broad policy community that includes families, the private and voluntary sectors, and governments at local, provincial, territorial and federal levels. Gathering community-specific information on children and the places in which they are raised can help the community design policies and deliver programs that are sensitive and responsive to local needs. *Understanding the Early Years (UEY)*, a national initiative funded and managed by Human Resources and Skills Development Canada, is contributing to this process.

UEY's overall purpose is to enable members of communities to work together to address the needs of young children by:

- Raising family and community awareness of the importance of family and community factors that can influence young children's development; and by
- Strengthening their ability to use local data to help them to make decisions to enhance children's lives.

The Initiative provides three years of funding to community-based, not-for-profit organizations, on behalf of their communities, to help them to learn to generate and use local information on:

- the development of kindergarten (the year before Grade 1) children;
- family and community factors that influence children's development;
- local programs and services for young children and their families; and
- local socio-economic characteristics.

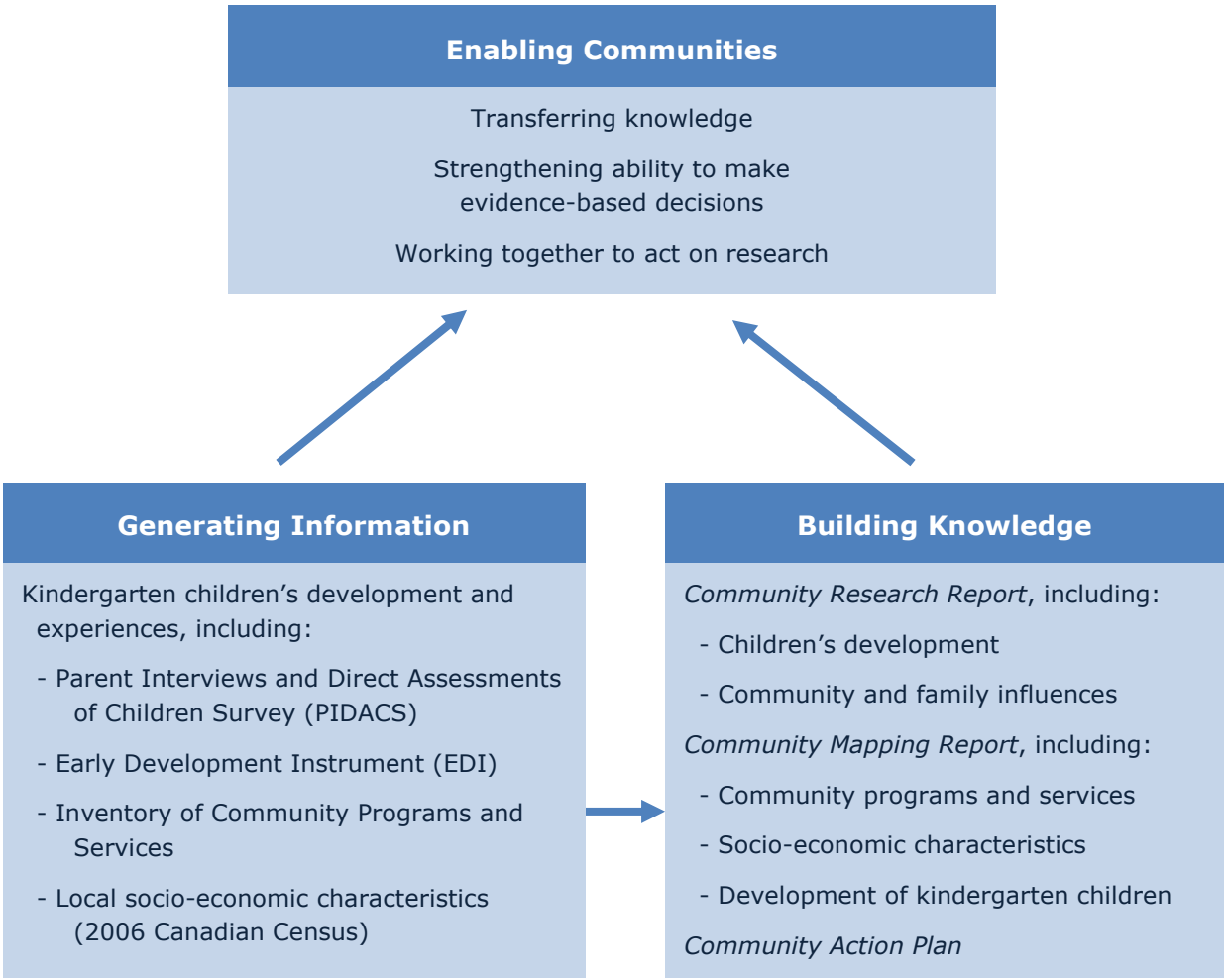
This information enables local UEY project staff, the UEY community coalition of organizations and individuals, and other community members to develop approaches to enhance the development of young children by building on the community's strengths and by addressing weaknesses in programs and services. Moreover, the information fosters partnerships among community groups and individuals, enabling them to make informed decisions on the best approaches for young children to thrive.

Each community project involves the participation of parents, teachers, schools, school boards, community organizations, and others interested in the well-being of children. UEY communities include children from diverse cultural, linguistic and economic backgrounds.

UEY was launched in 1999 as a research initiative to enhance knowledge of community factors that influence the early development of children. It began with a pilot initiative in North York, Ontario and included 12 community projects by 2002. In 2004, UEY became a national initiative. Twenty-one community projects began their three years of UEY activities in 2005, another 15 projects began in 2007, and one First Nations project began in 2008. This report, *Understanding the Early Years: Selkirk-Interlake, Manitoba*, presents results for one of the 15 community projects that started UEY in 2007. Please see Appendix A for a list of all the UEY communities.

Figure 1-1 illustrates key components of the UEY Initiative and how it works in participating communities.

FIGURE 1-1. Key Components of the UEY Design



C. HOW THE STUDY WAS CONDUCTED

This report for Selkirk-Interlake is a key piece of the local research made available to the community through the UEY Initiative. It highlights findings from the information collected from parents and children using the *Parent Interviews and Direct Assessments of Children Survey*, and presents them in the context of the social and economic characteristics of the community. The total set of UEY information includes parents' and teachers' perspectives on the development of kindergarten children, direct assessment results on kindergarten children's cognitive abilities, parents' perspectives on family circumstances and children's experiences, local information on programs and services, and local socio-economic characteristics. Table 1-2 indicates the types of data and their sources for UEY Selkirk-Interlake.

TABLE 1-2. Types of UEY Information and Data Sources

Type of Information	Data Source	Collected By
Development of kindergarten children		
Parents' perspectives	Interview with parents using the *Parent Interviews and Direct Assessments of Children Survey*	R.A. Malatest & Associates Ltd., under contract to Human Resources and Skills Development Canada
Children's abilities	Three direct assessments of children's cognitive abilities using the *Parent Interviews and Direct Assessments of Children Survey*	R.A. Malatest & Associates Ltd., under contract to Human Resources and Skills Development Canada
Teachers' perspectives	Teacher-completed checklist, the Early Development Instrument	The Offord Centre for Child Studies at McMaster University, Hamilton, Ontario, as part of an initiative of Healthy Child Manitoba
Family circumstances and children's experiences at home and in the community	Interview with parents using the *Parent Interviews Direct Assessments of Children Survey*	R.A. Malatest & Associates Ltd., under contract to Human Resources and Skills Development Canada
Information on community programs and services	*Inventory of Community Programs and Services*	UEY Selkirk-Interlake
Local socio-economic characteristics	2001 and 2006 Canadian Censuses (and other available data)	Statistics Canada

The parent and child data in this report are from the *Parent Interviews and Direct Assessments of Children Survey* collected during the 2008-09 school year. The social and community contexts of the Selkirk-Interlake community, presented in the Introduction,

were provided by the local UEY project staff and developed from 2006 Canadian Census data.

Parent Interviews and Direct Assessments of Children Survey

The *Parent Interviews and Direct Assessments of Children Survey* (PIDACS) uses instruments designed for and adapted to five-year-olds in the National Longitudinal Survey of Children and Youth.[1] It has two complementary components: the PIDACS parent interviews and direct assessments of children's cognitive development. Together, they provide information on children's developmental outcomes in three domains: learning, social skills and behaviour, and physical health and well-being. Additional information is also collected on many of the important family, neighbourhood, and community factors that are known to influence these outcomes.

The PIDACS parent interview is conducted with the 'person most knowledgeable' (PMK) of the child, which is usually the mother or female guardian. In less than 10 per cent of the families surveyed, the PMK is the father or male guardian. The interview is conducted on the telephone or on the Internet; in-person interviews are conducted when the other options are not feasible. Parents are interviewed in the language of their choice when possible. The interview covers family, social and economic circumstances, children's activities at home, and involvement in the community, including child-care arrangements. The interview also includes questions on the child's behaviour and development, including positive social behaviour, anxiety, depression, physical aggression, and physical health and well-being.

The PIDACS direct assessments are conducted with the child by a trained assessor at the child's school. The assessments include measures of children's receptive vocabulary, copying and printing skills related to early literacy, and number knowledge. The instruments used to assess these skills are described in greater detail later in this report. The data from the PIDACS direct assessments can be used with the data from the PIDACS parent interview to describe children's outcomes in three domains: learning, which includes general knowledge, language development and cognitive development; social skills and behaviour; and physical health and well-being.

[1] The National Longitudinal Survey of Children and Youth is a comprehensive, longitudinal survey designed to measure and track the well-being and life experiences of Canada's children and youth as they grow up. It has been collecting data every two years since 1994. The Survey is conducted by Statistics Canada and sponsored by Human Resources and Skills Development Canada.

The PIDACS target population in each UEY community was children who entered kindergarten in autumn 2008. In most UEY communities, including Selkirk-Interlake, all the eligible children and their parents were invited to participate; in communities with more than 600 kindergarten children, a sample was drawn with the intention of representing the kindergarten population. The data collection occurred from late autumn 2008 to spring 2009. Thus, the vast majority of the children was five or six years old at the time of the data collection. In Selkirk-Interlake, 189 parents or guardians were interviewed, and 206 children were administered the PIDACS direct assessments. The average age of this sample of children in Selkirk-Interlake was 5 years, 4 months.

The PIDACS sample size for Selkirk-Interlake is sufficiently large to provide accurate estimates of the mean scores for the measures of children's outcomes and for various aspects of family and community context. For example, on the measure of receptive vocabulary, the average score in Selkirk-Interlake was 101.1. The standard error of this estimate, which provides an indication of how accurately the estimate was measured, is 0.9. If one could repeat the study a number of times, the estimates of the mean would lie within a range of plus or minus two standard errors, or between 99.3 and 102.9, about 19 times out of 20. All comparisons were tested for statistical significance at this level of significance ($p < 0.05$).

Generally when an estimate of a *statistic*, such as the difference between the mean for the community and the national average, is statistically significant it is not necessarily of substantive importance. This is often the case when sample sizes are large. Therefore, the reader is urged to consider the results for estimates that are statistically significant in substantive terms; for example, ask whether the difference in the percentage of children is important relative to the community's goals. Conversely, when sample sizes are small, an estimate may not be statistically significant, even though the results appear to be substantively important. This occurs, for example, in some of the cross-tabulations in this report when the cell size for a sub-population, such as unemployed fathers, is small. In that case, the difference in kindergarten children's outcomes between employed and unemployed fathers may appear large but is not statistically significant. In this case one cannot claim that the difference is important, as it may be simply attributable to sampling error.

The accuracy of the PIDACS data can be strengthened by weighting the data to make them representative of the entire population of kindergarten children in Selkirk-Interlake. Not all families participated in the study, and it is possible that the families that agreed to participate differ in systematic ways from those that did not participate. Therefore a sample design weight was constructed to compensate for potential biases that might have resulted from non-response. For example, if only 8% of low-income families participated, a sample weight would make the data reflect the 10.8% actual incidence of low-income in a community. This was achieved by comparing the distribution of a measure of socio-economic status (SES) (derived from family income, years of education, and types of occupations) for the completed interviews and direct assessments for Selkirk-Interlake with the distribution of SES of the target population based on 2006 Canadian Census data. The design weights remove bias associated with SES by weighting the responses of families differentially, such that the weighted sample has the same SES distribution as the 2006 Canadian Census.

The PIDACS indicators developed for this study were carefully examined to ensure that they were valid and reliable measures of the concepts being assessed. Validity refers to whether an instrument is measuring what it is intended to measure. For example, the PIDACS assessment of receptive vocabulary uses the Peabody Picture Vocabulary Test – Revised (PPVT-R). A number of studies have shown that receptive vocabulary is a moderately strong predictor of early reading skills.[2]

Reliability refers to the consistency of a measurement process. For example, if a child were assessed using a particular measure, and then reassessed the next day following the same procedures, would the two scores be the same or similar? Reliability is closely related to validity, because acquiring evidence of the consistency of measurement requires that the various tasks or items observed are valid indicators of the underlying concept. The PIDACS instruments were carefully selected from those used in previous studies, including the UEY pilot studies and the National Longitudinal Survey of Children and Youth, to ensure that they are valid measures with high reliability.

