Understanding the Early Years: Western Nova Scotia

A Community Research Report

Prepared for:
Human Resources and Skills Development Canada

J. DOUGLAS WILLMS
KSI RESEARCH INTERNATIONAL INC. WITH
R. A. MALATEST & ASSOCIATES LTD.

SP-711-03-10E

Understanding the Early Years: Western Nova Scotia
A Community Research Report

Publié aussi en français sous le titre:

Comprendre la petite enfance: Région ouest de la Nouvelle-Écosse
Rapport de recherche communautaire

Published: Spring 2010

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Publications Services
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PRINT (English)
Cat. No. : HS4-23/28-2009E
ISBN : 978-1-100-13712-4
PRINT (French)
N° de cat. : HS4-23/28-2009F
ISBN : 978-1-100-92588-2
PDF (English)
Cat. No. : HS4-23/28-2009E-PDF
ISBN : 978-1-100-13713-1
PDF (French)
N° de cat. : HS4-23/28-2009F-PDF
ISBN : 978-1-100-92589-9

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ACKNOWLEDGEMENTS

This report was prepared by J. Douglas Willms, with assistance from Elizabeth Fairbairn, Hasnain Mirza, and Teresa Tang. The author is grateful to André Bordeleau, Donald Nadeau, Liz Nieman, and Gong-Li Xu for comments on drafts of this report, and to other staff at Human Resources and Social Development Canada who manage the Understanding the Early Years (UEY) initiative. He is also grateful to Joanne Barry, Heather MacDonald, Tim Mills, Orsolya Vaska, and other staff members at R. A. Malatest & Associates Ltd. who collected and managed the *Parent Interviews and Direct Assessments of Children Survey* for the study, and to Magdalena Janus and her colleagues at the Offord Centre for Child Studies at McMaster University who collected data on children's outcomes from grade primary teachers using the *Early Development Instrument.* The author is pleased to acknowledge Jeff Kelly, the community research coordinator for UEY Western Nova Scotia, who provided assistance with this report. Special thanks and recognition are also extended to the sponsor organization, Nova Scotia Community College (NSCC), which provided the infrastructure that has been crucial for the initiative's success. The author also wishes to acknowledge the key partners within the valley: teachers and staff with the Annapolis Valley Regional School Board and the individuals representing the community coalition. The author also wishes to express thanks to the parents and children for their participation in this initiative. Without the support and assistance of these community partners, this study would not have been possible.

EXECUTIVE SUMMARY

Understanding the Early Years (UEY) is a national initiative aimed at strengthening the capacity of communities to use quality local research to help them make decisions to enhance children's lives. This report,[1] *Understanding the Early Years in Western Nova Scotia: A Community Research Report*, is based on information collected with the *Parent Interviews and Direct Assessments of Children Survey (PIDACS)*, as well as information collected from teachers using the *Early Development Instrument (EDI)*. The report is to be used by local project staff and its community coalition, in conjunction with the *Community Mapping Report* developed by the Western Nova Scotia UEY project, which includes maps displaying local information, to set out a *Community Action Plan*. The *Community Action Plan* is a key product of the local UEY project as it outlines concrete measures that community members can take to address gaps in programs and services identified by the research to provide the best possible approaches to meet the needs of their young children.

PIDACS was designed to collect information about children's developmental outcomes and their family and neighbourhood environments and experiences. The target population for the PIDACS was all children who entered grade primary (the year before grade one) in autumn 2006. In Western Nova Scotia, the sample included 469 families, and of these, 444 parents or guardians completed the PIDACS interview. The parent interview covers family, social and economic circumstances; children's activities with parents; and involvement in the community, including child-care arrangements. The interview also includes questions about the children's health and behaviour, including positive social behaviour, inattention, anxiety, depression, and physical aggression. PIDACS also includes direct assessments of children's developmental skills, including receptive vocabulary, number knowledge, and pre-literacy. In Western Nova Scotia, 434 children completed the direct assessments. In addition, this report presents teachers' assessments of the development of grade primary children in Western Nova Scotia, using the EDI.

[1] This report is one of a set of reports on Understanding the Early Years in each of 21 UEY communities. Please see Appendix A for a list of the communities.

Generally, the children of Western Nova Scotia are faring well compared with their Canadian counterparts in the other 20 UEY communities that started their UEY activities in autumn 2005. The children in this study had above-average scores on all three of the direct assessments of children's developmental skills. The assessments provided by the grade primary teachers were mixed; they rated children above the national average on a measure of 'language and cognitive development', but below average on 'physical health and well-being' and 'social competence'. The parents' assessments revealed that the prevalence of children exhibiting depressive symptoms was relatively low, while the prevalence of children with other types of behavioural problems was consistent with Canadian norms. Very few children in the community had poor ratings of physical health, and the prevalence of children with asthma, allergies, or chronic health conditions were consistent with the national average.

Western Nova Scotia is unique in that the parents have relatively high levels of secondary school completion and most parents are employed. However, nearly one-fifth of the children in the sample were living in low-income families. Also, about 18% of the children were living in a single-parent family. Overall, the average level of socioeconomic status of this community is below the Canadian average.

Despite the economic challenges faced by many parents, the children of Western Nova Scotia are very fortunate. Parents were engaged with their children in educational activities, and read to their children on a regular basis. Parents' assessments of their local neighbourhoods were below norms on a general measure of neighbourhood quality, but comparable to the Canadian average on measures of neighbourhood safety and cohesion. An area of concern revealed by the analysis was that children were less frequently engaged in unorganized sports, compared with other Canadian children. Also, children watched television or videos on average about 1.7 hours per day, and the rate that children in this community used parks, play spaces and trails was considerably lower than that of other Canadian children. The prominent barriers to participation were similar to those of other communities, including not finding a convenient time to participate, not having the time to participate, and the unavailability of programs for children this age. Parents in this community also reported that the unavailability of programs nearby and transportation issues were major barriers to participation. About 60% 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 relative or non-relative.

As the community works towards developing its action plan, it can consider its strengths and weaknesses uncovered by the local research. The findings of this report may vary among regions within this UEY community. 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.

INTRODUCTION

I. INTRODUCTION

A. WHAT THIS STUDY IS ABOUT

Background: Understanding the Early Years (UEY) 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 can have a major impact on the rest of their lives. The evidence also suggests that neighbourhoods and communities where children grow and learn influence their development; they 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.

Policies and programs to enhance children's early development differ in important ways among neighbourhoods, communities, and regions across Canada. 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 about children and the places where 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 Social 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.
- Strengthening their ability to use local data to help them 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 learn to generate and use local information on:

- the development of grade primary (the year before grade one) children;
- family and community factors that influence children's development;
- local programs and services for young children and their families; and
- local socioeconomic characteristics.

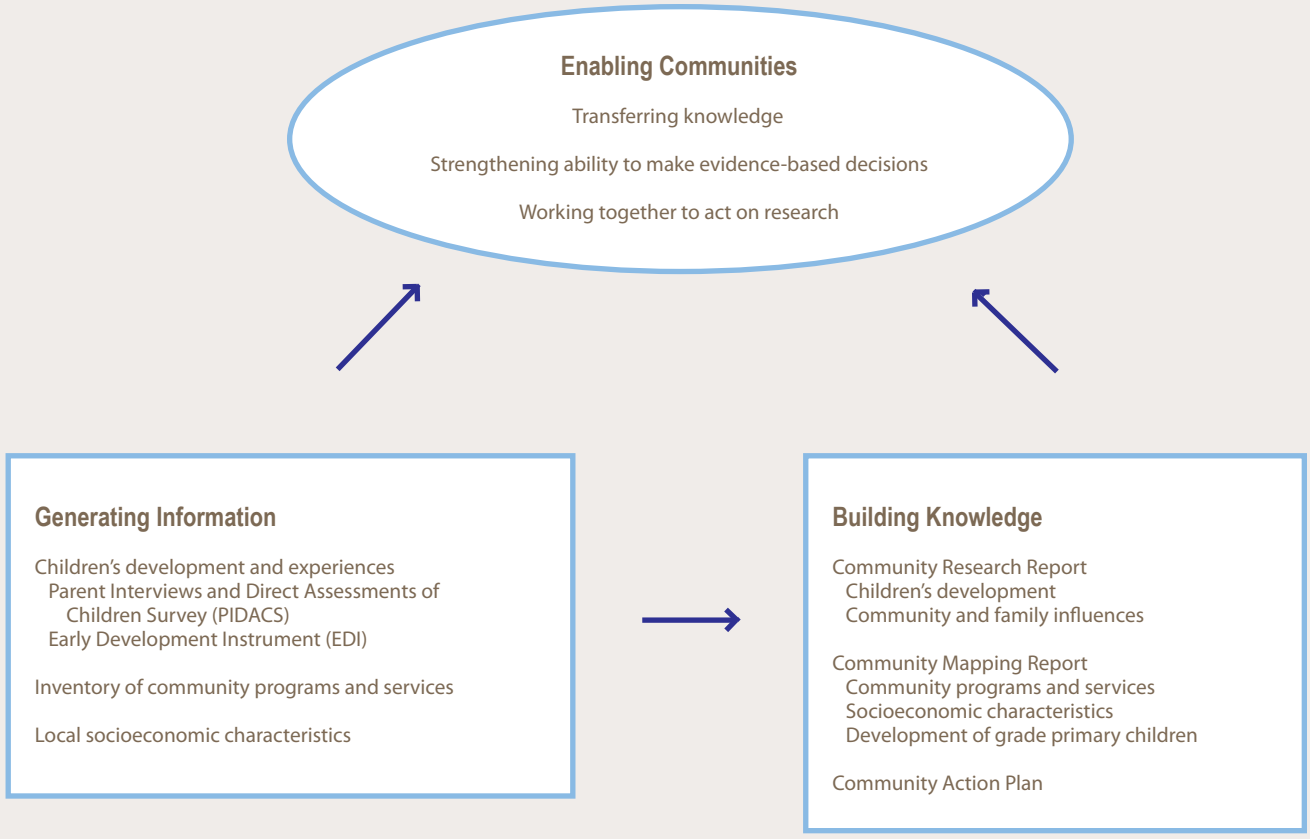
This information enables local UEY project staff, the UEY community coalition of organizations and individuals, and other community members to identify gaps in services and programs for young children and their families. Moreover, it fosters partnerships among community groups and individuals, enabling them to make informed decisions about 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 also aims to promote the participation of communities with children from diverse cultural, language and economic backgrounds.

UEY was launched in 1999 as a research initiative to enhance knowledge about community factors that influence the early development of children. It began with a pilot initiative in North York, Ontario and included 12 communities by 2002. In 2004, UEY became a national initiative. This report, *Understanding the Early Years in Western Nova Scotia: A Community Research Report*, presents results for Western Nova Scotia, Nova Scotia, one of the 21 communities that began UEY activities in autumn 2005. Please see Appendix A for a list of the 21 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



B. HOW THE STUDY WAS CONDUCTED

This *Community Research Report* for Western Nova Scotia is a key piece of the local research made available to the community through the UEY initiative. It highlights key findings from the information collected from parents, children and teachers, presented 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 grade primary children, direct assessment results on children's cognitive abilities, parents' perspectives on family circumstances and children's experiences, local information on programs and services, and local socioeconomic characteristics. Table 1-1 indicates the types of data and their sources.

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

TYPE OF INFORMATION	DATA SOURCE	COLLECTED BY
Development of grade primary 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 Social 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 Social Development Canada
Teachers' perspectives	Teacher-completed checklist, the *Early Development Instrument*	Offord Centre for Child Studies at McMaster University, under contract to Human Resources and Social Development Canada
Family circumstances and children's experiences at home and in the community	Interview with parents using the *Parent Interviews and Direct Assessments of Children Survey*	R.A. Malatest & Associates Ltd., under contract to Human Resources and Social Development Canada
Information about community programs and services	*Inventory of Community Programs and Services*	Local UEY project
Local socioeconomic characteristics	2001 Census (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 (PIDACS)* collected during the 2006-07 school year. The teachers' assessments of the development of children in their classes were collected using the *Early Development Instrument (EDI)* in the 2005-06 school year. The social and community contexts of the community are provided by the local UEY staff and are developed from 2001 Census data.

Parent Interviews and Direct Assessments of Children Survey (PIDACS)

The *Parent Interviews and Direct Assessments of Children Survey* uses instruments designed and adapted for five-year-olds in the National Longitudinal Survey of Children and Youth (NLSCY).[2] It has two complementary components: the PIDACS parent interview and direct assessments of children's cognitive development. Together, they provide information on children's developmental outcomes in three domains, and 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) about the child, which is usually the mother or female guardian. In less than 10 per cent of families, the parent is the father or male guardian. The interview is done by telephone or on the internet if possible, or in person when a telephone is not available. Parents are interviewed in the language of their choice as much as 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 about 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.

[2] The National Longitudinal Survey of Children and Youth (NLSCY) 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 Social Development Canada (HRSDC).

The PIDACS target population in each UEY community was all children who entered grade primary in autumn 2006. In most UEY communities the sample comprised the full population, but in some of the larger communities a representative sample was drawn. The data collection occurred from late autumn 2006 to spring 2007. Thus, the vast majority of the children were five or six years old at the time of the data collection. The average age across the 21 UEY communities was 5 years, 11 months, and in Western Nova Scotia it was 6 years and 0 months. The sample for Western Nova Scotia included 469 children enrolled in grade primary in 2006-07. Of these, 444 parents or guardians were interviewed, and 434 children completed the PIDACS direct assessments.

The PIDACS sample size for Western Nova Scotia 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, the average score in Western Nova Scotia on the measure of receptive vocabulary is 104.4. The standard error of this estimate, which provides an indication of how accurately the estimate was measured, is 0.6. If we 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 103.2 and 105.6, about 19 times out of 20. In all comparisons, we test for the statistical significance at this level of significance ($p < 0.05$).

The data collected with PIDACS and with the EDI were merged with information on the socioeconomic status (SES) of the families' neighbourhoods, using a measure derived from data from the 2001 Canadian Census. The census data were used to check whether the average SES of the families in the PIDACS sample did not differ significantly from the EDI sample, which included the full population of children enrolled in grade primary the previous year. The average SES of the families in the PIDACS sample did not differ significantly from the EDI sample. Therefore, we are reasonably confident that the sample is representative of all families with grade primary children in Western Nova Scotia.

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.[3] 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 about 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 NLSCY, to ensure that they are valid measures with high reliability.

The interpretation of each community's PIDACS results is strengthened by comparing them to the Canadian or national average. Where feasible, Canadian averages derived from the NLSCY (Cycle 6) were used for the comparative purposes. In cases where no comparable national averages exist for the PIDACS measures, "pseudo" Canadian or national averages were generated by weighting the combined PIDACS data for the 21 UEY communities (a total sample of 8,834 children) to represent the Canadian population.

[3] 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., Francis, D., Carlson, C., & Foorman, B. (2004). Kindergarten prediction of reading skills: A longitudinal comparative analysis. *Journal of Educational Psychology, 96*(2), 265-282.

In statistical analysis of survey data such as the NLSCY, weighting is often applied to make the sample more like the population under study. In most situations, each case in the sample is assigned a design weight, which is a numerical value, associated with the proportion of the population it represents. This is based on the population-to-sample ratio and information on demographic and socioeconomic characteristics. By multiplying each case by its weight, population totals or averages can be more accurately estimated. In this study, this weighting process was achieved by linking the PIDACS data to the 2001 Canadian Census using geographic information, derived from the postal code, existing on both sets of data. This step allowed information to be derived from the Census data for the PIDACS families on the socioeconomic characteristics of the neighbourhoods in which they live. Weights were then created in the PIDACS data to represent all the Canadian children, based on the similar socioeconomic characteristics of the neighbourhoods where they live. These weights were used to estimate a Canadian average for a PIDACS measure, which would be comparable to the average derived from a nationally representative sample. This average, used for comparative purposes in this report, is referred to as "the Canadian PIDACS average" or "the natioanl PIDACS average".

The use of PIDACS in this context 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. The results can be easily interpreted, and used in conjunction with the *Community Mapping Report* to develop the *Community Action Plan*.

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 is provided in an integrated report that uses data from all 21 UEY communities. Finally, UEY is a descriptive study designed to provide a rich description of the family and community factors that have been found to 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 NLSCY, and studies that involve the random assignment of communities to treatment and control groups. Instead, PIDACS relies on previous research that has been conducted in this vein, such as the NLSCY and Ontario's Better Beginnings Better Futures Program,[4] to provide a comprehensive assessment that can be used for planning in local communities.

[4] 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.

The PIDACS data collection was conducted by an independent contractor, R. A. Malatest & Associates Ltd., hired by Human Resources and Social 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 Malatest to KSI Research International Inc., which was responsible for analyzing the data and writing community-specific research reports for each of the 21 UEY communities. This report is one of these.

Early Development Instrument (EDI)

Another key piece of information for this community report is from grade primary teachers, who provided their perceptions of children's development using the *Early Development Instrument.* Teachers completed the checklist in the winter of 2006 for the sample of children in grade primary classes of schools participating in the UEY project. In Western Nova Scotia, 86 grade primary teachers from 26 schools in the Annapolis Valley Regional School Board completed the EDI on 1,007 children. About 3.8% of the children were considered to have special needs. About 0.7% of the children were repeating grade primary.

The EDI provides information at a group level for five domains of children's development: physical health and well-being; social competence; emotional 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.

The EDI data were collected by the Offord Centre under contract with Human Resources and Social Development Canada in collaboration with participating schools, school boards, and local UEY staff. This report includes a summary of the EDI results as part of Chapter 2 on children's developmental outcomes. The EDI data used in this report included all children, including 'special needs' students. As with the PIDACS, results for the EDI presented in this report were compared to a weighted national average that was derived from data collected from the 21 UEY communities that participated in 2005-06. This average is referred to as the 'Canadian EDI average' or the 'national EDI average'.

It should be noted that the EDI data were collected for children in grade primary in the winter of 2006, while the PIDACS data were collected for children in grade primary in the 2006-07 school year.

C. WESTERN NOVA SCOTIA - MILIEU FOR YOUNG CHILDREN'S DEVELOPMENT

UEY Western Nova Scotia is located in the Annapolis Valley Region of Nova Scotia, which encompasses a wide geographic area of 6,643 square kilometers. The boundaries for the UEY initiative extend from the municipality of West Hants through the counties of Kings and Annapolis. The 'valley', as it is known, is an area rich in history, cultural diversity, natural beauty, and economic activity crucial to Nova Scotia's economic and social prosperity. The rich soil of the valley floor and its mild climate make this area Nova Scotia's center of agriculture, noted for its world-renowned apples, and more recently, grapes, with a growing number of new wineries.

The valley is largely rural with a number of small towns and villages, and a population of about 100,000. The majority of the population is of Western European descent; however, visible minorities comprise about two percent of the overall population. The African Nova Scotian communities throughout the valley are very active. There is also a small percentage of people of Chinese, Korean and Japanese descent. Three First Nations communities live in the region – Annapolis Valley, Bear River and Horton. There is also a significant Acadian presence in the area.

The valley is home to Acadia University and three campuses of Nova Scotia Community College. It has a large military presence at Canadian Forces Base Greenwood and Camp Aldershot. Industries such as Fundy Gypsum, Minas Pulp and Power, and Michelin Tire attract a stable work force. Tourism is an important contribution to the economy, demonstrated at the annual Apple Blossom Festival which attracts thousands of visitors.

Approximately 1,000 children commenced grade primary in the UEY Western Nova Scotia project area in the 2005-06 school year. English is the first language of the majority of these children. A small percentage of children have French as their first language.

In the Annapolis Valley region and some of the larger centres, there are several providers that are devoted to supporting services for children and families. For the more distant towns and villages, access poses difficulties as many young families, especially single-parent families, do not own a vehicle. Residents are concerned with whether there is an appropriate mix of services available for young children, and the lack of coordination of the available services.

PIDACS Data on the Social, Economic and Cultural Context

Information about the social, cultural and economic context of a community, where young children grow up, is helpful in understanding the role that families and neighbourhoods play in children's developmental outcomes. The social, cultural, and economic context of a community is often summarized with measures describing the levels of education of its families, the employment status of its residents, and the average levels of family income. These factors embody what is often called socioeconomic status (SES). Family structure, including the size of the family and whether it is a single- or two-parent family, is also relevant to children's outcomes. Both the NLSCY and PIDACS include measures of all these demographic factors; thus the results for Western Nova Scotia can be compared with those of Nova Scotia and Canada, which are derived from Cycle 6 of the NLSCY. Data from the 2001 Canadian Census are used to provide a map of Western Nova Scotia which portrays the SES of the UEY project area. All of these approaches are used in this chapter, in conjunction with the information provided by the community UEY project staff, to describe the social and economic characteristics of Western Nova Scotia.

Figures 1-2 to 1-5, which are provided in the remainder of this chapter, provide information on six characteristics of the family background of the children in the study. Figure 1-6 provides a map of the UEY project area, showing the SES of the area based on information derived from the 2001 Canadian Census.