The interpretation of each community's PIDACS results is strengthened by comparing the results to the Canadian PIDACS average. The Canadian average for each indicator was estimated with PIDACS data collected in the first 21 UEY communities in 2006-07 (a total sample of 8,834 children). The socio-economic composition of the full set of these 21 UEY communities (based on family income, years of education and types of occupations) is very similar to that of the Canadian population of families with young children, based on 2006 Canadian Census data. However, to strengthen the comparisons, a design weight was constructed to increase the accuracy of the PIDACS UEY-21 estimates as national norms.

In statistical analysis of survey data, weighting is often applied to make the sample more like the population under study. The weighting process to make the UEY-21 data representative of the Canadian population was achieved by linking the UEY-21 data to the 2006 Canadian Census data using geographic information, derived from the postal codes, that exists on both sets of data. The weights were constructed such that the weighted UEY-21 data have the same distribution of socio-economic characteristics as the full population of Canadian children. These design weights were then used in estimating the national averages of each PIDACS indicator. These approximated national averages are used for comparative purposes in this report, referred to as 'Canadian PIDACS average' or denoted as 'Canada (PIDACS)' in the tables and graphs.

The use of PIDACS to provide information to communities has a number of strengths, but it also has some limitations. The survey provides reliable and valid information on children's cognitive, behavioural and health outcomes, and a wide range of family, neighbourhood and community factors for each community. The results can be easily interpreted, and used in conjunction with the *Community Mapping Report* to develop the *Community Action Plan*.

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[2] Scarborough, H. S. (1998). Early identification of children at risk for reading disabilities: Phonological awareness and some other promising predictors. In B. K. Shapiro, A. J. Capute, & B. Shapiro (Eds.), *Specific reading disability: A view of the spectrum* (pp. 77-121). Hillsdale, New Jersey: Erlbaum.
Schatschneider, C., Fletcher, J., Francis, D., Carlson, C., & Foorman, B. (2004). Kindergarten prediction of reading skills: A longitudinal comparative analysis. *Journal of Educational Psychology, 96*(2), 265-282.

However, PIDACS cannot measure in detail all aspects of children's outcomes, as the administration time for the three direct assessments was about 30 minutes, which is appropriate for children this age. The PIDACS parent interview is very extensive, but it too cannot cover all aspects of family and community life. Another limitation is that the sample size for each UEY community is not sufficiently large to accurately determine which family and community factors have the strongest relationship with the various developmental outcomes. An analysis of these relationships will be provided in an integrated report that uses data from communities funded in 2005 and 2007.

Finally, UEY is a descriptive study designed to provide a rich description of the family and community factors that affect childhood outcomes. Research aimed at understanding the causal relationships between these factors and childhood outcomes requires longitudinal studies that follow children over several years, such as the National Longitudinal Survey of Children and Youth and Ontario's Better Beginnings Better Futures Program,[3] and studies that involve the random assignment of communities to treatment and control groups.

The PIDACS data collection was conducted by an independent contractor, R. A. Malatest & Associates Ltd., hired by Human Resources and Skills Development Canada. The collection was done in collaboration with participating parents, school boards, schools, and local UEY staff. The analysis of the data and the preparation of the reports were sub-contracted by R.A. Malatest & Associates Ltd. to KSI Research International Inc., which was responsible for analysing the data and writing community-specific research reports for each of the UEY communities. This report is one of these.

Another key piece of information for this community was collected from kindergarten teachers, who provided their perceptions of children's development using the *Early Development Instrument (EDI)*. Teachers completed the checklist between February and March 2009. The EDI provides information at a group level for five domains of children's development: physical health and well-being; social competence; emotional health and maturity; language and cognitive development; and communication skills and general knowledge. The instrument was developed by the Offord Centre for Child Studies at McMaster University in Hamilton, Ontario.

The 2009 EDI collection for Selkirk-Interlake was carried out by the Offord Centre for Child Studies at McMaster University as part of an initiative of Healthy Child Manitoba. Through a contract with the Offord Centre, the Selkirk-Interlake UEY project was provided with EDI results which will be presented in their community mapping report and will inform the development of their action plan; however, the EDI results are not included in this report.

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[3] Peters, R. DeV., Arnold, R., Petrunka, K., Angus, D. E., Brophy, K., Burke, S. O., Cameron, G., Evers, S., Herry, Y., Levesque, D., Pancer, S. M., Roberts-Fiati, G., Towson, S., & Warren, W. K. (2000). *Developing Capacity and Competence in the Better Beginnings, Better Futures Communities: Short-Term Findings Report*. Kingston, Ontario: Better Beginnings, Better Futures Research Coordination Unit.

D. PORTRAIT OF THE KINDERGARTEN CHILDREN'S FAMILIES

PIDACS includes a number of measures of the family backgrounds of the children in the study. Factors which have been found to be relevant to many children's outcomes in other studies include family income, the level of education of the parents, the employment status of the parents, and family structure. In addition, the survey also includes variables indicating immigrant status and Aboriginal background. These factors are discussed below, comparing the Selkirk-Interlake results for family income, parents' employment, parents' level of education, and family structure to the Canada averages derived from the UEY-21 PIDACS data. Other demographic characteristics are compared to the national average derived from the 2006 Canadian Census.

Family Income

National research based on the National Longitudinal Survey of Children and Youth indicates that family income has an influence on children's developmental outcomes. The results for receptive vocabulary among 4- and 5-year-olds suggest that the relationship is curvilinear, with scores increasing steadily for families with annual incomes between $10,000 and $30,000; however, for annual incomes above $30,000, the relationship is relatively weak.[4] Results from the 2006 Canadian Census show that 15.1% of Canadian children were living in families with annual incomes below $30,000 (see Table 1-1). Several US studies have examined the effects of living in low-income families, and have compared the effects on children when they are in their pre-school years versus when they are older.[5] The results suggest that the risk associated with living in a low-income family increases with the length of time a family is in poverty, and that generally the effect during the early years is more detrimental to children than during their primary or secondary school years.[6]

The median family income of the families in the Selkirk-Interlake PIDACS sample was $64,300, which was below the Canadian PIDACS median of $73,800. (The average income for the PIDACS is not reported, as the sample means can be strongly influenced by outliers.) About 32% of the children surveyed were living in families with annual incomes below $30,000. The Canadian PIDACS average was 16%.

Family income is not the sole determinant of children's developmental outcomes, but children living in poor economic circumstances often face challenges in the behavioural and learning domains when they begin school.

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[4] Willms, J. D. (2002). Socioeconomic gradients for childhood vulnerability. In J. D. Willms (Ed.), *Vulnerable Children: Findings from Canada's National Longitudinal Survey of Children and Youth* (pp. 71-102). Edmonton, Alberta: The University of Alberta Press.

[5] Duncan, G. J., Brooks-Gunn, J., & Klebanov, P. K. (1994). Economic deprivation and early child development. *Child Development*, *65*, 296-318.

[6] McLeod, J. D. & Nonnemaker, J. M. (2000). Poverty and child emotional and behavioral problems: Racial/ethnic differences in processes and effects. *Journal of Health and Social Behavior*, *41*(2), 137-161.

Parents' Employment

National findings from the National Longitudinal Survey of Children and Youth showed that children's behavioural and health outcomes are unrelated to parental employment, after controlling for other family demographic factors, such as income and parental education. However, children's level of receptive vocabulary is related to mothers' employment; children whose mothers were unemployed were more likely to have low receptive vocabulary scores.[7] For mothers, there appears to be a trade-off: mothers who are not employed have more time to be engaged with their child, but they are also more likely to experience depression.[8] Later in this report, results describing levels of parental engagement and maternal depression are presented.

In Selkirk-Interlake, 30% of the mothers surveyed were not employed. This was comparable to the Canadian PIDACS percentage of mothers of kindergarten children (33%). Respondents also reported that 8% of the fathers of kindergarten children in Selkirk-Interlake were not employed, which was comparable to the Canadian PIDACS percentage (6%). As the number of unemployed fathers in the sample was quite small, fathers' employment is not included in the cross-tabulations presented in this report.

The implications of these findings can only be considered in the greater socio-economic context, the effects of which play out differently for every family.

Parents' Level of Education

Several studies have found a significant relationship between levels of parents' education and a wide range of developmental outcomes.[9] During the early years of a child's life, the level of the mother's education plays a more prominent role in children's language development than does that of the father, but the effects of the father's education become important for school achievement after the child starts school.[10]

Only 1% of the mothers and 5% of the fathers surveyed reported that they had not completed secondary school. The Canadian PIDACS average for the mothers of kindergarten children not completing secondary school was 5%; for fathers it was 7%. As the number of mothers and fathers in the sample who had not completed secondary school was quite small, these variables are not included in the cross-tabulations presented in this report.

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[7] Brownell, M. & Willms, J. D. (2008). Early predictors of childhood outcomes at school entry. A paper in the HRSDC series, *Successful Transitions*. Ottawa: HRSDC.

[8] Dahinten, V. S. & Willms, J. D. (2002). Maternal depression and childhood vulnerability. In J. D. Willms (Ed.), *Vulnerable Children: Findings from Canada's National Longitudinal Survey of Children and Youth* (pp. 211-228). Edmonton, Alberta: The University of Alberta Press.

[9] Bradley, R. H. & Corwyn, R. F. (2002). Socioeconomic status and child development. *Annual Review of Psychology*, *53*, 371-399.

[10] Willms, J. D. (2002). Socioeconomic gradients for childhood vulnerability. In J. D. Willms (Ed.), *Vulnerable Children: Findings from Canada's National Longitudinal Survey of Children and Youth* (pp. 71-102). Edmonton, Alberta: The University of Alberta Press.

Family Structure

According to results from parents' reports in PIDACS, about 15% of Canadian families with young children are headed by a single parent, usually the mother. Approximately 20% of the children in Selkirk-Interlake sample were living in single-parent families.

Single mothers tend to be at increased risk of various physical and mental health problems and are more likely to have low levels of education. Many single-parent families also experience prolonged periods of low income. Several large-scale studies have found negative effects on children's outcomes associated with growing up in a single-parent family, but these effects are largely attributable to low levels of income and education.[11] One of the problems often experienced by single parents, for example, is a lack of resources and transportation for their children to participate in sports and recreational programs.

About 11% of the children in the Selkirk-Interlake sample did not have any brothers or sisters, while 51% had one sibling, and 38% had at least two siblings. The average number of siblings in the Selkirk-Interlake sample was 1.5; the Canadian PIDACS average was 1.3 siblings.

Other Demographic Characteristics

About 25% of the children in the PIDACS sample for Selkirk-Interlake were of Aboriginal background. About 3.8% of Canadians were of Aboriginal background based on the 2006 Canadian Census.

Less than 1% of the children in the Selkirk-Interlake PIDACS sample were immigrants, or born outside Canada. Results from the 2006 Canadian Census also indicate that less than 1% of the families in this community were recent immigrants who had immigrated between 2001 and 2006, while the national rate was 3.6%. Since the number of immigrant children in the sample was quite small, this factor is not considered further in this report.

In about 91% of the families in the Selkirk-Interlake PIDACS sample, English was the language that the mother and father learned at home during childhood. In another 5% of the families, French was the childhood language of at least one parent. In 4% of the families, the parents spoke a language other than English or French during their childhood.

[11] Strohschein, L., Tramonte, L. & Willms, J. D. (2009). The effects of divorce and separation on children's developmental outcomes. Research monograph in the Successful Transitions series. Ottawa: Human Resources and Skills Development Canada.

II

HOW ARE CHILDREN DOING IN SELKIRK-INTERLAKE?

II. HOW ARE CHILDREN DOING IN SELKIRK-INTERLAKE?

A. DEVELOPMENTAL OUTCOMES IN EARLY CHILDHOOD

The research on child development has provided guidance on the developmental outcomes that are most important at various stages of development. Efforts to monitor early childhood outcomes have emphasized developmental outcomes in five domains: (1) physical well-being and motor development, (2) social and emotional development, (3) approaches to learning, (4) language development, and (5) cognition and general knowledge.[12] This framework is consistent with the priorities of UNICEF, which include healthy growth and development, less disease and fewer illnesses, thinking and language skills, emotional and social skills, and self esteem.[13]

Most young Canadian children are healthy, exhibiting low rates of infant and childhood mortality and morbidity.[14] Among pre-school children, asthma is a prominent health concern, which, along with other chronic health problems, contributes to respiratory illness. Allergies, chronic ear infections, and health problems stemming from injuries also affect many Canadian children. The prevalence of childhood obesity has increased dramatically in the past two decades and has recently been recognized as a major health problem in Canada for children during the pre-school years.[15, 16]

Aside from indicators of children's health status, the domain of physical well-being also includes children's gross and fine motor development. Gross motor development pertains to children's use of large muscle groups to walk, sit, stand and run. Fine motor development refers to the use of their hands to eat, draw, print, write and perform many other detailed activities. By age five, most children can balance on one foot, hop, and do somersaults, as well as copy shapes, draw a person, and print some letters. Children vary in their rate of development of fine and gross motor skills, but substantially poor development can indicate that a child may require medical attention or other special services.[17]

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[12] Willms, J. D. & Beswick, J. F. (2005). *Early Years Evaluation - Teacher Assessment: Revised*. Fredericton, New Brunswick: Canadian Research Institute for Social Policy.

Rhode Island Kids Count (2005). Getting Ready: Findings from the National School Readiness Indicators Initiative, A 17-State partnership. Available on-line: http://www.gettingready.org/matriarch/MultiPiecePage.asp_Q_PageID_E_318_A_PageName_E_NationalSchoolReadinessIndicat.