Family Income

Earlier national research based on the NLSCY indicated that family income has an influence on children's developmental outcomes. The results suggested that there was a strong relationship with family income for children aged four and five who were living in families with incomes below $30,000.[5] Among those children with family incomes above $30,000, however, the effects on children's outcomes associated with family income were not as strong. About 17%, or 1 in 6, Canadian children are living in families with annual family incomes below $30,000. In 2005, the median total income of Canadian two-parent families with both parents working was $79,100, while for single-parent, female-headed households it was $30,400.[6] Several 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. The results suggest that the risk associated with living in a low-income family increases with duration, and that generally the effect during the early years is more detrimental to children than during their elementary or secondary school years.[7]

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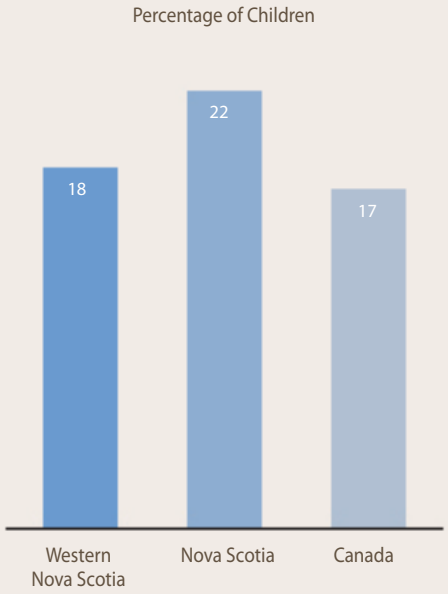
[5] Willms, J. D. (2002). Socioeconomic gradients for childhood vulnerability. In J. D. Willms (Ed.), *Vulnerable Children: Findings from Canada's National Longitudinal Survey of Children and Youth* (pp. 71-102). Edmonton, AB: The University of Alberta Press.

[6] Statistics Canada (2007). Income in Canada. Catalogue Number 75-202-XIE. Ottawa: Minister of Industry. Also, see http://www.statcan.ca/Daily/English/060330/d060330a.htm.

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

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.

FIGURE 1-2. Children in Families with Family Income below $30,000



Source: PIDACS, 2006-07 and NLSCY, Cycle 6, 2004-05.

The median family income of the families in the Western Nova Scotia PIDACS sample was $55,000. About 18% of the children were living in families with annual incomes below $30,000. Data from the NLSCY indicate that in 2004-05 the percentage of children aged zero to five living in families with incomes below $30,000 in Nova Scotia was 22%, and in Canada it was 17%.

These results suggest that there are many children in Western Nova Scotia living in low-income families. Family income is not the sole determinant of children's developmental outcomes, but children living in poor economic circumstances usually face significant challenges that are not experienced by other children.

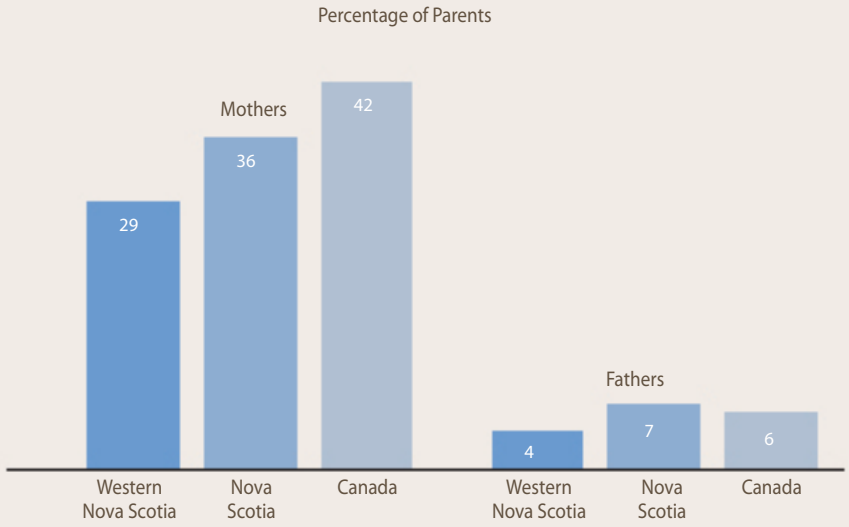
Parents' Employment

National findings from the NLSCY showed that children's developmental outcomes at ages four and five were only weakly related to parents' employment status. For mothers there appears to be a trade-off: mothers who are not employed have more time to be engaged with their child,[8] but they are also more likely to experience depression.[9] The children of mothers who are employed part-time tend to have slightly better developmental outcomes than those who are working full-time or are not employed. Later in this report, results describing levels of parental engagement and maternal depression are presented.

In Western Nova Scotia, the respondents reported that 29% of the mothers were not employed. This is lower than the rate for mothers of young children (aged zero to five) for Nova Scotia, 36%, and for Canada, 42%, based on findings from the NLSCY. Respondents also reported that 4% of the fathers in Western Nova Scotia were not employed, which is lower than the rate for fathers of young children in Nova Scotia, 7%, and Canada, 6%.

These results suggest that there are relatively high rates of employment in Western Nova Scotia. Although this is a positive result in many respects, it means that parents have less time to be engaged with their children. Levels of engagement are examined later in this report.

FIGURE 1-3. Mothers and Fathers Who are Not Employed



Source: PIDACS, 2006-07 and NLSCY, Cycle 6, 2004-05.

[8] Cook, C. & Willms, J. D. (2002). Balancing work and family life. In J. D. Willms (Ed.), *Vulnerable Children: Findings from Canada's National Longitudinal Survey of Children and Youth* (pp. 183-198). Edmonton, AB: The University of Alberta Press.

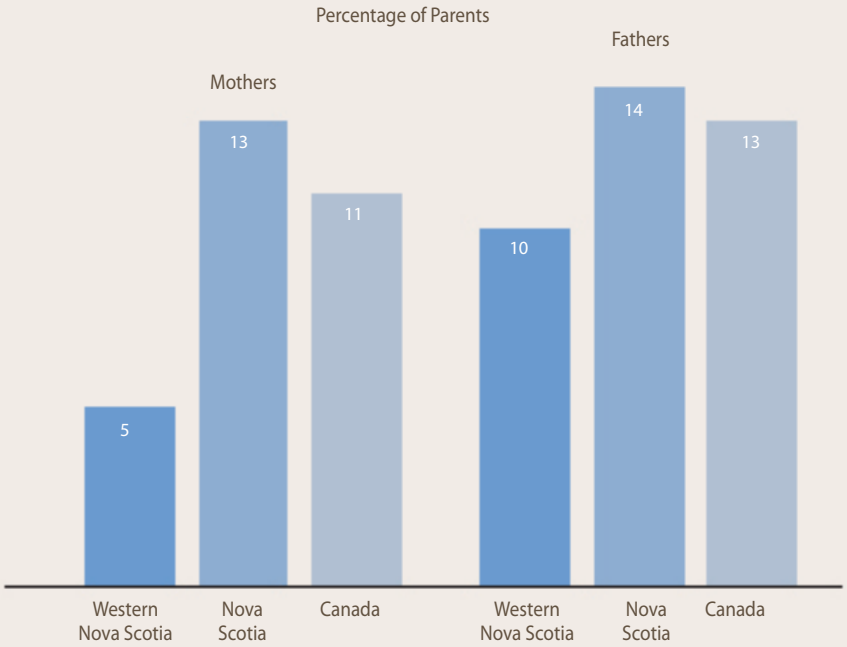
[9] Dahinten, V. S. & Willms, J. D. (2002). Maternal depression and childhood vulnerability. In J. D. Willms (Ed.), *Vulnerable Children: Findings from Canada's National Longitudinal Survey of Children and Youth (*pp. 211-228). Edmonton, AB: The University of Alberta Press.

Parents' Level of Education

Several studies have found a significant relationship between levels of parents' education and a wide range of developmental outcomes.[10] During the early years, the level of the mother's education plays a more prominent role than that of the father,[11] but the effects of a father's education increase after children enter school. Theorists argue that parents' education is important as it is related to expectations and parenting behaviours.

In Western Nova Scotia, only 5% of the mothers reported that they had not completed secondary school. This is lower than the prevalence for mothers of young children aged zero to five for Nova Scotia, 13%, and for Canada, 11%. Also, 10% of the fathers in Western Nova Scotia had not completed secondary school, which is lower than the prevalence for Nova Scotia at 14% and Canada at 13%.

FIGURE 1-4. Mothers and Fathers Who Had Not Completed Secondary School



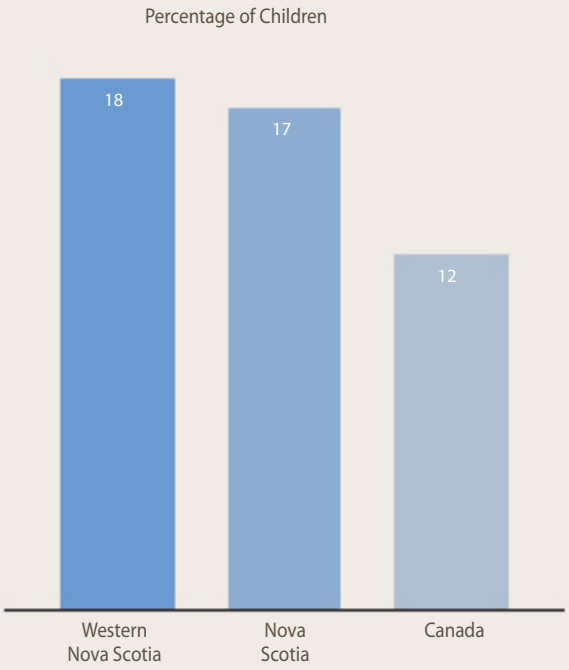
Source: PIDACS, 2006-07 and NLSCY, Cycle 6, 2004-05.

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

[11] 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.

Family Structure

FIGURE 1-5. Children in Single-Parent Families



Source: PIDACS, 2006-07 and NLSCY, Cycle 6, 2004-05.

About one in eight Canadian families with young children is headed by a single parent, usually the mother. 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.[12] One of the problems often experienced by single parents is a lack of resources and transportation for their children to attend sports and recreational programs.

Eighteen percent of the children in the Western Nova Scotia sample were living in single-parent families. Data from the NLSCY for children aged zero to five indicate that 17% of the children in Nova Scotia are in single-parent families, and 12% of Canadian children are in single-parent families. These results have important implications for the kinds of programs that may be most helpful for children in Western Nova Scotia.

About 22% of the children in the Western Nova Scotia sample did not have any brothers or sisters, while 50% had one sibling, and 28% had at least two siblings. The average number of siblings in the Western Nova Scotia sample was 1.1, which is slightly lower than the Canadian average of 1.3.

[12] Lipman, L. L., Offord, D. R., Dooley, M. D., & Boyle, M. H. (2002). Children's outcomes in differing types of single-parent families. In J. D. Willms (Ed.), *Vulnerable Children: Findings from Canada's National Longitudinal Survey of Children and Youth* (pp. 229-242). Edmonton, AB: The University of Alberta Press.

Socioeconomic Status

An understanding of the social and economic context of the community and how family socioeconomic status (SES)[13] is distributed geographically is helpful in understanding the factors contributing to children's development. Research based on the UEY pilot studies and the NLSCY has shown that children's developmental outcomes are related to SES; however, this relationship is not straightforward. Some children from low SES families have very positive cognitive, behavioural and health outcomes, while some children from high SES families have relatively poor developmental outcomes.[14] An important goal of UEY is to distinguish between the effects on children's outcomes of family background and those associated with family processes and community factors. PIDACS includes measures of all three sets of these contributing factors. This rich information is supplemented with more general information obtained from the 2001 Canadian Census.

The census data are used in Figure 1-6 to portray the SES of the UEY project area.[15] This report uses a measure of neighbourhood SES developed by KSI Research International Inc. It is derived from the 2001 Canadian Census, which includes information on the average income, level of education, employment status and the types of occupation of residents of each dissemination area (DA). The DA is a geographic unit which on average includes about 565 residents. It can be considered the 'neighbourhood' of the study children, although DA boundaries are not necessarily the same boundaries that local residents might use to define their neighbourhood.

The KSI measure of SES was scaled to have a mean score of zero and a standard deviation of one for the Canadian population. The scores were also categorized on a ten-point scale, with the first category, or 'decile', including the 10 percent of Canadians with the lowest SES, the second category, or second decile, including the next highest 10 percent, and so on through to the tenth category, which includes the 10 percent that have the highest SES. The SES category of a dissemination area is shown on the map with the colours ranging from dark red (lowest 10%) through to dark green (highest 10%).

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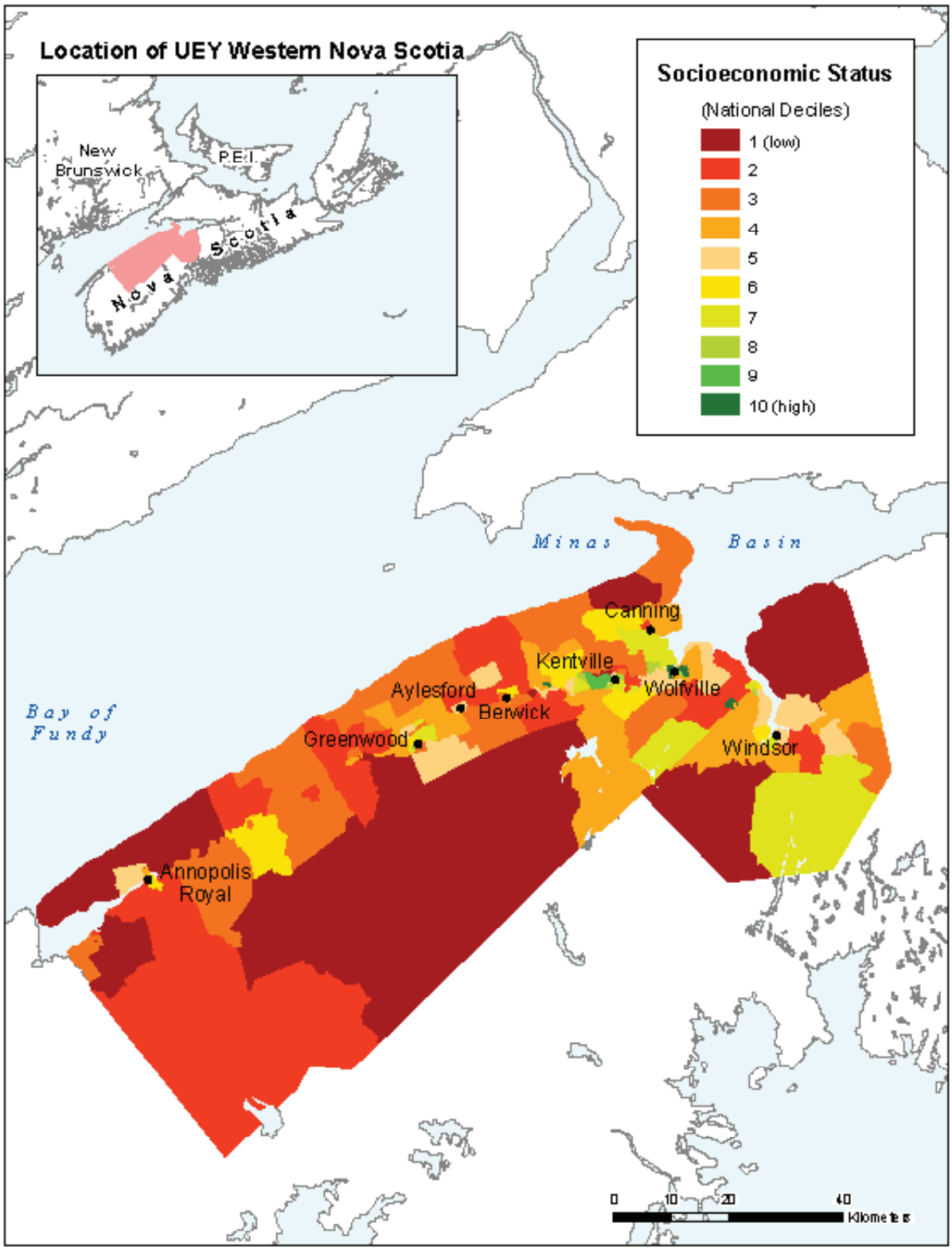
[13] Socioeconomic status (SES) refers to the relative position of a person or family on an hierarchical social structure. It is a key concept in social science research, because it is related to most social outcomes, including people's physical and mental health, their long-term economic success, and their general well-being. An SES composite is usually based on people's income, level of education, and the nature of their occupations. Other family factors, such as family structure (i.e., family size, and single- or two-parent family) and whether the mother was a teenager when the child was born, are not considered dimensions of SES, even though they are correlated with SES and are usually related to children's developmental outcomes.

[14] Willms, J.D. (2003). *Ten hypotheses about socioeconomic gradients and community differences in children's developmental outcomes.* Ottawa, Ontario: Applied Research Branch of Human Resources Development Canada.

[15] The KSI measure of SES is comprised of five indicators measured at the level of the dissemination area: the percentage of adults who are employed, the percentage of adults in professional or semi-professional occupations, the percentage of adults in manual occupations, average family income, and the average number of years of education.

FIGURE 1-6. Socioeconomic Status of Western Nova Scotia



The UEY project area comprising Western Nova Scotia is of below-average SES, with a wide range of SES across the community. The DAs range from the first to the tenth deciles (dark red to dark green). While there are pockets of affluence in Kentville and Wolfville, the rural areas tend to be of low SES. The average SES of Western Nova Scotia is –0.45, which is well below the Canadian average.

As noted above, research based on the pilot studies and the NLSCY suggests that not all children in low-SES families have poor developmental outcomes. Some children from low-SES families have average or above-average scores on the outcome measures used in the study. Similarly, there are some children from high-SES families who do not fare well in their early development. Thus, the relationships observed only indicate that a child is more likely to experience developmental difficulties if he or she is from a low-SES family. Other aspects of family and community life also have a strong influence on children's outcomes.

Other Demographic Characteristics

In Western Nova Scotia, the PIDACS data indicated that 3% of the children in the sample were Aboriginal. In PIDACS, parents were asked whether any of the child's ancestors belonged to any of the following Aboriginal groups: North American Indian, Métis, or Inuit. If the child was a member of any of these groups, parents were asked whether the child was an Aboriginal person. Children were considered Aboriginal if the parents indicated that the child's ancestors and the child were Aboriginal. Data from the NLSCY indicate that the average is 3% among families with young children in Nova Scotia, and in Canada it is 4%.

About 2% of the children in Western Nova Scotia were born outside of Canada, based on the PIDACS data. Data from the NLSCY indicate that approximately 1% of children aged zero to five in Nova Scotia are immigrants, while 2% of Canadian children this age are immigrants.

In about 97% of the families in the Western Nova Scotia PIDACS sample, English was the language that the mother and father learned at home during childhood. In another 0.5% of the families, French was the childhood language of both parents, and in 2.5% of the families, French was the childhood language of one parent, while English was the childhood language of the other parent. In 0.5% of the families the parents spoke a language other than English or French during their childhood.

II

HOW ARE CHILDREN DOING IN WESTERN NOVA SCOTIA?

II. HOW ARE CHILDREN DOING IN WESTERN NOVA SCOTIA?

A. DEVELOPMENTAL OUTCOMES IN EARLY CHILDHOOD

The research on child development has provided guidance as to what developmental outcomes 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.[16] The combination of the PIDACS and EDI data provides information on all of these domains. 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.[17]

Most young Canadian children are healthy, exhibiting low rates of infant and childhood mortality and morbidity.[18] 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,[19] and has recently been recognized as a major health problem in Canada for children during the pre-school years.[20]

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[16] Willms, J. D. & Beswick, J. F. (2005). *Early Years Evaluation - Teacher Assessment: Revised*. Fredericton, NB: 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.

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

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

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

[20] 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.

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 development, but substantially poor development can indicate that a child may require medical attention or other special services.[21]

The domain of outcomes comprising 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,[22] and when children enter school, hyperactivity and inattention emerge as important behavioural problems.[23] The term 'approaches to learning' pertains to children's engagement in learning, and comprises factors such as enthusiasm, curiosity, and persistence on tasks.

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

[22] 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.

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

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.[24] 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.[25] It is also related to children's exposure to language in the home and to the nature of their interactions with their parents.[26]

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,[27] which in the longer term has important implications for their progress at school.

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

[25] 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.

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

[27] 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 Pyschology, 96*(2), 265-282.

B. HOW CHILDREN'S DEVELOPMENTAL OUTCOMES WERE MEASURED

Information on each child's cognitive skills, behaviour, and physical health and well-being is based on the results from PIDACS direct assessments of children's developmental skills and the PIDACS parent interview, which includes a set of standardized questions that provide information about each child's behaviour and health. The information from PIDACS is supplemented with data from grade primary teachers on how they felt the children in their classes were faring, collected using the *Early Development Instrument (EDI)*. The measures used in PIDACS and the EDI are described below.