[13] UNICEF (2002). *UNICEF's priorities for children, 2002-2005*. New York: UNICEF.

[14] Canadian Institute of Child Health (2000). *The Health of Canada's Children: A CICH profile.* Ottawa: Canadian Institute of Child Health.

[15] Tremblay, M., & Willms, J. D. (2000). Secular trends in body mass index of Canadian children. *Canadian Medical Association Journal, 163*(11), 1429-1433.

[16] Canning, P. M., Courage, M. L., Frizzell, L. M. (2004). Prevalence of overweight and obesity in a provincial population of preschool children. *Canadian Medical Association Journal*, *171*(3), 240-242.

Willms, J. D. (2004). Early childhood obesity: A call for early surveillance and preventive measures. *Canadian Medical Association Journal*, *171*(3), 243-244.

[17] Shelov, S. P. (ed.) (2004). *Caring for Your Baby and Young Child: Birth to Age 5*. Elk Grove Village, IL: American Academy of Pediatrics.

The domain of outcomes that measure social and emotional development includes positive social skills, such as children's ability to get along with other children, accept responsibility for their actions, and work independently. During the pre-school years, some children are physically aggressive more often than other children their age, and when children enter school, hyperactivity and inattention emerge as important behavioural problems.[18] The term 'approaches to learning' pertains to children's engagement in learning, and comprises such factors as enthusiasm, curiosity, and persistence in completing tasks.

The rate at which children acquire language differs considerably among children, even among those from the same family. During the 1970s and 80s, researchers were concerned with whether variation in early literacy skills was attributable mainly to differences in children's innate capacity, or to differences in their exposure to speech and language. The evidence indicated that hereditary effects are relatively weak: only about 10 to 12% of the variation in children's vocabulary scores was explained by parents' vocabulary scores.[19] Recent research that has examined children's vocabulary growth during the pre-school years suggests that about 20% of the variation is attributable to the quantity of the mother's speech and the frequency with which mothers use particular words.[20] It is also related to children's exposure to language in the home and to the nature of their interactions with their parents.[21]

Cognitive development includes the abilities to reason, understand relational concepts, build concepts, and work with mathematical concepts. During the pre-school years, these abilities are closely tied to children's language development. Together, language and cognitive development are key predictors of the rate at which children acquire reading skills in grades 1 and 2.[22] This, in the longer term, has important implications for their progress at school.

The PIDACS includes a broad range of outcome measures. These include three direct assessments of children's language, cognitive development and pre-literacy skills, as well as parents' assessments of pro-social behaviour, behavioural problems, and several aspects of physical health. The measures used in PIDACS are described below in three sections, one each for the cognitive, behavioural and health domains. Each section also provides the results for Selkirk-Interlake on each assessment.

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[18] Tremblay, R. E., Nagin, D. S., Séguin, J. R., Zoccolillo, M., Zelazo, P. D., Boivin, M., Pérusse, D., & Japel, C. (2004). Physical Aggression During Early Childhood: Trajectories and Predictors. *Pediatrics*, *114*, 1, 43-50.

Willms, J. D. (2002). Socioeconomic gradients for childhood vulnerability. In J. D. Willms (Ed.), *Vulnerable Children: Findings from Canada's National Longitudinal Survey of Children and Youth* (pp. 71-102). Edmonton, AB: The University of Alberta Press.

[19] Scarr, S., & Weinberg, R. A. (1978). The influence of "family background" on intellectual attainment. *American Sociological Review*, *43*, 674-692.

[20] Huttenlocher, J., Haight, W., Bryk, A., Seltzer, M., & Lyons, T. (1991). Early vocabulary growth: Relation to language input and gender. *Developmental Psychology*, *27*(2), 236-248.

[21] Hart, B., & Risley, T. R. (1995). *Meaningful differences in the everyday experience of young American children*. Baltimore: P. H. Brookes.

[22] Scarborough, H. S. (1998). Early identification of children at risk for reading disabilities: Phonological awareness and some other promising predictors. In B. K. Shapiro, A. J. Capute, & B. Shapiro (Eds.), *Specific reading disability: A view of the spectrum* (pp. 77–121). Hillsdale, NJ: Erlbaum.

Schatschneider, C., Fletcher, J. M., Francis, D. J., Carlson, C. D., & Foorman, B. R. (2004). Kindergarten prediction of reading skills: A longitudinal comparative analysis. *Journal of Educational Psychology*, *96*(2), 265-282.

B. DEVELOPMENTAL SKILLS

The PIDACS includes three measures of children's developmental skills.

Receptive Vocabulary. Children's language development was assessed with the *Peabody Picture Vocabulary Test, Revised – PPVT-R*, which assesses the vocabulary that children understand when they hear spoken words. This is called receptive vocabulary. The assessor says a word, and the child is asked to point to one of four pictures on an easel plate that corresponds to the word. The PPVT-R was used with English-speaking children and the Échelle de vocabulaire en images Peabody (EVIP) was used with French-speaking children. The PPVT-R was developed by Lloyd and Leota Dunn at the University of Hawaii, while the EVIP was developed by Claudia M. Thériault-Whalen at St. Thomas University in Fredericton, New Brunswick. The scores were scaled to have a mean of 100 and a standard deviation of 15 for the Canadian PIDACS sample.

Number Knowledge. The *Number Knowledge* assessment gauged children's intuitive knowledge of numbers by assessing their understanding of quantity (more versus less), their ability to count objects, their understanding of number sequence, and their ability to do simple arithmetic. The assessment was developed by Dr. Robbie Case and his colleagues at the Ontario Institute for Studies in Education at the University of Toronto. It is administered orally and the child must respond verbally without using paper or a pencil to figure out answers. The scores on this assessment were also scaled to have a mean of 100 and a standard deviation of 15 for the Canadian PIDACS sample.

Pre-literacy skills. An assessment of children's pre-literacy skills was based on the *Who Am I?*, which was developed by Dr. Molly de Lemos and her colleagues at the Australian Council for Educational Research. It is an assessment that involves various copying and writing tasks; for example, it assesses children's ability to conceptualize and to reconstruct geometrical shapes and to use symbolic representations, as illustrated by their understanding and use of conventional symbols such as numbers, letters and words. Children are asked to copy five shapes (such as a circle or a diamond) and to write their names, numbers, letters, words, and a sentence. As with the PPVT-R and Number Knowledge, these scores were scaled to have a mean of 100 and a standard deviation of 15 for the Canadian PIDACS sample.

Children with very low scores on the direct assessments used in PIDACS are at risk of experiencing slow development in their reading skills as they proceed through the primary grades. The choice of a cut-off score to define this vulnerability is rather arbitrary. For the Peabody Picture Vocabulary Test, a score of 85 is often set as the low-score threshold. Children with scores below 85 on the PPVT are at risk of experiencing difficulties learning to read,[23] and in Canada about 20% of children are then at risk of not making the critical transition from learning-to-read to reading-to-learn around Grade 3 or 4. In this study the low-score threshold was set at 85, which is about one standard deviation below the mean, for all three PIDACS direct assessment measures.

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[23] Speece, D. L., Ritchey, K. D., Cooper, D. H., Roth, F. P., Schatschneider, C. (2004). Growth in early reading skills from kindergarten to third grade. *Contemporary Educational Psychology*, *29*, 312-332.

TABLE 2-1. Mean scores on the direct assessments of kindergarten children

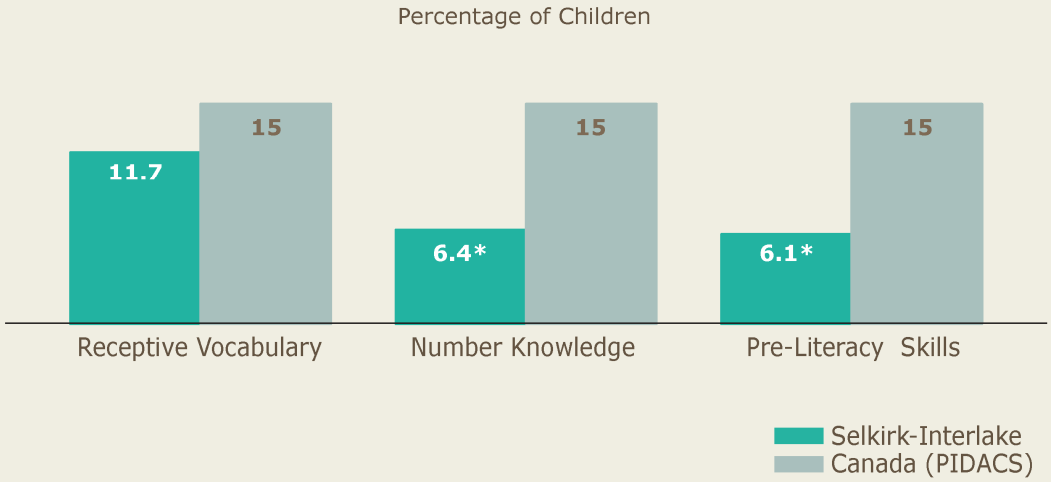
	Selkirk-Interlake		Canadian Average (PIDACS)	
	Mean	**S.D.**	**Mean**	**S.D.**
Receptive Vocabulary	101.1	12.7	100.0	15.0
Number Knowledge	**106.7**	13.7	100.0	15.0
Pre-Literacy Skills	**104.0**	13.1	100.0	15.0

Note: Figures in bold text differ significantly from the Canadian PIDACS average.

Source: PIDACS, 2006-07 (Canada) and 2008-09 (Selkirk-Interlake).

Table 2-1 depicts the average scores on the direct assessments for the participating children. The children of Selkirk-Interlake had an average score of 101.1 on the assessment of receptive vocabulary. This was comparable to the Canadian PIDACS average. (See discussion regarding the Canadian PIDACS average on page I-8). The average score on the assessment of number knowledge was 106.7, which was considerably higher than the Canadian average. On the assessment of pre-literacy skills, the children of Selkirk-Interlake had an average score of 104.0, which was also above the Canadian average.

FIGURE 2-1. Kindergarten children with low scores on the direct assessments



Note: Statistically significant differences are indicated with an asterisk.
Source: PIDACS, 2006-07 (Canada) and 2008-09 (Selkirk-Interlake).

Figure 2-1 shows the percentage of children in Selkirk-Interlake with scores below 85 on the three direct assessments. About 12% of the children in this community had low scores on the assessment of receptive vocabulary. This prevalence of vulnerability was comparable to that seen in the Canadian PIDACS population. In contrast, about 6% of the children in Selkirk-Interlake had low scores on the assessment of number knowledge, which was a considerably lower percentage than in the Canadian population. Similarly, on the assessment of pre-literacy skills, about 6% scored below 85, which was again lower than the percentage in the Canadian PIDACS population.

C. BEHAVIOURAL OUTCOMES

PIDACS Assessments of Behavioural Outcomes Based on Parent Interviews

In PIDACS interviews, parents provided their perceptions on how their kindergarten child behaves at home and in the community. These yielded information on children's developmental outcomes that included a measure of positive social behaviour and four behavioural problems that are displayed by some children this age: inattention, anxiety, depression and physical aggression. Each scale is based on several questions; for example, the parent is asked how often his or her child cannot sit still or is restless, and answers with one of three possible responses: 'never'; 'sometimes'; or 'often'. The responses for each measure are assigned scores of 0, 1 or 2 for 'never'; 'sometimes'; or 'often', respectively, and averaged across the questions to create a scale ranging from 0 to 2. A child is considered to have a behavioural problem if he or she has a score that is *greater than* 1.0 on the relevant measure. On the measure of positive social behaviour, a child is considered to have 'low positive social behaviour' if he or she has a score that is *less than* or equal to 1.0.

Positive social behaviour. Children who exhibit higher levels of positive social behaviour are more likely to try to help and comfort others. They may offer to help pick up objects that another child has dropped or offer to help a child who is having trouble with a difficult task. They might also invite their peers to join in a game.

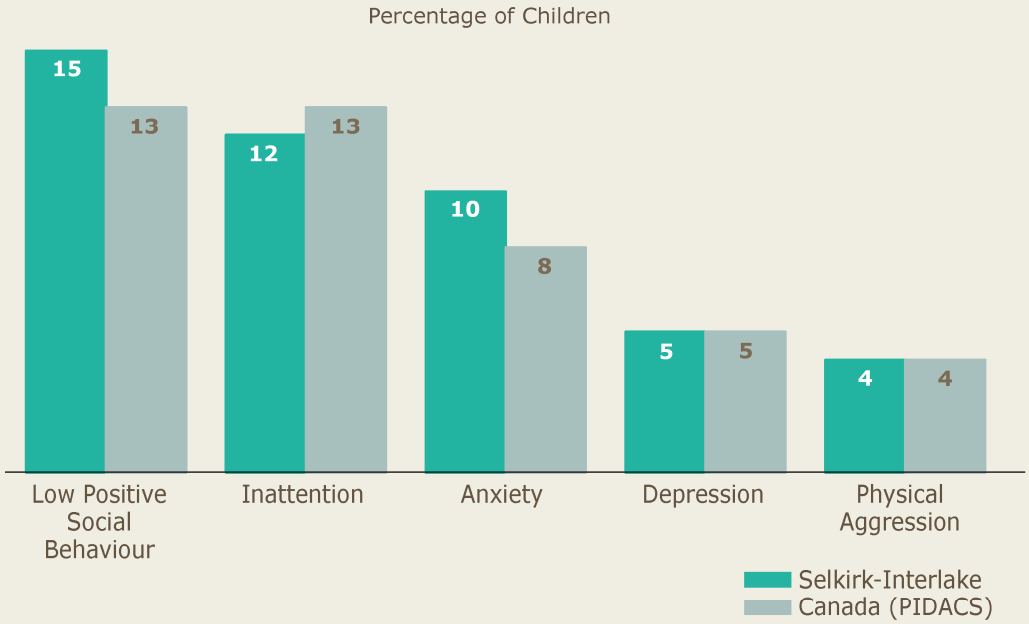
Inattention. Children who are inattentive tend to have trouble sitting still, are restless or easily distracted, have trouble sticking to any activity or concentrating for long periods, and may have difficulty waiting their turn in games or groups. Children who are considered 'hyperactive' often display these traits, but not all inattentive children are hyperactive.