PIDACS Direct Assessments of Children's Developmental Skills

The PIDACS includes three measures of children's developmental skills.[28]

Receptive Vocabulary. Children's language development was assessed with the *Peabody Picture Vocabulary Test, Revised - PPVT-R*, which assesses the vocabulary 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 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 assesses children's intuitive knowledge of numbers by assessing their understanding of quantity (more vs. less), their ability to count objects, their understanding of number sequence, and their ability to do simple arithmetic. The assessment 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?*, an assessment that involves various copying and writing tasks. For example, it assesses children's ability to conceptualize and to reconstruct a geometrical shape 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.

[28] The PPVT 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, Fredericton, New Brunswick. The Number Knowledge assessment was developed by Dr. Robbie Case and his colleagues at the Ontario Institute for Studies in Education, University of Toronto. The Who Am I? was developed by Dr. Molly de Lemos and her colleagues at the Australian Council for Educational Research.

PIDACS Assessments of Behavioural Outcomes Based on Parent Interviews

Parents' perceptions of their grade primary child's developmental outcomes include 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 he or she 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. On the measure of positive social behaviour, a child is considered to have a low score if he or she has a score that is less than or equal to 1.0. Similarly, a child is considered to have a behavioural problem if he or she has a score that is greater than or equal to 1.0 on the relevant measure.

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.

PIDACS Assessments of Health Outcomes Based on Parent Interviews

The parent also provided information on the general health of his or her child, and indicated whether the child had any physical or mental or health problem that limited his or her child's activities at home, at school, or in transportation or play 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 other chronic conditions, such as heart problems, epilepsy, cerebral palsy, or a kidney condition.

Teachers' Perceptions of Children's Early Development

Grade primary teachers provided an indication of how well they felt each of their students was faring in five developmental domains, using an instrument called the *Early Development Instrument (EDI)* which was developed by the Offord Centre for Child Studies. For example, the teachers were asked, "How would you rate this child's: ability to manipulate objects?", "proficiency at holding a pen, crayon, or a brush?", "ability to tell a story?" or "overall physical development?" and they responded on a scale ranging from "very poor" to "excellent". Many of the questions had similar rating scales, while some entailed checklists that required the teacher to indicate whether or not a child could do certain activities, such as write simple sentences or count to 20.

The five domains of the EDI are:

1. *Physical health and well-being:* children's motor skills, energy levels, fatigue and clumsiness, and their physical preparedness for the school day.
2. *Social competence:* self-confidence, tolerance, and children's ability to get along with other children, to accept responsibility for their own actions, and to work independently.
3. *Emotional maturity*: children's general emotional maturity, including minor problems with aggression, restlessness, distractibility, or inattentiveness, as well as excessive, regular sadness.
4. *Language and cognitive development:* mastery of the basics of reading and writing, interest in books, and numerical skills (e.g., recognizing numbers and counting).
5. *Communication skills and general knowledge*: children's general knowledge, their ability to articulate clearly, and their ability to understand and communicate in English or French.

C. THE DEVELOPMENTAL SKILLS OF CHILDREN IN WESTERN NOVA SCOTIA

The PIDACS direct assessments include measures of children's receptive vocabulary, number knowledge, and pre-literacy skills.

The children of Western Nova Scotia had an average score of 104.4 on the assessment of receptive vocabulary. This is significantly higher than the Canadian PIDACS average. The average score on the assessment of number knowledge was 104.9, and on the assessment of pre-literacy skills, the average score was 108.0. These average scores are also significantly higher than the Canadian PIDACS averages.

TABLE 2-1. Mean Scores on the Direct Assessments

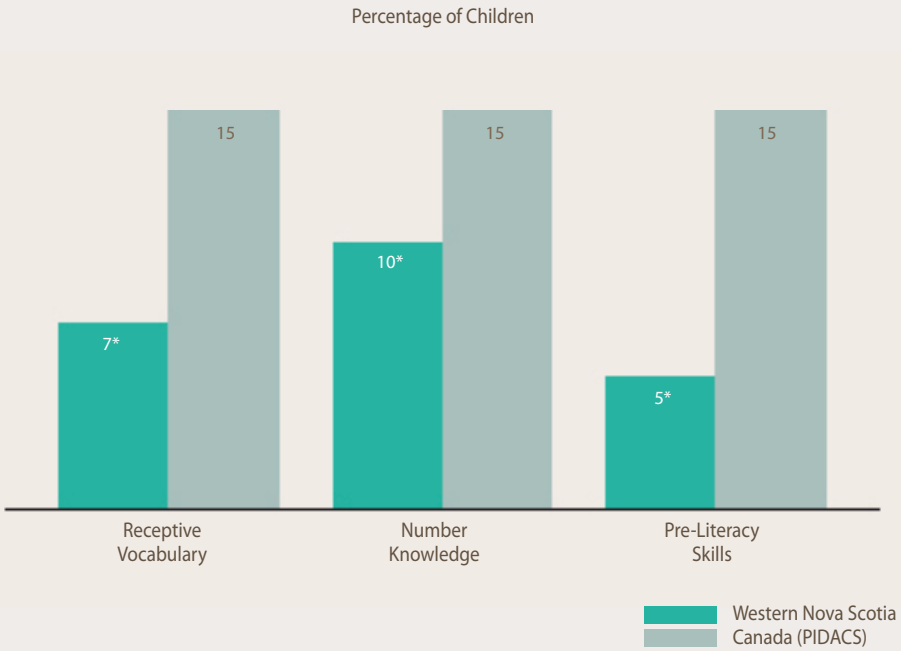
	WESTERN NOVA SCOTIA		CANADIAN AVERAGE (PIDACS)	
	Mean	SD	Mean	SD
Receptive Vocabulary (n = 431)	**104.4**	12.5	100.0	15.0
Number Knowledge (n = 434)	**104.9**	15.8	100.0	15.0
Pre-Literacy Skills (n = 434)	**108.0**	13.5	100.0	15.0

Note: Figures in bold text differ significantly from the Canadian PIDACS average.
Source: PIDACS, 2006-07.

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 elementary grades. The choice of a cut-off score to define vulnerability is rather arbitrary. For the Peabody Picture Vocabulary Test, a score of 85 is often set as the low score threshold. Children with low scores on the PPVT are at risk of experiencing difficulties learning to read,[29] and in Canada, about 20% of children are at risk of not making the critical transition from learning-to-read to reading-to-learn. In this study we set the low-score threshold at 85, which is about one standard deviation below the mean, for all three PIDACS direct assessment measures.

Figure 2-1 shows the percentage of children in Western Nova Scotia with scores below 85 on the three direct assessments. About 7% of the children in this community had low scores on the assessment of receptive vocabulary. This is a lower prevalence of vulnerability than in the Canadian PIDACS population. Similarly, only 10% of the children in Western Nova Scotia had low scores on the assessment of number knowledge, and 5% had low scores on the assessment of pre-literacy skills. These are considerably lower prevalences than in the Canadian PIDACS population.

FIGURE 2-1. Children with Low Scores on the Direct Assessments



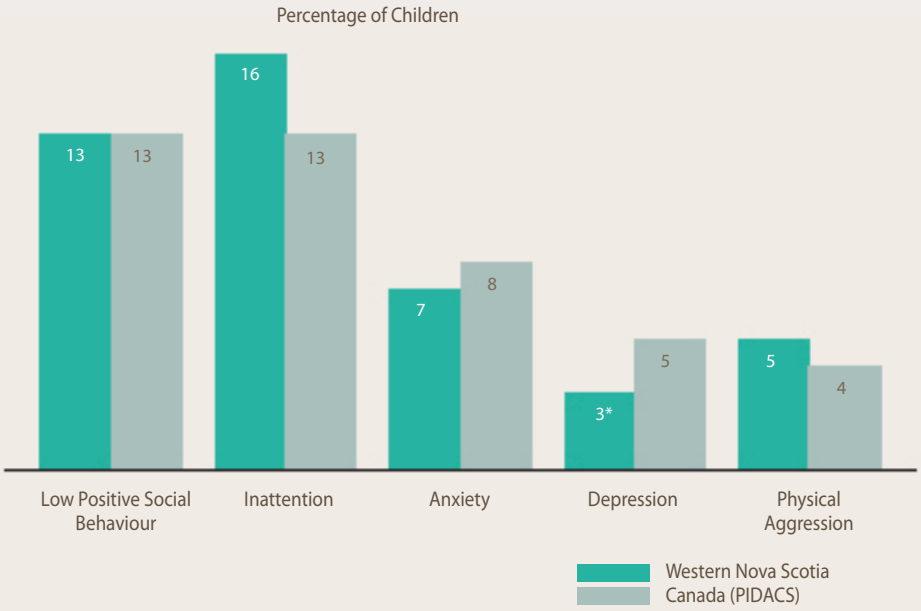
Note: Statistically significant differences are indicated with an asterisk.
Source: PIDACS, 2006-07.

[29] 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.

D. BEHAVIOURAL OUTCOMES IN WESTERN NOVA SCOTIA

Figure 2-2 shows the prevalence of children with low scores on the measures of positive social behaviour and the four types of behavioural problems, based on the reports of parents in the PIDACS interview. In Western Nova Scotia about 13% of the children displayed low positive social behaviour; this is comparable to the national PIDACS average of 13%. About 16% of the children in the community had problems with inattention, 7% displayed high levels of anxiety, and 5% were physically aggressive. These results were not significantly different from the Canadian PIDACS averages. Only 3% displayed depressive symptoms, which is lower than the prevalence among Canadian children.

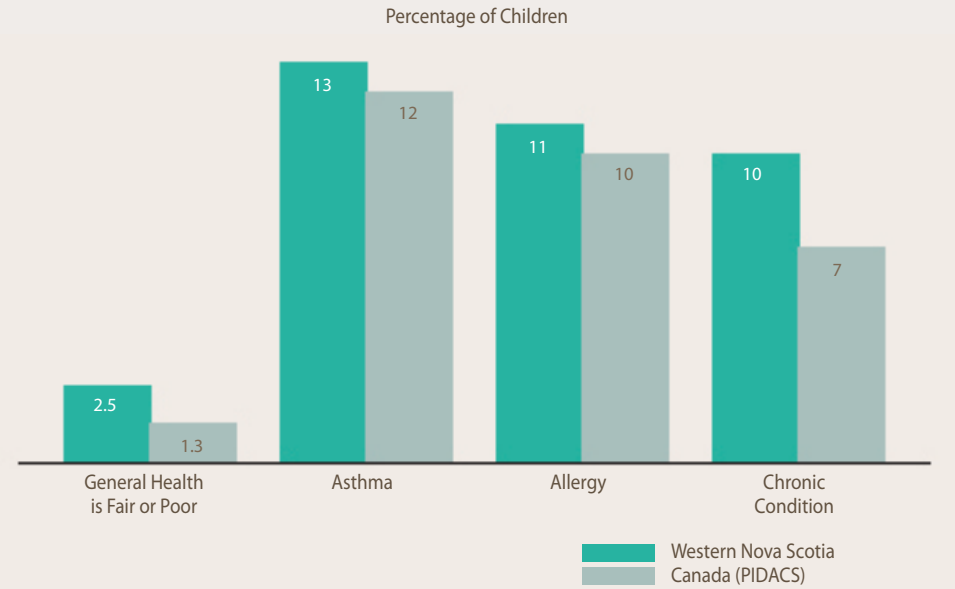
FIGURE 2-2. Children with Low Positive Social Behaviour and Behavioural Problems



Note: Statistically significant differences are indicated with an asterisk.
Source: PIDACS, 2006-07.

E. HEALTH OUTCOMES IN WESTERN NOVA SCOTIA

FIGURE 2-3. Children with Health Problems



Note: Statistically significant differences are indicated with an asterisk.
Source: PIDACS, 2006-07.

Figure 2-3 shows that in Western Nova Scotia 2.5% of the children were considered to be in fair or poor health by their parents. The estimates of the prevalence of children with asthma, allergies, and chronic health problems were 13%, 11%, and 10% respectively. For all four outcomes, the prevalence did not differ significantly from the Canadian PIDACS average.

F. TEACHERS' PERCEPTIONS OF CHILDREN'S DEVELOPMENT AT SCHOOL ENTRY

Table 2-2 shows the mean scores for each of the developmental domains included in the *Early Developmental Instrument (EDI)*, based on grade primary teachers' assessments of children in their classes. The average teacher ratings for Western Nova Scotia are comparable to the national EDI average for the measures of 'emotional maturity' and 'communication skills and general knowledge'. Teachers rated children above the national EDI average on the measure of 'language and cognitive development', but below the national EDI average on 'physical health and well-being' and 'social competence'.

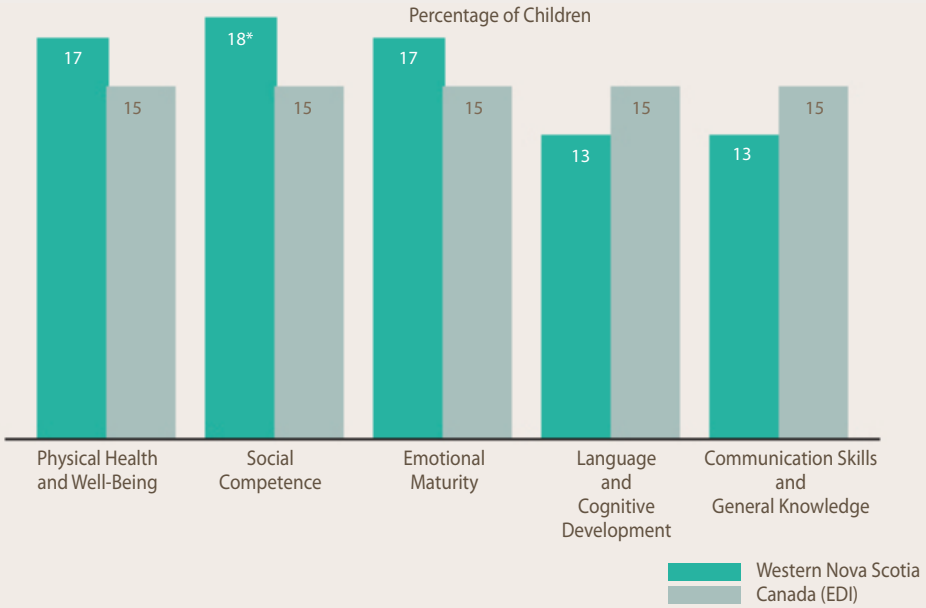
TABLE 2-2. Mean Scores on the Early Development Instrument

	WESTERN NOVA SCOTIA		CANADA (EDI)	
	Mean	SD	Mean	SD
Physical Health and Well-Being	**8.5**	1.5	8.7	1.4
Social Competence	**7.9**	2.1	8.2	1.9
Emotional Maturity	7.8	1.6	7.9	1.6
Language and Cognitive Development	**8.6**	1.9	8.3	1.9
Communication Skills and General Knowledge	7.4	2.6	7.5	2.7

Note: Figures in bold text differ significantly from the Canadian EDI average.
Source: Early Development Instrument, 2005-06.

For the analyses in this report, a *low-score threshold* for each of the EDI measures was set such that 15% of the children in the Canadian EDI sample scored below this threshold. Therefore, the estimated prevalence of Canadian children considered to have low scores based on the EDI assessment is 15%. This is a similar approach used for the PIDACS direct assessments, and so for each community, we can ask, "What is the prevalence of children with low scores in each of the developmental domains?" If the prevalence for a community is substantially above or below 15%, it suggests the children in that community are faring particularly poorly or well on this measure compared with the results for all Canadian children.

FIGURE 2-4. Children with Low Scores on Teachers' Ratings of Developmental Outcomes



Note: Statistically significant differences are indicated with an asterisk.
Source: Early Development Instrument, 2005-06.

The prevalence of children that had teacher ratings below the at-risk threshold ranged from 13% to 18% across the five scales. On the measure of 'social competence', the prevalence of children scoring below the threshold was 18%, which is higher than the estimate for all Canadian EDI children. On the other four assessments the prevalence of vulnerable children did not differ from the national results, considering the margin of error of the estimates.

III

FAMILY AND COMMUNITY SUPPORT FOR EARLY CHILDHOOD DEVELOPMENT

III. FAMILY AND COMMUNITY SUPPORT FOR EARLY CHILDHOOD DEVELOPMENT

A. FAMILY LIFE IN WESTERN NOVA SCOTIA

The PIDACS included measures of four key aspects of family life that were identified in earlier research based on the NLSCY to be strongly related to children's developmental outcomes:

> "The research indicates that the important factors are parenting skills, the cohesiveness of the family unit, the mental health of the mother, and the extent to which parents engage with their children; and that these features affect and are affected by the neighbourhood, the school and the wider community".[30]

These measures and the results pertaining to Western Nova Scotia 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.[31]

[30] 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)

[31] 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.

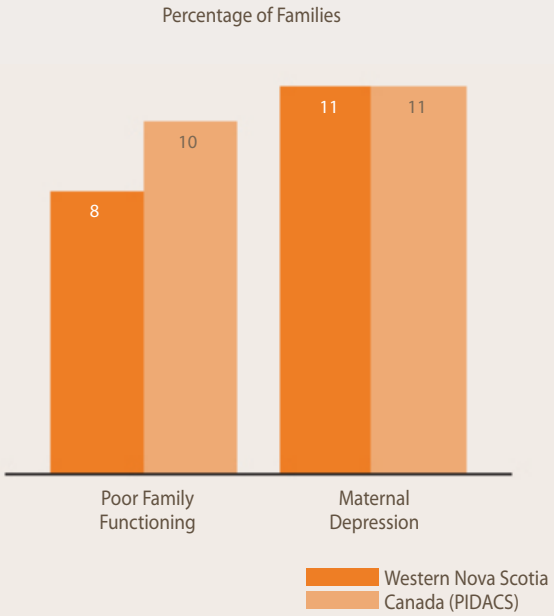
In this study, family functioning is assessed with 12 items pertaining to a family's ability to communicate, to make decisions and solve problems as a group, to discuss feelings and concerns, to get along together, and to feel accepted for whom they are. The total scores on the scale range from 0 to 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.

About one in eight mothers experience post-partum depression, and for about one-quarter of these mothers the symptoms can persist for more than a year. 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.[32] Depression among fathers may also have adverse effects, but the number of fathers studied in earlier research based on UEY and the NLSCY was insufficient to estimate its effects.

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

Somers, M. & Willms, J. D. (2002). Maternal depression and childhood vulnerability. In J. D. Willms, (Ed.), *Vulnerable Children: Findings from Canada's National Longitudinal Study of Children and Youth* (pp.211-228). Edmonton, AB: University of Alberta Press.

FIGURE 3-1. Families with Poor Family Functioning and Mothers with Signs of Depression



Note: Statistically significant differences are indicated with an asterisk.
Source: PIDACS, 2006-07.

The PIDACS interview included ten 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 felt or behaved that way during the previous week. The scores were scaled on a ten-point scale, and a low-score cut-off of 2.5 was used to denote mothers who were displaying strong signs of depression. On statements such as: "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", these mothers would have indicated that they felt this way "occasionally or a moderate amount of time (3-4 days per week)" or "most or all of the time (5-7 days per week)". The cut-off of 2.5 resulted in a prevalence of mothers indicating signs of depression of about 11%. This prevalence is comparable to that found in other studies, including the NLSCY.

Figure 3-1 shows the prevalence of families with poor family functioning and the prevalence of maternal depression. About 8% of the families in Western Nova Scotia had low scores on the measure of family functioning, while 11% of the mothers were displaying significant signs of depression. On both of these indicators, the results for Western Nova Scotia are comparable to the Canadian PIDACS average.

Parenting Practices

A number of studies have shown that children have better developmental outcomes when parents monitor their behaviour, are responsive to their needs, and encourage independence with a democratic approach.[33] This style of parenting is called 'authoritative' parenting, which stands in contrast to 'authoritarian' parenting, characterized by parents being highly controlling and somewhat harsh in their approach to discipline, and 'permissive' parenting, characterized by parents being overly indulgent and setting few limits for behaviour. Other research, including research based on the NLSCY, has also shown that parental engagement with children in activities such as reading to them, playing games with them, or simply talking and laughing with them has positive effects on their development.

In PIDACS, parents answered 28 questions that were used to develop a ten-point scale for each of four types 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.