Anxiety. Children with anxiety problems tend to be fearful, worried, or nervous and high-strung. Quite often they cry more than other children.

Depression. At this age, some children also display depressive symptoms, such as being unhappy or sad more often than other children, or having trouble enjoying activities.

Physical aggression. Children at age five can on occasion be hostile or aggressive towards others. However, some children are aggressive more often than others. For example, if another child accidentally hurts them, they assume that the other child meant to do it, and then react with anger and fighting. Some children at this age also physically attack others or threaten them, or they are cruel and bully other children.

FIGURE 2-2. Kindergarten children with low positive social behaviour and behavioural problems



Note: Statistically significant differences are indicated with an asterisk.
Source: PIDACS, 2006-07 (Canada) and 2008-09 (Selkirk-Interlake).

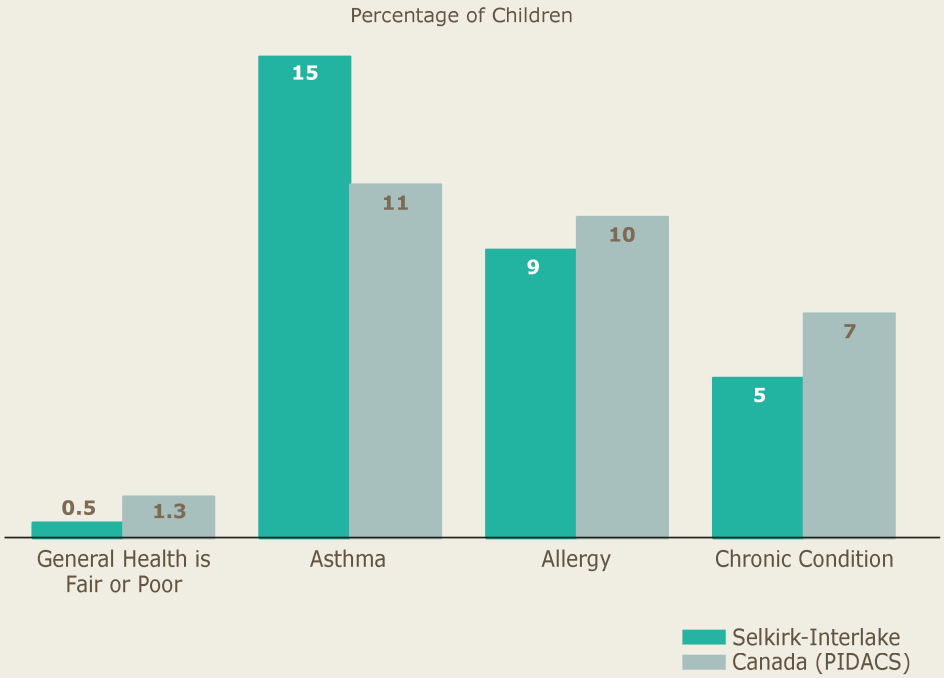
Figure 2-2 shows the proportion of children with low scores on the measures of positive social behaviour, and data for the four types of behavioural problems, based on the reports of parents in the PIDACS interview. In Selkirk-Interlake, about 15% of the children displayed low positive social behaviour; this was comparable to the Canadian PIDACS average of 13%. About 12% of the children in the community had problems with inattention, 10% displayed high levels of anxiety, 5% displayed depressive symptoms, and 4% were physically aggressive. As with the results for the measure of social behaviour, these results were not significantly different from the corresponding Canadian PIDACS averages.

D. HEALTH OUTCOMES

PIDACS Assessments of Health Outcomes Based on Parent Interviews

During the PIDACS interview the parent provided information on the general health of his or her child, and indicated whether the child had any physical, mental or health problems that limited his or her child's activities. This included only health conditions or problems that had lasted or were expected to last for at least six months. The parent was also asked if the child had a respiratory problem, such as hay fever or asthma; any food, digestive or other allergies; or chronic conditions other than asthma or allergies, such as heart problems, epilepsy, cerebral palsy, or a kidney condition.

FIGURE 2-3. Kindergarten children with health problems



Note: Statistically significant differences are indicated with an asterisk.
Source: PIDACS, 2006-07 (Canada) and 2008-09 (Selkirk-Interlake).

Figure 2-3 shows that in Selkirk-Interlake, less than 1.0% of the children were considered to be in fair or poor health by their parents. The proportions of children with asthma, allergies, and other chronic health problems were 15%, 9% and 5%, respectively. The prevalence of poor general health, asthma and allergies for children in Selkirk-Interlake did not differ significantly from the corresponding Canadian PIDACS averages.

E. INEQUALITIES IN OUTCOMES

Table 2-2 provides information on inequalities in outcomes between boys and girls and between sub-populations defined by the demographic factors described in the Introduction. For each group, it displays the prevalence of children with low scores on the three direct assessments of cognitive skills; with low scores on the measure of positive social behaviour; with the four types of behavioural problems; and with poor health outcomes. Differences between the sexes or sub-populations that are statistically significant ($p < 0.05$) are indicated with bold text. When cell size for a cross-tabulation is less than 10, the estimate is not shown.

The most prominent inequalities in outcomes in Selkirk-Interlake were associated with low family income. Children living in families with incomes below $30,000 per year were more likely to have low pre-literacy skills, and experience anxiety or chronic conditions. However, parents in low-income families were more likely to indicate that their children displayed positive social behaviour. Children living in single-parent families were more likely to display problems associated with anxiety and depression.

TABLE 2-2. Differences among Selkirk-Interlake sub-populations in kindergarten children's developmental outcomes (% children)

	Cognitive			Behavioural					Health			
	Low Receptive Vocabulary	Low Number Knowledge	Low Pre-literacy Skills	Low Positive Social Behaviour	Inattention	Anxiety	Depression	Physical Aggression	Poor General Health	Asthma	Allergies	Chronic Condition
All Children	12	6	6	15	12	10	5	4	0.5	15	9	5
Child's Sex												
Girls	10	4	6	17	13	11	4	1	0.0	17	8	6
Boys	13	9	6	14	11	9	7	7	1.1	12	10	4
Family Income												
Below $30,000/year	14	11	**15**	**6**	11	**21**	5	8	2.0	11	5	**13**
At or above $30,000/year	8	3	**3**	**21**	13	**8**	7	3	0.0	15	11	**1**
Mothers' Employment												
Not employed	9	6	10	12	12	11	4	3	1.9	13	10	4
Employed	11	4	3	18	12	9	7	4	0.0	15	9	6
Family Structure												
Single-parent family	7	4	8	18	18	**30**	**22**	8	2.8	24	4	7
Two-parent family	11	6	5	15	10	**5**	**2**	3	0.0	13	10	5
Aboriginal Status												
Non-Aboriginal	9	4	3	14	13	7	5	4	0.8	13	12	6
Aboriginal	13	6	9	19	8	16	6	5	0.0	19	2	4

Note: Differences that are statistically significant ($p < 0.05$) are in bold text.
Source: PIDACS, 2008-09 (Selkirk-Interlake).

III

FAMILY AND COMMUNITY SUPPORT FOR EARLY CHILDHOOD DEVELOPMENT

III. FAMILY AND COMMUNITY SUPPORT FOR EARLY CHILDHOOD DEVELOPMENT

A. FAMILY LIFE

Earlier research based on the National Longitudinal Survey of Children and Youth identified four factors that were strongly related to children's developmental outcomes: parenting skills, the cohesiveness of the family unit, the mental health of the mother, and the extent to which parents engage with their children.[24] The PIDACS included measures of these four key aspects of family life. The measures used and the results pertaining to Selkirk-Interlake are described below.

Family Functioning and Maternal Depression

The concept of family functioning refers mainly to the cohesiveness and adaptability of the family. It concerns how well the family functions as a unit, not just the strength of the relationships between spouses or between parents and their children. A number of studies have shown that family functioning is related to children's developmental outcomes, especially children's behaviour.[25]

In this study, family functioning is assessed with 12 items pertaining to a family's ability to communicate, to make decisions and solve problems as a group, to discuss feelings and concerns, to get along together, and to feel accepted for whom they are. The total scores on the scale range from 0 to 36, with higher scores indicating a more positively functioning family. A cut-off score of 24 was used to denote families that had poor family functioning. About 10% of the families in the 21 UEY communities assessed with PIDACS in 2006-07 (i.e., the Canadian PIDACS data) scored below 24 on this scale.

According to Health Canada, about 5% to 7% of mothers experience depression after the post-partum period.[26] Depression is often accompanied by insomnia, emotional problems, anxiety, and feelings of guilt. These in turn can have adverse effects on a mother's interactions with her child, leading to poorer social and cognitive developmental outcomes.[27] Depression among fathers may also have adverse effects, but the number of fathers studied in earlier research based on UEY and the National Longitudinal Survey of Children and Youth was insufficient to estimate its effects.

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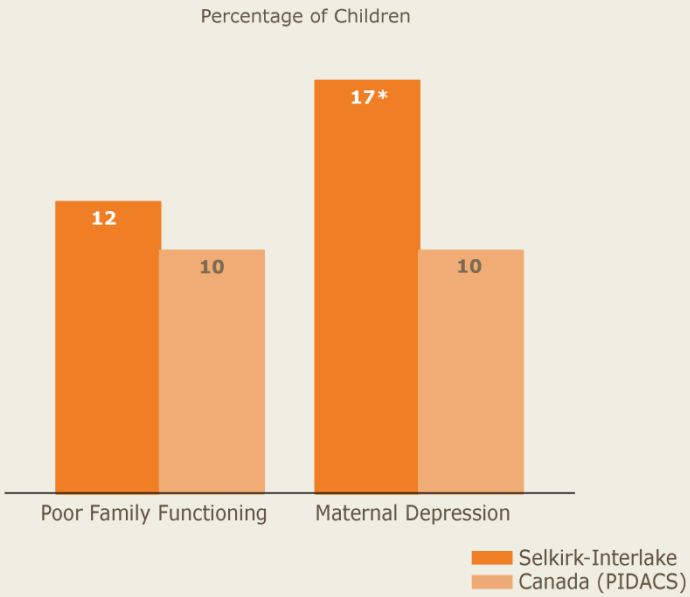
[24] Willms, J. D. (2002). Research findings bearing on Canadian Social Policy. In J. D. Willms, (Ed.), *Vulnerable Children: Findings from Canada's National Longitudinal Study of Children and Youth* (pp.331-58). Edmonton, AB: University of Alberta Press. (page 356)

[25] Racine, Y. & Boyle, M. H. (2002). Family functioning and children's behaviour problems. In J. D. Willms, (Ed.), *Vulnerable Children: Findings from Canada's National Longitudinal Study of Children and Youth* (pp. 199-210). Edmonton, AB: University of Alberta Press.

[26] Health Canada. (1999). Women's Health Strategy. Ottawa, ON: Bureau of Women's Health and Gender Analysis, Health Canada. Retrieved from the Health Canada Web site: www.hc-sc.gc.ca/english/women/womenstrat.htm

[27] Murray, L., & Cooper, P. (1997). Effects of postnatal depression on infant development. *Archives of Disease in Childhood, 72*(2), 99-101.

FIGURE 3-1. Percentage of families with poor family functioning and mothers with signs of depression in families with kindergarten children



Note: Statistically significant differences are indicated with an asterisk.
Source: PIDACS, 2006-07 (Canada) and 2008-09 (Selkirk-Interlake).

The PIDACS interview included 10 items pertaining to maternal depression. Respondents were presented with a set of statements describing certain feelings and behaviours and asked to indicate how often they had felt or behaved that way during the previous week, for example, "I felt that I could not shake off the blues, even with help from my family or friends", "I felt lonely", and "I had crying spells". On such statements respondents who were mothers or female guardians would have indicated that they felt this way: "Rarely or none of the time (less than 1 day)", "Some or a little of the time (1-2 days)", "Occasionally or a moderate amount of the time (3-4 days)", and "Most or all of the time (5-7 days)". These answers were scored and then scaled on a four-point scale, with 0 denoting "Rarely or none of the time" and 3 denoting "Most or all of the time". In this report, a low-score cut-off of 0.75 was used to identify mothers who were displaying strong signs of depression. Using this cut-off of 0.75, it was found that about 10% of mothers in the Canadian PIDACS displayed strong signs of depression. This prevalence was comparable to that seen in other studies, including the National Longitudinal Survey of Children and Youth.