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

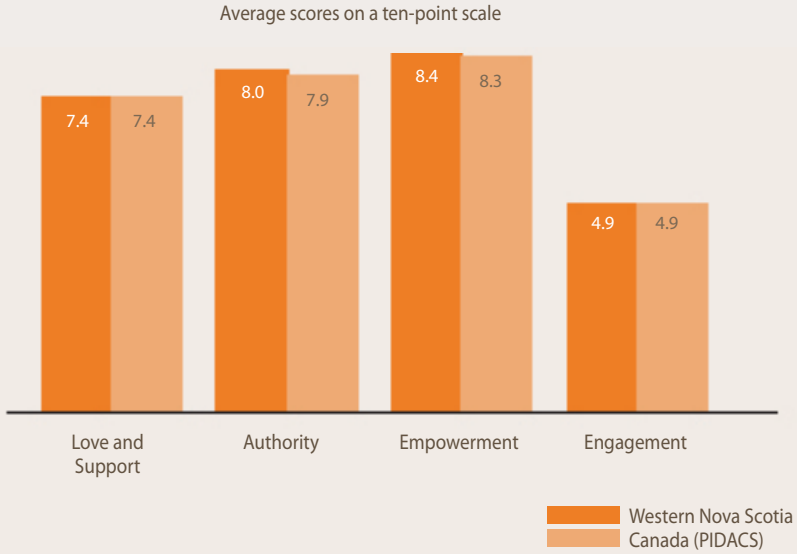
Chao, R. K. & Willms, J. D. (2002). The effects of parenting practices on children's outcomes. In J. D. Willms, (Ed.), *Vulnerable Children: Findings from Canada's National Longitudinal Study of Children and Youth (*pp. 149-165). Edmonton, AB: University of Alberta Press.

Empowerment: Parents that empower their children provide opportunities for them to express their individuality, pursue their interests, and develop a sense of social responsibility. They consciously use daily events and situations to teach concepts such as honesty, fairness, equality, integrity, conflict resolution, respect for others, and responsibility. Children are given useful roles in the family, and opportunities to care for a pet or for other people. Empowering parents enable children to learn about and explore spiritual concepts.

Engagement: Parents who are engaged spend more time with their child in constructive activities, such as playing, reading to their child, singing songs, and pursuing physical activities. This scale measures the extent of parents' engagement in these activities as well as their efforts to teach specific concepts such as the names and sounds of letters, or counting.

The first two aspects of parenting practices measured with PIDACS, 'love and support' and 'authority', are traditional measures associated with the three types of parenting style described above. Parents who score high on both of these measures are considered to have an authoritative parenting style, while those who score high on 'love and support' but low on 'authority' are considered permissive, and those who score low on 'love and support' but high on 'authority' are considered authoritarian. The third and fourth aspects of parenting practices measured in PIDACS, 'empowerment' and 'engagement', are also related to children's developmental outcomes, but are not used to classify parents' style of parenting.

FIGURE 3-2. Positive Parenting Practices



Note: Statistically significant differences are indicated with an asterisk.
Source: PIDACS, 2006-07.

Figure 3-2 shows the scores on the four parenting scales for Western Nova Scotia.[34] On all of these measures, Western Nova Scotia's average scores were comparable to the Canadian PIDACS averages.

One of the most important aspects of parental engagement with children is reading to the child. In Western Nova Scotia, 86% of the parents read to their child at least once every day. This is higher than the Canadian PIDACS average of 77%.

[34] The results on the ten-point scales were rounded to the nearest one-tenth point, which differ from the graphs displaying percentages, which are rounded to the nearest whole percent.

B. CHILDREN'S PARTICIPATION IN COMMUNITY ACTIVITIES

PIDACS included a number of questions regarding the nature of activities that children are engaged in 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.[35]

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 or playing computer games is a risk factor for childhood obesity.[36] 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.[37]

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[35] 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.

[36] 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.

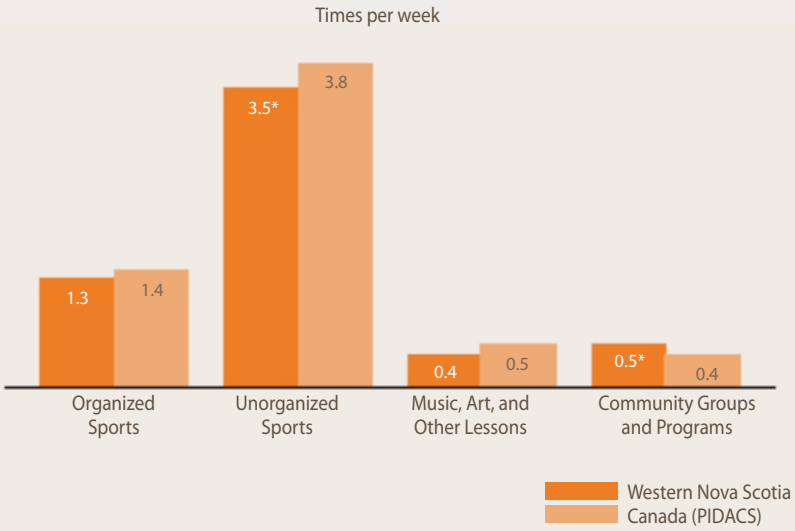
[37] Active Healthy Kids Canada (2007). *Older but not wiser: Canada's Future at Risk. Canada's Report Card on Physical Activity for Children and Youth – 2007.* Toronto: Author.

Physical and Leisure Activity

Figure 3-3 shows the number of times per week that children in Western Nova Scotia were engaged in sports and other activities. On average, they were engaged in organized sports that involve a coach or instructor about 1.3 times per week, which is comparable to the Canadian PIDACS average of 1.4 times per week. The children in Western Nova Scotia were less frequently engaged than other Canadian children in unorganized sports – 3.5 times per week compared to 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, swimming, or sports activities in their neighbourhood. Although the level of activity of the children in this community is close to the Canadian PIDACS average, Canada's Physical Activity Guide for Children and Youth recommends that children accumulate 20 to 30 minutes of moderate exercise or 30 to 60 minutes of light or moderate exercise every day.[38]

The participation of Western Nova Scotia children in art, music and other cultural activities is comparable to the Canadian PIDACS average, while the level of participation is slightly above average for clubs, groups, and community programs such as Beavers, Sparks, and church groups.

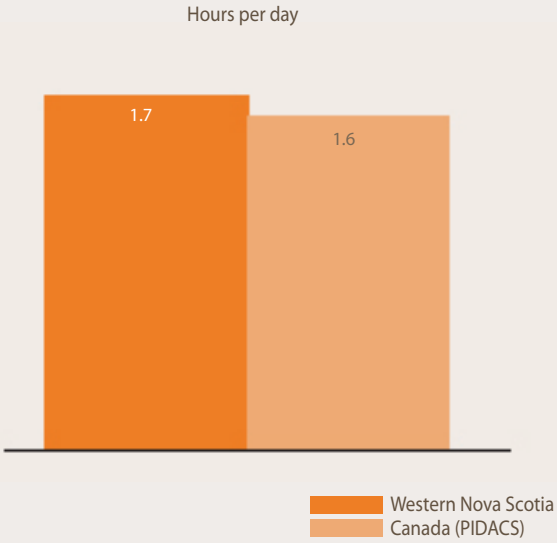
FIGURE 3-3. Children's Participation in Sports and Other Activities



Note: Statistically significant differences are indicated with an asterisk.
Source: PIDACS, 2006-07.

[38] 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 3-4. Time Spent Watching Television or Videos



Note: Statistically significant differences are indicated with an asterisk.
Source: PIDACS, 2006-07.

The children in Western Nova Scotia spend on average about 1.7 hours per day watching television or videos, which is comparable to the Canadian PIDACS average of 1.6 hours per day.

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

- book clubs and reading programs;
- family resource centres or drop-in programs;
- educational or science centres;

Entertainment and Cultural Resources

- sports events, local or professional;
- movies;
- museums, art galleries, or exhibits;
- plays or musical performances;

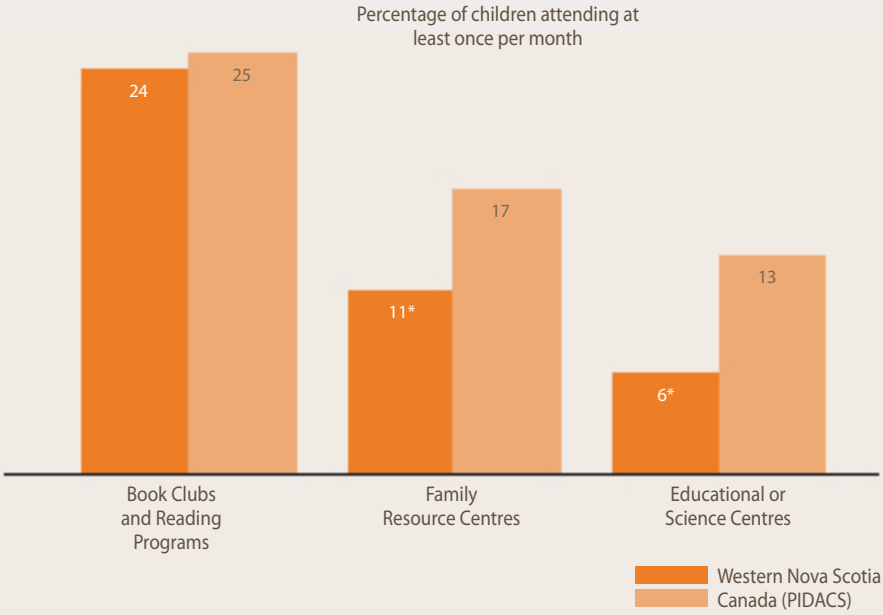
Recreational Resources

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

The availability of each type of educational, entertainment, cultural and recreational resource differs among communities, and in some communities the use of particular resources is low because they are not readily available in the community.

Figures 3-5, 3-6, and 3-7 show the percentage of children in Western Nova Scotia that used these various kinds of resources.

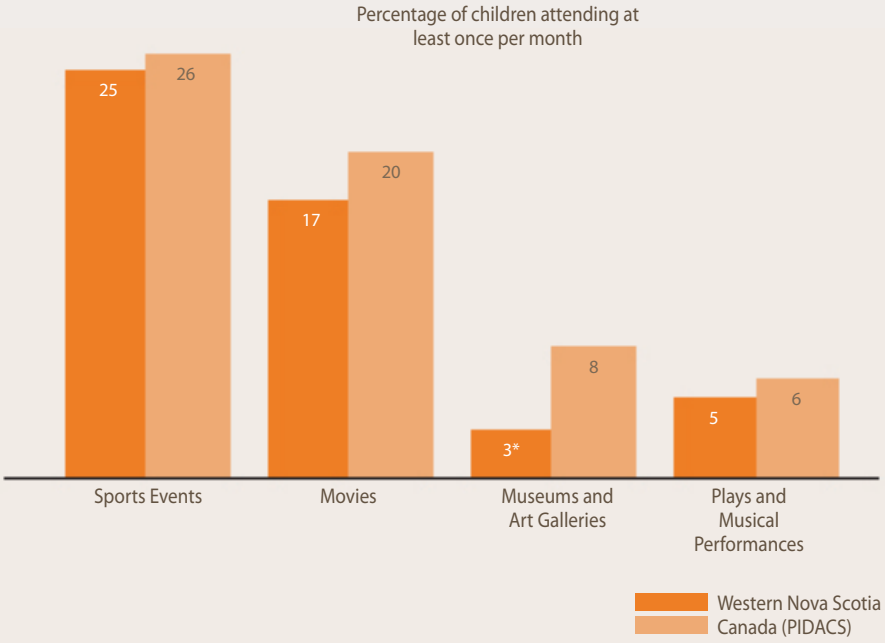
FIGURE 3-5. Use of Educational Resources



Note: Statistically significant differences are indicated with an asterisk.
Source: PIDACS, 2006-07.