Figure 3-1 shows the prevalence of families with poor family functioning and the prevalence of maternal depression. About 12% of the families in Selkirk-Interlake had low scores on the measure of family functioning, while 17% of the mothers were displaying strong signs of depression. On the measure of family functioning, the results for Selkirk-Interlake were comparable to the Canadian PIDACS average. (See discussion regarding the Canadian PIDACS average on page I-8). However, the prevalence of maternal depression was considerably higher than the Canadian average.

Table 3-1 depicts differences among sub-populations of Selkirk-Interlake with respect to the prevalence of families with poor family functioning and maternal depression. For most factors the differences were not statistically significant. Mothers of boys were more likely to be experiencing depression than those with girls, as were mothers who were single parents.

TABLE 3-1. Differences among Selkirk-Interlake sub-populations in maternal depression and poor family functioning in families with kindergarten children (% children)

	Poor Family Functioning	Maternal Depression
All Children	12	17
Child's Sex		
Girls	11	**7**
Boys	12	**27**
Family Income		
Below $30,000/year	16	20
At or above $30,000/year	11	18
Mothers' Employment		
Not employed	10	15
Employed	13	17
Family Structure		
Single-parent family	12	**31**
Two-parent family	11	**14**
Aboriginal Status		
Non-Aboriginal	9	15
Aboriginal	19	21

Note: Differences that are statistically significant ($p < 0.05$) are in bold text.

Source: PIDACS, 2008-09 (Selkirk-Interlake).

Parenting Practices

A number of studies have shown that children have better developmental outcomes when parents are loving and responsive to their child's needs and socialize their child by making demands for mature behaviour and by supervising their child. In PIDACS, parents answered 14 questions that were used to develop scales for these two critical dimensions of parenting practices.

***Love and Support**:* This scale measures the extent to which parents are loving, responsive to the child's needs, and recognize the child's individuality. Parents who are loving and supportive tend to praise their children more, and are warm and expressive. Parents would score low on this measure if they tended to be harsh with their children, neglectful, or detached.

***Authority**:* This scale measures parents' efforts to socialize their child into the family and society by supervising the child, making demands for mature behaviour, and demanding compliance. Parents scoring high on this scale tend to set boundaries and expectations. They consistently reinforce behaviour that is 'in bounds', and when their child is 'out of bounds' they guide him or her towards appropriate behaviour. These parents would be intolerant of misbehaviour, but not over-controlling.

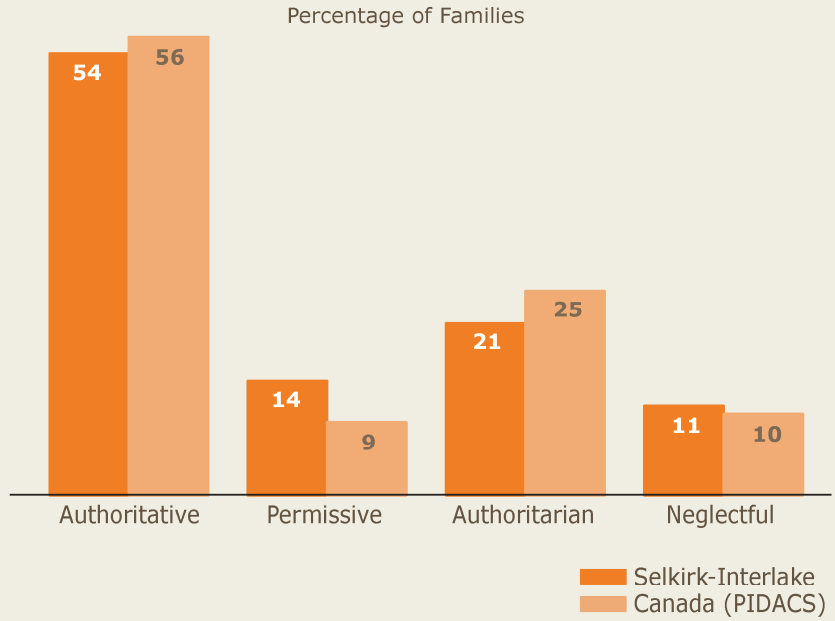
As illustrated in Table 3-2, these two constructs are commonly used in a typology of parenting styles, which classifies parents in terms of their responses to the needs of children for nurturance and supervision.[28]

TABLE 3-2. Typology of parenting styles as a function of "Love and Support" and "Authority"

		Love and Support	
		High	*Low*
Authority	*High*	**Authoritative**	**Authoritarian**
	Low	**Permissive**	**Neglectful**

[28] Baumrind, D. (1991). The influence of parenting style on adolescent competence and substance abuse. *Journal of Early Adolescence, 11*(1), 56-95.

FIGURE 3-2. Parenting styles of parents with kindergarten children



Note: Statistically significant differences are indicated with an asterisk.
Source: PIDACS, 2006-07 (Canada) and 2008-09 (Selkirk-Interlake).

Parents who score high on both dimensions of parenting are considered 'authoritative' parents. Several studies, including studies based on the National Longitudinal Survey of Children and Youth have shown that children of these parents have better developmental outcomes.[29] In contrast, parents who are loving and supportive but lack authority are considered 'permissive', while those who display authority but are less loving and supportive are considered 'authoritarian'. Parents who are less loving and responsive and do not adequately monitor their children's behaviour are referred to as 'neglectful'. Based on their scores on the measures of 'love and support' and 'authority', parents were classified as authoritative, permissive, authoritarian, or neglectful. With this classification, about 56% of Canadian parents (PIDACS 2006-07) were authoritative, 9% were permissive, 25% were authoritarian, and 10% were neglectful.

Figure 3-2 shows the percentage of families in each of the four categories for Selkirk-Interlake compared with the Canadian PIDACS average. The percentages of families in all four categories did not differ significantly from the Canadian average.

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[29] Chao, R. K. & Willms, J. D. (2002). The effects of parenting practices on children's outcomes. In J. D. Willms, (Ed.), *Vulnerable Children: Findings from Canada's National Longitudinal Study of Children and Youth* (pp. 149-165). Edmonton, AB: University of Alberta Press.

Other research, including research based on the National Longitudinal Survey of Children and Youth, has also shown that parental engagement with children in such activities as reading to them, playing games with them, or simply talking and laughing with them has positive effects on their development. In PIDACS, parents were asked a number of questions on engagement with their children. The best marker of engagement, in terms of its relationship to children's development, is the amount of time parents spend reading to their child. In contrast, time spent watching television or videos takes away from time spent doing constructive activities; excessive amounts can have a detrimental effect on children's outcomes.

In Selkirk-Interlake, 72% of the parents read to their child at least once every day. This was lower than the Canadian PIDACS average, which was 77%. On average, the kindergarten children spent 1.9 hours per day watching television, which was significantly higher than the Canadian average of 1.6 hours.

Table 3-3 depicts differences among sub-populations in Selkirk-Interlake in the percentage of parents displaying an authoritative parenting style, the percentage reading to their child at least once a day, and the average time children spent watching television or videos. Single parents were less likely to have an authoritative parenting style than those in two-parent families; however, there were no inequalities observed for reading to the child at least once every day. In contrast, there were considerable differences among sub-populations with respect to the time kindergarten children spent watching television. Children in single-parent families and families with low family income spent more time watching television than those in two-parent families and families with incomes above $30,000. Mothers' employment was also related to time spent watching television. Aboriginal children also spent more time watching television than their non-Aboriginal peers.

TABLE 3-3. Differences among Selkirk-Interlake sub-populations in parenting practices (authoritative style, reading to child, and child watching television or videos) in families with kindergarten children

	Authoritative Style (% children)	Reads to Child at Least Once a Day (% children)	Child Watching Television or Videos (hours)
All Children	54	72	1.9
Child's Sex			
Girls	52	76	1.8
Boys	56	67	2.0
Family Income			
Below $30,000/year	43	69	**2.3**
At or above $30,000/year	53	72	**1.7**
Mothers' Employment			
Not employed	55	70	**2.1**
Employed	52	72	**1.7**
Family Structure			
Single-parent family	**37**	72	**2.4**
Two-parent family	**58**	72	**1.8**
Aboriginal Status			
Non-Aboriginal	54	74	**1.7**
Aboriginal	49	67	**2.4**

Note: Differences that are statistically significant ($p < 0.05$) are in bold text.

Source: PIDACS, 2008-09 (Selkirk-Interlake).

TABLE 3-4. Parents' engagement with their kindergarten children and their children's literacy activities (% children)

	Selkirk-Interlake	Canada (PIDACS)
Parent does the following activities with the child at least once every day		
Encourages him or her to use numbers in daily activities	73	71
Teaches him or her to read words	**38**	63
Tells stories	53	61
Takes him or her outside to play	**38**	47
Watches television with him or her	**55**	47
Teaches him or her to print letters or numbers	46	46
Sing songs (including action songs)	40	41
Plays cards or board games	10	9
Child does the following activities at least once every day		
Plays with pencils or markers doing real or pretend writing	74	72
Reads or tries to read	**55**	71
Looks at books, magazines, comics, etc. on his or her own	69	63
Does puzzles	11	10

Note: Differences that are statistically significant ($p < 0.05$) are in bold text.
Source: PIDACS, 2006-07 (Canada) and 2008-09 (Selkirk-Interlake).

Table 3-4 shows the percentage of parents who were engaged with their child doing various activities at least once every day. For two of the eight activities – teaching the child to read words and taking the child outside to play – parents in Selkirk-Interlake were less engaged than their Canadian PIDACS peers. Parents were more likely to spend time watching television with their child. On the other five activities the levels of engagement were comparable to the Canadian average. With respect to literacy-related activities, children in Selkirk-Interlake were similar to their Canadian PIDACS counterparts on three of the measures; however, a smaller percentage of children tried to read, or read every day.

TABLE 3-5. Differences among Selkirk-Interlake sub-populations in parents' engagement with their children and kindergarten children's literacy activities (% children)

	Parents' Engagement with Child								Child's Activities			
	Encourages Use of Numbers	Teaches to Read Words	Tells Stories	Takes Outside to Play	Watches Television	Teaches Printing	Sings Songs	Plays Games	Does Real or Pretend Writing	Reads or tries to Read	Looks at Books, Etc.	Does Puzzles
All Children	73	38	53	38	55	46	40	10	74	55	69	11
Child's Sex												
Girls	70	41	53	**30**	58	48	47	9	81	61	71	10
Boys	75	35	54	**46**	52	44	33	11	68	49	67	13
Family Income												
Below $30,000/year	71	47	46	26	64	46	36	8	83	67	70	8
At or above $30,000/year	71	35	58	37	50	43	30	4	71	53	69	8
Mothers' Employment												
Not employed	76	**54**	57	33	54	42	32	11	74	**68**	76	11
Employed	71	**31**	52	39	56	48	44	10	76	**51**	67	12
Family Structure												
Single-parent family	73	**59**	52	30	52	47	39	15	76	66	66	7
Two-parent family	73	**33**	54	39	55	45	40	9	74	53	70	13
Aboriginal Status												
Non-Aboriginal	73	38	57	39	56	44	41	8	75	56	68	13
Aboriginal	70	39	41	34	52	55	37	12	70	55	72	5

Note: Differences that are statistically significant ($p < 0.05$) are in bold text.

Source: PIDACS, 2008-09 (Selkirk-Interlake).

Table 3-5 displays differences among sub-populations in Selkirk-Interlake in the percentage of parents engaged in various activities with their child at least once every day, and the percentage of children that were engaged in literacy activities at least once every day. There were very few significant differences among sub-populations. The most noteworthy differences were associated with mothers' employment and family structure. Children in single-parent families and in families with unemployed mothers were more likely to have a parent teach them to read words. Parents with boys took their child outside to play more frequently than those with girls.

B. CHILDREN'S PARTICIPATION IN COMMUNITY ACTIVITIES

PIDACS included a number of questions regarding the nature of children's activities and the family and children's use of community resources. The neighbourhood and the wider community are the centre of most young children's lives outside the family home. They provide opportunities for children to play, meet friends, and interact with adults. Although research on the effects of community resources has been quite limited, access to resources undoubtedly plays an important role in children's development.[30]

An important example is the opportunity to engage in sports activities in the local neighbourhood. Research on Canadian youth has found that children's involvement in unorganized sports is an important protective factor against childhood obesity, more so than participation in organized sports involving a coach or instructor. The amount of time children spend watching television and videos is a risk factor for childhood obesity.[31] In this case, the Canadian average levels of participation in organized and unorganized sports activities are arguably not the best benchmarks; these levels of participation are considered too low by many researchers, such as those who compile the annual report card for Active Healthy Kids Canada. Similarly, researchers maintain that Canadian children spend too much time in front of a television or computer.[32]

Physical and Leisure Activity

Figure 3-3 shows the number of times per week that kindergarten children in Selkirk-Interlake were engaged in sports and other activities. On average, they were engaged in organized sports that involve a coach or instructor about 1.4 times per week, which was the same as the Canadian PIDACS average. However, the children in Selkirk-Interlake were more frequently engaged in unorganized sports: 4.6 times per week compared to the Canadian average of 3.8 times per week. Unorganized sports do not involve a coach or instructor, and thus can include many types of activities that children engage in such as running, skipping, swimming or sports activities in their neighbourhood. Although the overall level of activity of the children in this community was above the Canadian average, Canada's *Physical Activity Guide for Children* recommends that children gradually increase the amount of time spent in physical activity per day to 60 minutes of moderate physical activity and 30 minutes of vigorous activity.[33]

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[30] Connor, S. & Brink, S. (1999). *Understanding the Early Years – Community Impacts on Child Development.* Hull: Applied Research Branch, Strategic Policy. Human Resources and Skills Development Canada.

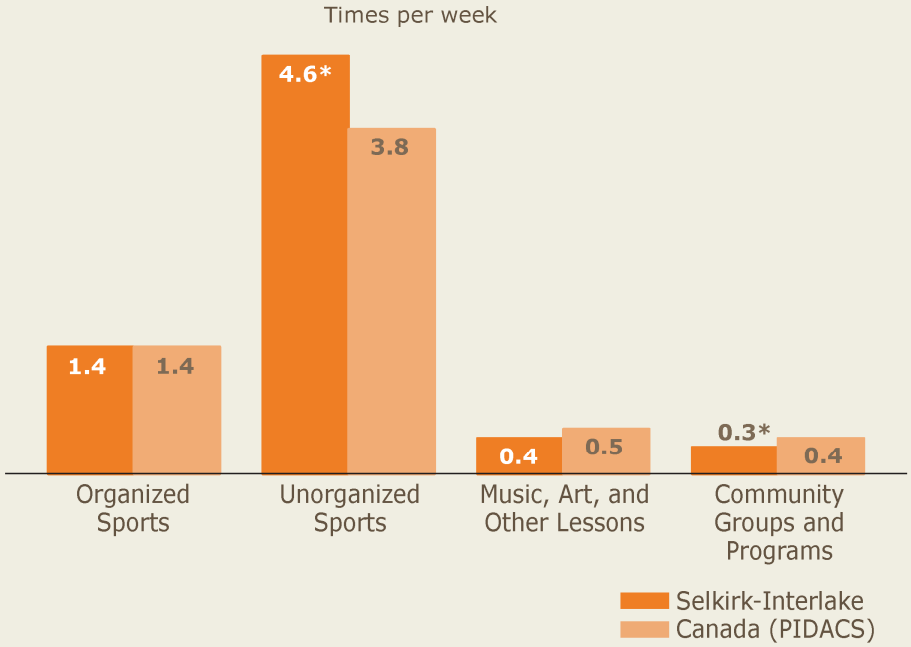
Hertzman, C. & Kohen, D. (2003). Neighbourhoods matter for child development. *Transitions, Autumn*, 3-5.

[31] Tremblay, M.S. and Willms, J.D. (2003). Is the Canadian childhood obesity epidemic related to physical inactivity? *International Journal of Obesity*, *27*(9), 1100-1105.

[32] Active Healthy Kids Canada (2007). *Older but not wiser: Canada's Future at Risk. Canada's Report Card on Physical Activity for Children and Youth – 2007*. Toronto: Active Healthy Kids Canada.

[33] Public Health Agency of Canada (2007). Canada's physical activity guides for children and youth. Online at: http://www.phac-aspc.gc.ca/pau-uap/paguide/child_youth/index.html.

FIGURE 3-3. Kindergarten children's participation in sports and other activities



Note: Statistically significant differences are indicated with an asterisk.
Source: PIDACS, 2006-07 (Canada) and 2008-09 (Selkirk-Interlake).

The participation rate of Selkirk-Interlake children in art, music and other lessons was comparable to the Canadian PIDACS average, while their participation in clubs, groups, and community programs, such as Beavers, Sparks, and church was below average.

Differences among sub-populations in participation in organized and unorganized sports are shown in Table 3-6. On average, kindergarten children in single-parent families and in families with low family incomes were less likely to participate in organized sports. Aboriginal children were also less likely to participate in organized sports compared with their non-Aboriginal peers. There were no significant differences among sub-populations in children's participation in unorganized sports.

TABLE 3-6. Differences among Selkirk-Interlake sub-populations in kindergarten children's participation in sports (times per week)

	Organized Sports	Unorganized Sports
All Children	1.4	4.6
Child's Sex		
Girls	1.2	4.4
Boys	1.5	4.8
Family Income		
Below $30,000/year	**0.6**	4.6
At or above $30,000/year	**1.6**	4.6
Mothers' Employment		
Not employed	1.3	4.6
Employed	1.4	4.7
Family Structure		
Single-parent family	**0.7**	4.1
Two-parent family	**1.5**	4.7
Aboriginal Status		
Non-Aboriginal	**1.5**	4.7
Aboriginal	**0.9**	4.5

Note: Differences that are statistically significant ($p < 0.05$) are in bold text.

Source: PIDACS, 2008-09 (Selkirk-Interlake).

Use of Community Resources

PIDACS asked parents a number of questions about their child's use of educational, entertainment, cultural and recreational resources in their community. The results give an indication of how often during the previous 12 months children used the following resources:

Educational Resources

- library or bookmobile, including the school library;
- book clubs and reading programs;
- family resource centres or drop-in programs;
- educational or science centres;

Entertainment and Cultural Resources

- sporting events, at local or professional venues;
- movies;
- museums, art galleries, or exhibits;
- plays or musical performances;

Recreational Resources

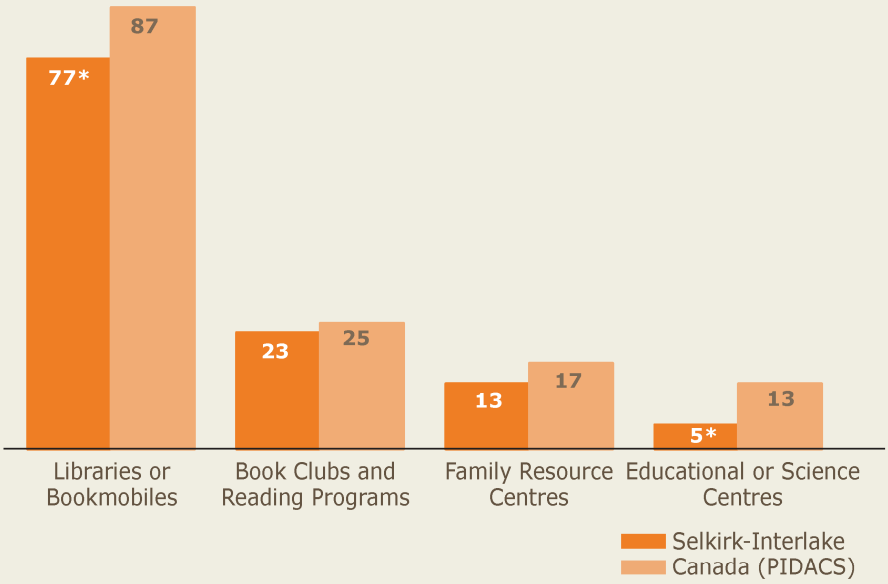
- parks, play spaces and recreational trails;
- beaches, indoor or outdoor pools, or wading pools;
- skating or hockey rinks or skiing facilities;
- recreational or community centres; and
- provincial or national parks and camping areas.

The availability of each type of educational, entertainment, cultural and recreational resource varies among communities, and, in some communities, the use of some resources was low because the resources were not readily available in the community.

Figures 3-4, 3-5 and 3-6 show the percentage of children in Selkirk-Interlake that used these various kinds of resources.

FIGURE 3-4. Use of educational resources by kindergarten children

Percentage of children attending at least once per month

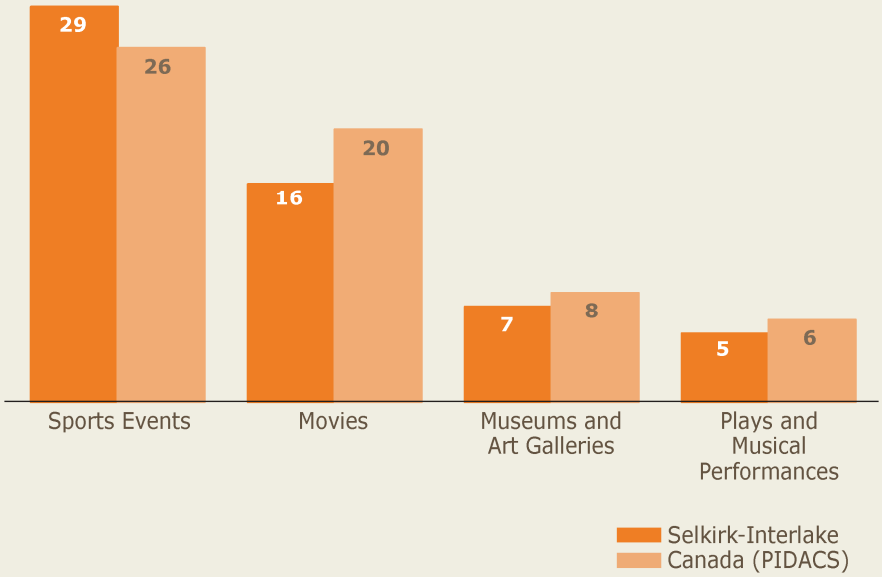


Note: Statistically significant differences are indicated with an asterisk.
Source: PIDACS, 2006-07 (Canada) and 2008-09 (Selkirk-Interlake).

About 77% of the kindergarten children in Selkirk-Interlake used libraries or bookmobiles at least once every month. Although this may seem high, it was lower than the Canadian PIDACS average. Participation rates in book clubs and reading programs and in family resource centres were comparable to the Canadian average. Only about 5% of the children in Selkirk-Interlake attended educational or science centres, which was lower than the frequency at which Canadian children this age participated in this kind of activity.

FIGURE 3-5. Use of entertainment and cultural resources by kindergarten children

Percentage of children attending at least once per month

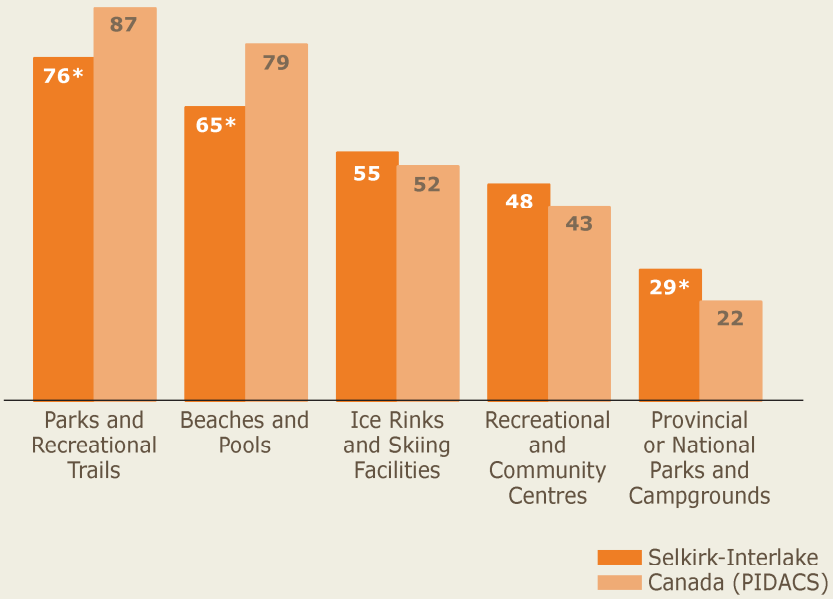


Note: Statistically significant differences are indicated with an asterisk.
Source: PIDACS, 2006-07 (Canada) and 2008-09 (Selkirk-Interlake).

Attendance at sporting events was a frequent activity for the kindergarten children of Selkirk-Interlake. Nearly 30% of the children participated in this activity at least once per month, which was comparable to the Canadian PIDACS average of 26%. About 16% of the children in Selkirk-Interlake went to the movies at least once per month, 7% visited museums and art galleries, and 5% attended plays and musical performances. These participation rates were also comparable to the corresponding Canadian averages for children this age.

FIGURE 3-6. Use of recreational resources by kindergarten children

Percentage of children attending at least once per month



Note: Statistically significant differences are indicated with an asterisk.
Source: PIDACS, 2006-07 (Canada) and 2008-09 (Selkirk-Interlake).

Seventy-six per cent of the children in Selkirk-Interlake used parks, play spaces and trails at least once per month, while 65% used beaches or swimming pools. These rates are high but below the corresponding Canadian PIDACS averages. The children in this community used ice rinks and skiing facilities and recreational and community centres about as often as their Canadian peers, and made greater use of provincial and national parks and playgrounds.

Table 3-7 displays differences among sub-populations of Selkirk-Interlake in their use of community resources. Boys were less likely than girls in this community to use parks and recreational trails and beaches and pools. Children in low-income or single-parent families were more likely to use parks and recreation trails, but those in low-income families were less likely to use ice rinks and skiing facilities, recreational and community centres, and provincial and national parks and campgrounds. Aboriginal children were more likely to use parks and recreational trails than non-Aboriginal children, but less likely to use libraries or bookmobiles.

TABLE 3-7. Differences among Selkirk-Interlake sub-populations in kindergarten children's use of community resources (% children)

	Educational				Entertainment and Cultural				Recreational				
	Library or bookmobile	Book clubs and reading programs	Family resource centres	Educational or science centres	Sports events	Movies	Museums and art galleries	Plays and musical performances	Parks and recreational trails	Beaches and pools	Ice rinks and skiing facilities	Recreational and community centres	Parks and campgrounds
All Children	77	23	13	5	29	16	7	5	76	65	55	48	29
Child's Sex													
Girls	75	23	17	7	34	19	6	4	**83**	**78**	55	51	29
Boys	78	24	9	3	24	14	8	7	**70**	**52**	56	46	29
Family Income													
Below $30,000/year	74	15	12	0	19	24	0	3	**95**	56	**36**	**34**	12
At or above $30,000/year	75	28	15	6	30	16	11	7	**74**	68	**61**	**55**	36
Mothers' Employment													
Not employed	84	31	18	6	**17**	13	3	1	81	59	44	**34**	21
Employed	72	20	11	4	**34**	16	8	6	73	67	60	**55**	31
Family Structure													
Single-parent family	82	23	7	4	15	**33**	7	1	**92**	62	44	41	30
Two-parent family	75	24	15	5	32	**12**	7	7	**73**	66	58	50	29
Aboriginal Status													
Non-Aboriginal	**81**	24	13	5	28	15	6	5	**70**	65	59	53	30
Aboriginal	**63**	23	13	2	29	19	8	3	**94**	61	43	38	24

Note: Differences that are statistically significant ($p < 0.05$) are in bold text.

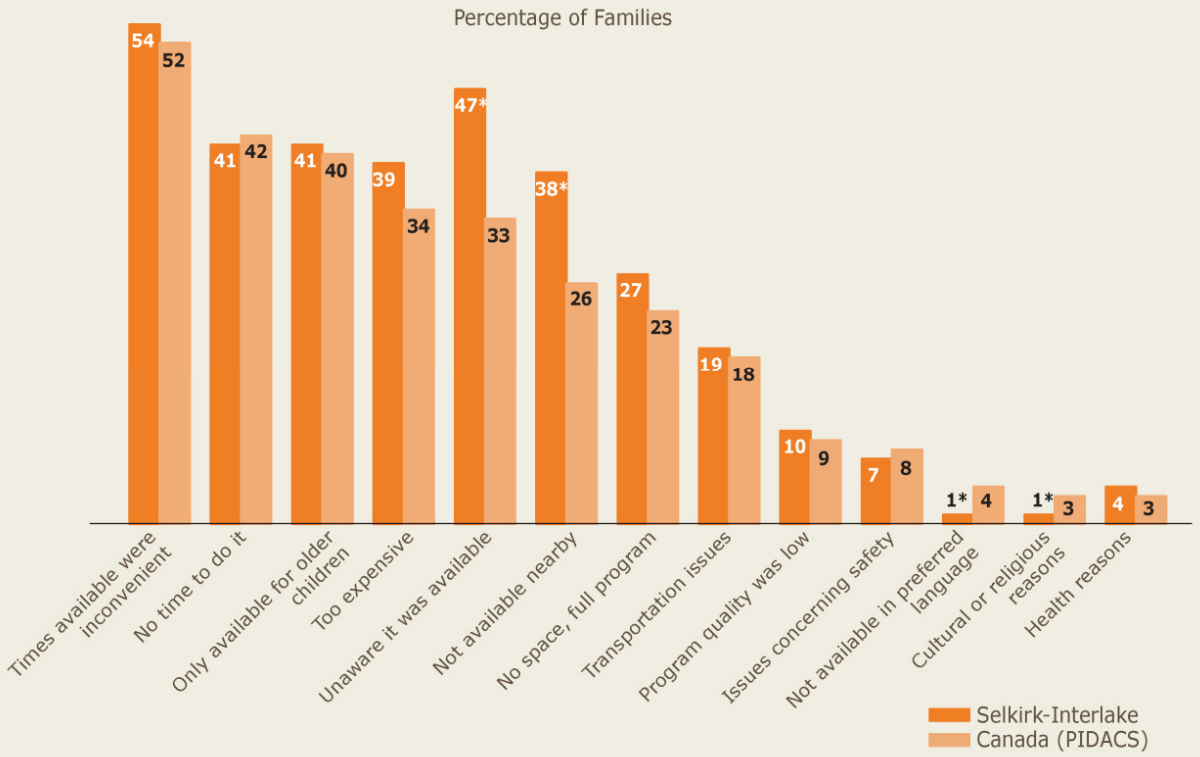
Source: PIDACS, 2008-09 (Selkirk-Interlake).

Barriers to Family Use of Programs and Community Resources

The factors that facilitate or impede children's participation in community activities vary among communities. PIDACS included a set of questions on the factors that parents felt were barriers to their children's participation. For the full UEY-21 PIDACS sample, the barriers to participation, in order of the frequency indicated by parents' responses, were:

a. Programs were not available at convenient times.
b. There was not enough time.
c. Programs were available to older children only.
d. Programs were too costly.
e. Parents were unaware that the resource existed.
f. The programs of interest were not available in the community.
g. No space available in program (e.g., program full).
h. Getting to the program or service would have been difficult (e.g., no parking, no bus, no car).
i. Quality of the program provided.
j. Safety concerns.
k. Programs were not available in preferred language.
l. Cultural or religious reasons.
m. Health reasons.

FIGURE 3-7. Barriers to the use of programs and resources for kindergarten children



Note: Statistically significant differences are indicated with an asterisk.
Source: PIDACS, 2006-07 (Canada) and 2008-09 (Selkirk-Interlake).

Figure 3-7 shows the percentage of families in Selkirk-Interlake that considered each issue to be a barrier to their use of programs and resources. The five most prominent barriers identified by the parents were: programs were not available at convenient times (54%), being unaware the resource was available (47%), programs were only available to older children (41%), there was not enough time (41%), and programs were too costly (39%).

Table 3-8 displays differences in the perceived barriers to the use of programs and resources among sub-populations of Selkirk-Interlake for the five most important barriers identified. Program cost was an important barrier for low-income, single-parent and Aboriginal families. Low-income families also tended to be less aware of the programs that were available. Lacking time or an appropriate time was a barrier for mothers who were employed.

TABLE 3-8. Differences among Selkirk-Interlake sub-populations in the five most prominent barriers to kindergarten children's use of community resources (% children)

	Times available were inconvenient	Unaware it was available	Only available for older children	No time to do it	Too expensive
All Children	54	47	41	41	39
Child's Sex					
Girls	56	46	39	40	37
Boys	52	48	43	42	42
Family Income					
Below $30,000/year	59	**63**	47	33	**63**
At or above $30,000/year	52	**43**	46	47	**32**
Mothers' Employment					
Not employed	**34**	40	34	**26**	45
Employed	**62**	48	44	**46**	37
Family Structure					
Single-parent family	56	56	47	51	**73**
Two-parent family	54	45	40	39	**32**
Aboriginal Status					
Non-Aboriginal	55	45	39	45	**33**
Aboriginal	48	50	45	29	**59**

Note: Differences that are statistically significant ($p < 0.05$) are in bold text.

Source: PIDACS, 2006-07 (Canada) and 2008-09 (Selkirk-Interlake).

C. USE OF CHILD-CARE ARRANGEMENTS

High quality child-care programs can have strong and enduring effects on a wide range of early childhood outcomes,[34] and generally, the effects are stronger for children from low socio-economic backgrounds.[35] One must, however, stress the importance of 'high quality'. Programs are effective if they have developmentally-appropriate practices, a curriculum that emphasizes language development, a low child-to-teacher ratio, and programming that is embedded in local service delivery systems.[36] The quality of child-care programs tends to vary considerably in Canada, and therefore their effects also vary.[37]

In PIDACS, the parents were asked a series of questions on the types of care arrangements they used while they were working or studying. Parents were asked whether their child was cared for outside the home, and if so, how the care was provided and for how many hours. Table 3-9 summarizes the findings.

In Selkirk-Interlake, 38% of the families cared for their children at home without any other type of arrangement. This was lower than the Canadian PIDACS average of 42%. For another 16% of families, care was provided by a relative at home, or by a relative in someone else's home. For those who used an alternate arrangement, the most frequent type was care by a non-relative in someone else's home (30%). About 14% of the parents of kindergarten children used day-care centres. The Canadian PIDACS average was 19%.

The study also found that among those using a child-care arrangement, about 44% used two or more different types of arrangements. On average, children were cared for in child-care arrangements for about 22 hours per week.

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[34] Currie, J. (2001). Early childhood education programs. *Journal of Economic Perspectives*, *15*, 213–238.

Schweinhart, L. J. & Weikart, D. P. (1997). The High/Scope preschool curriculum comparison study through age 23. *Early Childhood Research Quarterly*, *12*(2), 117-43.

Shonkoff, J., & Phillips (2000). *From neurons to neighborhoods: The science of early childhood development*. Washington, DC: National Academy Press.

[35] Burchinal, M. R., Peisner-Feinberg, E., Bryant, D. M. & Clifford, R. M. (2000). Children's social and cognitive development and child-care quality: Testing for differential associations related to poverty, gender or ethnicity. *Applied Developmental Science*, *4*(3), 149-165.

Kohen, D. E., Hertzman, C. & Willms, J.D. (2002). The importance of quality childcare. In J. D. Willms (Ed.). *Vulnerable Children: Findings from Canada's National Longitudinal Survey of Children and Youth*. Edmonton, AB: The University of Alberta Press (pp. 261-276).

[36] Ramey, C. T. & Ramey, S. L. (1998). Early intervention and early experience. *American Psychologist*, *53*(2), 109-120.

[37] Boyle, M. H. & Willms, J. D. (2002). Impact evaluation of a national, community-based program for at-risk children in Canada. *Canadian Public Policy*, *28*(3), 461-481.

Organisation for Economic Cooperation and Development (2006). *Starting strong II: Early childhood education and care*. Paris: OECD Publishing.

TABLE 3-9. Use of child-care arrangements for kindergarten children during out-of-school hours (% children)

	Selkirk-Interlake	Canada (PIDACS)
Did not use a child-care arrangement	38	42
Used at least one type of care arrangement	62	58
Most frequently used type of care arrangement		
In own home by a relative (excluding siblings)	6	8
In own home by a sibling	0	1
Someone else's home by a relative	10	10
In own home by a non-relative	1	5
Someone else's home by a non-relative	30	15
Day-care centre	14	10
Before-school or after-school program	0	9
Other child-care arrangement	0	1
Among those using a care arrangement, use of multiple types of care arrangements		
One only	56	59
Two types	33	20
Three or more types	11	11
Total time using some form of care arrangement (hours per week)	22.3 hours	18.4 hours

Source: PIDACS, 2006-07 (Canada) and 2008-09 (Selkirk-Interlake).

Table 3-10 displays differences among sub-populations of Selkirk-Interlake in the use of child-care arrangements. The most important determinant of whether parents used a child-care arrangement was whether or not the mother was employed.

TABLE 3-10. Differences among Selkirk-Interlake sub-populations in the use of child-care arrangements for kindergarten children (% children)

	Uses Child-Care Arrangement
All Children	62
Child's Sex	
Girls	69
Boys	55
Family Income	
Below $30,000/year	66
At or above $30,000/year	61
Mothers' Employment	
Not employed	**37**
Employed	**74**
Family Structure	
Single-parent family	*
Two-parent family	*
Aboriginal Status	
Non-Aboriginal	64
Aboriginal	61

Note: Differences that are statistically significant ($p < 0.05$) are in bold text. Asterisks denote insufficient data.

Source: PIDACS, 2008-09 (Selkirk-Interlake).

D. NEIGHBOURHOOD CHARACTERISTICS

The quality of a neighbourhood and the local community can have positive effects on children's developmental outcomes in several ways. For example, the availability of local playgrounds and pools can directly affect children's physical development. When the neighbourhood is a safe place for children to play, it is easier for parents to be engaged with their children in positive ways. Social support plays an important role; if parents feel supported by their neighbours, friends and family, there tend to be lower levels of family stress and fewer parents experiencing depression.[38]

Three aspects of neighbourhood characteristics were assessed with PIDACS: neighbourhood quality, neighbourhood safety, and neighbourhood cohesion. PIDACS also included a measure of parents' social support. These measures and the results for Selkirk-Interlake are described below and presented graphically in Figure 3-8.

Neighbourhood Quality. The PIDACS interviewer asked parents some general questions on the quality of their neighbourhood, such as whether the neighbourhood had lots of other families with children, good schools and nursery schools, adequate facilities for children, such as playgrounds and pools, good health facilities, actively-involved residents, and accessible public transportation. The responses were scaled on a ten-point scale, such that 5 was a neutral response. An average rating above 5 was considered to reflect a 'quality neighbourhood'. Only 46% of the parents in Selkirk-Interlake considered their neighbourhood to be of high quality. This was considerably lower than the Canadian PIDACS average of 77%.

Neighbourhood Safety. The PIDACS parent interview included four questions on neighbourhood safety. Parents were asked whether it was safe to walk alone in their neighbourhood after dark; whether it was safe for children to play outside during the day; whether there were safe parks, playgrounds, and play spaces; and whether one could count on adults in the neighbourhood to watch out that children were safe. As with neighbourhood quality, ratings above 5 on the ten-point scale were interpreted as indicating 'safe neighbourhoods'. Eighty-seven per cent of the parents in Selkirk-Interlake considered their neighbourhoods to be safe, which was comparable to the Canadian PIDACS average of 90%.

Neighbourhood Cohesion. This PIDACS measure refers to whether neighbours were close and supported each other. In communities that scored high on this measure parents felt that neighbours helped each other, that when there was a problem the neighbours got together to deal with it, that there were adults in the neighbourhood that children could look up to, that parents watched out to make sure children were safe, and that when the family was away from home the neighbours kept their eyes open for possible trouble. Ratings above 5 on the ten-point scale for this measure were considered indicative of a 'cohesive neighbourhood'. In Selkirk-Interlake, 86% of the parents considered their neighbourhoods to be cohesive, which was comparable to the Canadian PIDACS average of 91%.

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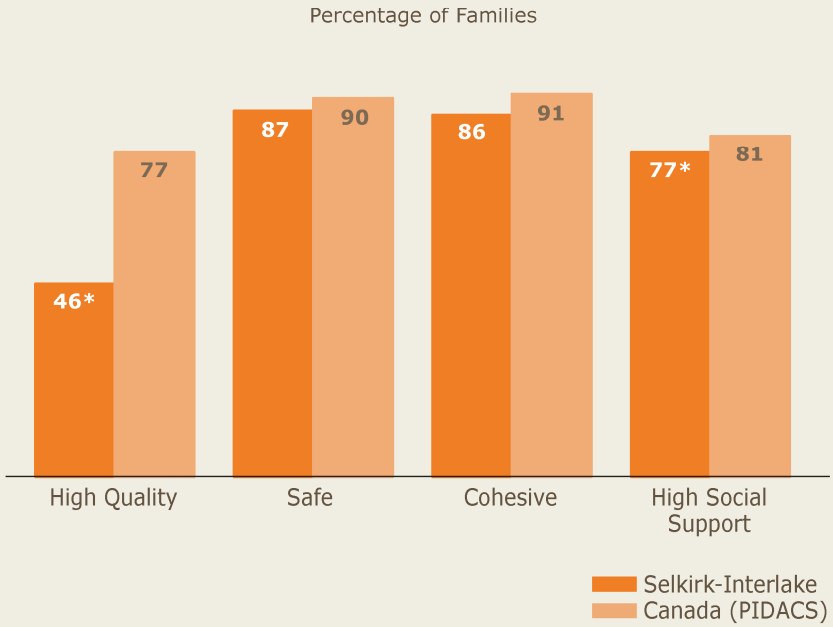
[38] Mulvaney, C. & Kendrick, D. (2005). Depressive symptoms in mothers of pre-school children effects of deprivation, social support, stress and neighbourhood social capital. *Social Psychiatry and Psychiatric Epidemiology*, *40*, 202-208.

FIGURE 3-8. Assessments by parents of kindergarten children of neighbourhood characteristics and social support



Note: Statistically significant differences are indicated with an asterisk.
Source: PIDACS, 2006-07 (Canada) and 2008-09 (Selkirk-Interlake).

Social Support. This PIDACS measure assesses the level of support that the parent felt from friends and family members. In communities that scored high on this measure, parents felt that there were family members and friends who helped them feel safe, secure and happy, that there were people they could turn to for advice or to talk about problems, and that there were people who shared their interests and had similar attitudes and concerns. As the scores on this measure were negatively skewed, a higher cut-off point, 6.67 on the ten-point scale, was used to indicate a high level of social support. About 77% of the parents in Selkirk-Interlake indicated that they felt high levels of social support, which was below the Canadian average of 81%.

Table 3-11 displays differences among sub-populations of Selkirk-Interlake in the percentage of families reporting high levels on the measures of neighbourhood characteristics and social support. Low-income and single-parent families were less likely to rate their neighbourhood as high quality and cohesive, while single-parent families were less likely to feel their neighbourhood was safe.

TABLE 3-11. Differences among Selkirk-Interlake sub-populations in parents' assessments of neighbourhood characteristics and social support (% families)

	High Quality	Safe	Cohesive	High Social Support
All Children	46	87	86	77
Child's Sex				
Girls	42	88	90	78
Boys	50	86	83	76
Family Income				
Below $30,000/year	**32**	80	**75**	68
At or above $30,000/year	**50**	92	**91**	83
Mothers' Employment				
Not employed	42	86	88	76
Employed	48	88	85	77
Family Structure				
Single-parent family	**30**	**67**	**66**	69
Two-parent family	**50**	**92**	**92**	79
Aboriginal Status				
Non-Aboriginal	49	86	87	81
Aboriginal	41	90	83	70

Note: Differences that are statistically significant ($p < 0.05$) are in bold text.
Source: PIDACS, 2008-09 (Selkirk-Interlake).

IV

LOOKING FORWARD

IV. LOOKING FORWARD

A. WHAT MAKES SELKIRK-INTERLAKE UNIQUE?

Community-based research is important as it can help a community and its members understand how well their youngest citizens are developing and how they might provide the best possible environment for them. In this study, children's cognitive skills, behaviour, and physical health and well-being were assessed during kindergarten using two approaches: by direct assessments of children's development and by parent perceptions through the *Parent Interviews and Direct Assessments of Children Survey (PIDACS)*.

The first approach involved direct assessments of the children's language and cognitive skills. The children of Selkirk-Interlake had scores on receptive vocabulary skills that were comparable to the Canadian PIDACS average (See discussion regarding the Canadian PIDACS average on page I-8). However, they scored above average on assessments of pre-literacy skills and number knowledge.

The second approach involved the children's parents, who assessed their children's behaviour and health outcomes as part of the PIDACS parent interview. Based on parents' responses, the prevalence of children in Selkirk-Interlake with behavioural problems was comparable to the Canadian PIDACS average. Fifteen per cent of the children in the sample had a low score on the measure of positive social behaviour, which was also comparable to the Canadian average. On assessments of general health, asthma, allergies, and chronic conditions the proportions of children with significant health problems were comparable to the corresponding Canadian PIDACS averages.

The 2006 Canadian Census data indicated that the average level of family income in Selkirk-Interlake was about $79,000, which was slightly below the Canadian average of about $82,000; however, the Selkirk-Interlake median income of about $70,000 was above the national median of about $66,000. The prevalence of families with incomes below $30,000 was lower than the national average of 15.1%. Unemployment rates and transience rates were also lower than Canadian norms.

A disproportionate number of mothers in the community reported experiencing depression, resulting in a prevalence of 17%, which was well above the Canadian PIDACS average of 10%. Nevertheless, the prevalence of parents displaying positive parenting practices was comparable to the Canadian average. The rate of parents reading daily to their child, however, was below the Canadian average. Television watching was relatively high, with children watching television on average about 1.9 hours per day. The children in this community tended to be actively engaged in unorganized sports, with an average rate of 4.6 times per week. Their use of entertainment and cultural resources was comparable to the Canadian average, but their use of libraries and bookmobiles was below average.

The most prominent barriers to participation were that programs were not available at convenient times (54%), parents were unaware the resource was available (47%), programs were only available to older children (41%), parents felt that there was not enough time (41%), and that programs were too costly (39%). About 62% of the families in this community used some form of child-care arrangement while working or studying. The most frequently used type of care was care in someone else's home by a non-relative. An

especially noteworthy finding was that only 46% of parents considered their neighbourhoods to be of high quality, which was much lower than the Canadian PIDACS average of 77%.

B. CONCLUDING REMARKS

The UEY Initiative is providing communities with valuable information on their needs and strengths. UEY is helping communities with different economic, social and physical characteristics to understand how their young children are faring, what the community is doing to support those children, and which family and community factors may influence young children's development. This *Community Research Report* for Selkirk-Interlake, Manitoba presents data on kindergarten children's development and on family and community experiences from the *Parent Interviews and Direct Assessments of Children Survey.* The data were provided by parents and trained assessors reporting on the development of the children in their homes and at school.

Other local information available through the UEY project includes the results of kindergarten teachers' assessments of children's development using the *Early Development Instrument*, information on availability and accessibility of programs and services, and results describing local socio-economic characteristics from the Canadian Census. Taken together, these data can be used to start conversations about the implications of the research and the needs of children in this community. The local UEY project staff will work with the UEY coalition of community organizations and individuals to create an evidence-based *Community Action Plan* to address the gaps in community supports for their young children. Through the development of the *Community Action Plan*, and through events and activities to share the research information with parents, service providers, educators and others, the UEY staff and coalition will engage this community to better understand the importance of the development of their young children and the approaches to enhance that development.

APPENDIX A: LIST OF PARTICIPATING COMMUNITIES

COMMUNITY	HOST ORGANIZATION
UEY Pilot Communities (5) Funded in 2000	
UEY PRINCE ALBERT	Saskatchewan Rivers School Division No. 119, Prince Albert, Saskatchewan
UEY WINNIPEG	Winnipeg School Division No.1, Winnipeg, Manitoba
UEY NORTH YORK	Adventure Place, North York, Ontario
UEY PRINCE EDWARD ISLAND	Early Child Development Association of PEI, Charlottetown, Prince Edward Island
UEY SOUTHWESTERN NEWFOUNDLAND	Community Education Network, Stephenville, Newfoundland
UEY Pilot Communities (7) Funded in 2001	
UEY ABBOTSFORD	United Way of the Fraser Valley, Abbotsford, British Columbia
UEY SASKATOON	Saskatoon Communities for Children, Saskatoon, Saskatchewan
UEY SOUTH EASTMAN	South Eastman Health/Santé Sud-Est Inc., Steinbach, Manitoba
UEY NIAGARA FALLS	Early Childhood Community Development Centre, St. Catharines, Ontario
UEY DIXIE-BLOOR OF MISSISSAUGA	Peel District School Board, Mississauga, Ontario
UEY MONTRÉAL	Centre 1, 2, 3 Go!, Montréal, Québec
UEY HAMPTON	Hampton Alliance for Lifelong Learning, Hampton, New Brunswick
UEY Communities (21) Funded in 2005	
UEY GREATER VICTORIA	Community Social Planning Council of Greater Victoria, Victoria, British Columbia
UEY MISSION	United Way of the Fraser Valley, Abbotsford, British Columbia

UEY OKANAGAN SIMILKAMEEN	School District No. 53 (Okanagan Similkameen), Oliver, British Columbia
UEY SUNSHINE COAST	Powell River Child, Youth and Family Services Society, Powell River, British Columbia
UEY CAMPBELL RIVER	Campbell River Child Care Society, Campbell River, British Columbia
UEY NORTH SHORE	North Shore Community Resources, North Vancouver, British Columbia
UEY NORTHEAST SASKATCHEWAN	Northeast Regional Intersectoral Committee, Melfort, Saskatchewan
UEY DIVISION SCOLAIRE FRANCO-MANITOBAINE	Division scolaire franco-manitobaine, Lorette, Manitoba
UEY NIAGARA REGION	Early Childhood Community Development Centre, St. Catharines, Ontario
UEY OTTAWA	Success by 6/6 ans et gagnant Ottawa, Ottawa, Ontario
UEY NORTHERN REGION OF ONTARIO	Superior Children's Centre, Wawa, Ontario
UEY KAWARTHA LAKES AND HALIBURTON COUNTY	Ontario Early Years Centre - Haliburton Victoria Brock, Lindsay, Ontario
UEY LOWER HAMILTON	Wesley Urban Ministries, Hamilton, Ontario
UEY MILTON	Reach Out Centre for Kids, Burlington, Ontario
UEY NORTHUMBERLAND COUNTY	Northumberland Child Development Centre, Port Hope, Ontario
UEY POINTE-DE-L'ÎLE	Centre 1, 2, 3 Go!, Pointe-de-l'Île, Montréal, Québec
UEY MONTRÉAL CHASSIDIC AND ORTHODOX COMMUNITY	YALDEI Developmental Centre, Montréal, Québec
UEY GREATER SAINT JOHN	Family Plus-Life Solutions Inc., Saint John, New Brunswick
UEY CUMBERLAND COUNTY	Cumberland Mental Health Services, Amherst, Nova Scotia
UEY HALIFAX WEST AND AREA	Sackville-Bedford Early Intervention Society, Lower Sackville, Nova Scotia
UEY WESTERN NOVA SCOTIA	Nova Scotia Community College (Kingstec Campus), Kentville, Nova Scotia

UEY Communities (16) Funded in 2007	
UEY BURNABY	Burnaby Family Life, Burnaby, British Columbia
UEY NEW WESTMINSTER	Lower Mainland Purpose Society, New Westminster, British Columbia
UEY WEST KOOTENAY	Kootenay Boundary Community Services Co-operative, Nelson, British Columbia
UEY NORTH PEACE - NORTHERN ROCKIES	North Peace Community Resources Society, Fort St. John, British Columbia
UEY KAMLOOPS	Interior Community Services, Kamloops, British Columbia
UEY COWICHAN VALLEY	Volunteer Cowichan, Duncan, British Columbia
UEY RED DEER	Family Services of Central Alberta, Red Deer, Alberta
UEY MOOSE JAW - SOUTH-CENTRAL SASKATCHEWAN	Prairie South School Division No. 210, Moose Jaw, Saskatchewan
UEY REGINA	Regina Qu'Appelle Health Region, Regina, Saskatchewan
UEY SOUTHEAST SASKATCHEWAN	Holy Family Roman Catholic School Division No. 140, Weyburn, Saskatchewan
UEY PRINCE ALBERT GRAND COUNCIL	Prince Albert Grand Council, Prince Albert, Saskatchewan
UEY SELKIRK-INTERLAKE	Lord Selkirk School Division, East Selkirk, Manitoba
UEY MALTON	Peel District School Board, Mississauga, Ontario
UEY GEORGINA	York Child Development and Family Services, Newmarket, Ontario
UEY PICTOU, ANTIGONISH AND GUYSBOROUGH	Kids First Association, New Glasgow, Nova Scotia
UEY CAPE BRETON – VICTORIA	Cape Breton Family Place Resource Centre, Sydney, Nova Scotia