The children in Western Nova Scotia frequently attended book clubs or reading programs with their parents. About one in four children participated in this activity at least once per month, which is comparable to the Canadian PIDACS average. About 11% of the children in this community attended activities at the family resource centre at least once per month, which is lower than the Canadian PIDACS average of 17%. Only about 6% of the children in Western Nova Scotia attended educational and science centres, which is lower than the frequency with which Canadian children this age participated in this kind of activity.

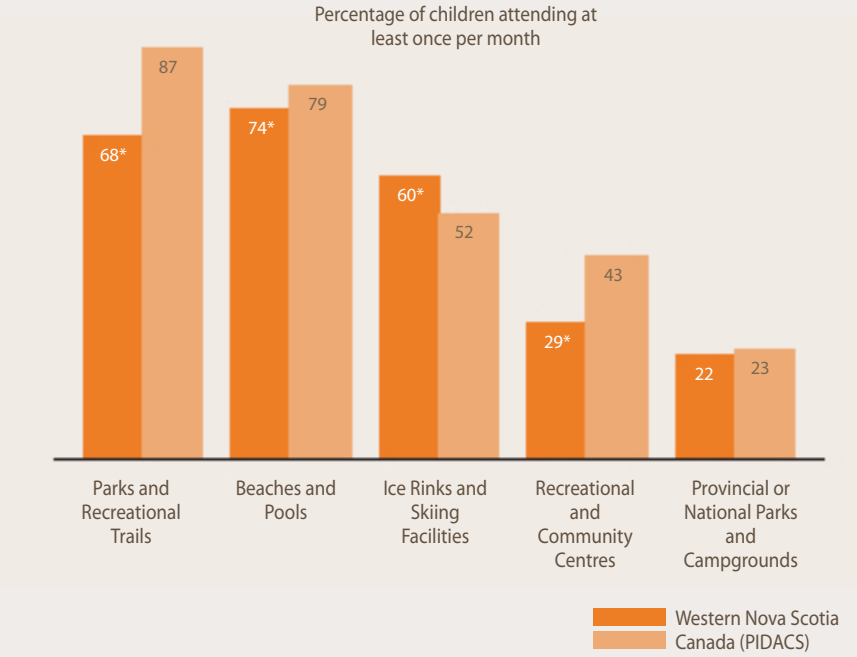
FIGURE 3-6. Use of Entertainment and Cultural Resources



Note: Statistically significant differences are indicated with an asterisk.
Source: PIDACS, 2006-07.

Attendance at sports events was a frequent activity for the children of Western Nova Scotia; about one in four children participated in this activity at least once per month, which is comparable to the Canadian PIDACS average. About 17% of the children in Western Nova Scotia attended movies at least once per month, which is also comparable to the Canadian PIDACS average. Only about 3% visited museums and art galleries, which is lower than the frequency with which Canadian children this age used these resources. About 5% of the children attended plays and musical performances at least once per month.

FIGURE 3-7. Use of Recreational Resources



Note: Statistically significant differences are indicated with an asterisk.
Source: PIDACS, 2006-07.

The PIDACS data indicated that the children in Western Nova Scotia, like other Canadian children, frequently used parks and recreational trails, beaches and swimming pools, and ice rinks and skiing facilities. Parents reported that 68% of the children in this community used parks, play spaces and trails at least once per month. Although this seems high, it is considerably lower than the rate for other Canadian children. The use of swimming facilities and recreational or community centres is also lower than the Canadian average. However, the children in Western Nova Scotia used skating and skiing facilities more frequently than other Canadian children.

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 about the factors that parents felt were barriers to their children's participation. For the full 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 only available to older children.

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.

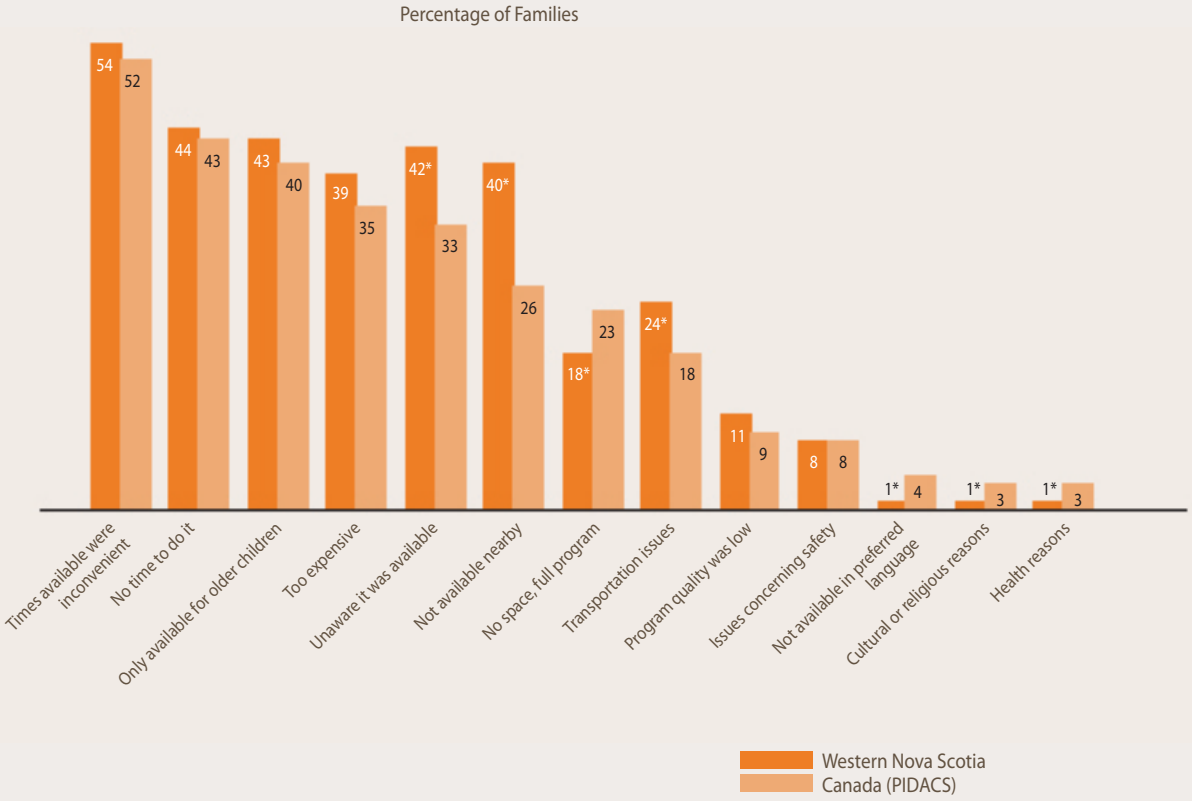
j. Safety concerns.

k. Programs were not available in preferred language.

l. Cultural or religious reasons.

m. Health reasons.

FIGURE 3-8. Barriers to the Use of Programs and Resources



Note: Statistically significant differences are indicated with an asterisk.
Source: PIDACS, 2006-07.

Figure 3-8 shows the percentage of parents for whom these barriers were a concern in Western Nova Scotia. As in most other communities, finding a convenient time, having the time to participate and the unavailability of programs for children this age were major concerns of the parents in Western Nova Scotia. Generally the profile of barriers to participation for Western Nova Scotia was similar to the Canadian profile, with some important exceptions: parents in Western Nova Scotia indicated that the unavailability of programs nearby and transportation issues were major barriers. Also, many parents reported that they were unaware of the programs available for their children. Parents also reported that finding space in programs was not an issue, nor was the unavailability of programs in their preferred language. Cultural or religious issues and health concerns were also not significant barriers to participation.

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,[39] and generally, the effects are stronger for children from low SES backgrounds.[40] One must stress, however, 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.[41] The quality of child-care programs tends to vary considerably in Canada, and therefore their effects also vary.[42]

In PIDACS, the parents were asked a series of questions about 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 3-1 summarizes the findings.

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[39] 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.

[40] 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).

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

[42] 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: Author.

In Western Nova Scotia, 41% of the families cared for their children at home without any other type of arrangement. For another 21% of families, care was provided by a relative at home, or in someone else's home. For those that used an alternate arrangement, the most frequent type was care by a non-relative in someone else's home. About 13% of the parents of grade primary children used daycare centres or before- and after-school programs. For 7% of the families, care was provided by a non-relative in the home. The results also suggested that among those using a child-care arrangement, about 37% used two or more different types of arrangements. On average, children were cared for in child-care arrangements for about 12 hours per week.

TABLE 3-1. Use of Child-Care Arrangements

	WESTERN NOVA SCOTIA	CANADA (PIDACS)
	PERCENT	
Percent not using a child-care arrangement	**41**	**42**
Most frequently used type of care arrangement		
In own home by a relative (excluding siblings)	7	8
In own home by a sibling	0	1
Someone else's home by a relative	14	10
In own home by a non-relative	7	5
Someone else's home by a non-relative	17	15
Daycare centre	4	10
Before- or after-school program	9	9
Other child care arrangement	1	1
Percent using at least one type of care arrangement	**59**	**58**
Among those using a care arrangement:	PERCENT	
Use of multiple types of care arrangements		
One only	63	59
Two types	27	30
Three or more types	10	11
	HOURS	
Total time using some form of care arrangement per week	12.2	18.4

Source: PIDACS, 2006-07.

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 tends to be lower levels of family stress and fewer parents experiencing depression.[43]

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 Western Nova Scotia are described below and presented graphically in Figure 3-9.

Neighbourhood Quality. The PIDACS interviewer asked parents some general questions about 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 is a neutral response. The score for Western Nova Scotia, 6.1, was significantly below the national PIDACS average of 6.7. This may be reflective of the rural nature of this community, as many families may feel they do not have adequate transportation to access services or that there are relatively few families with young children.

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. Western Nova Scotia's score on neighbourhood safety was 7.4, which is comparable to the Canadian PIDACS average.

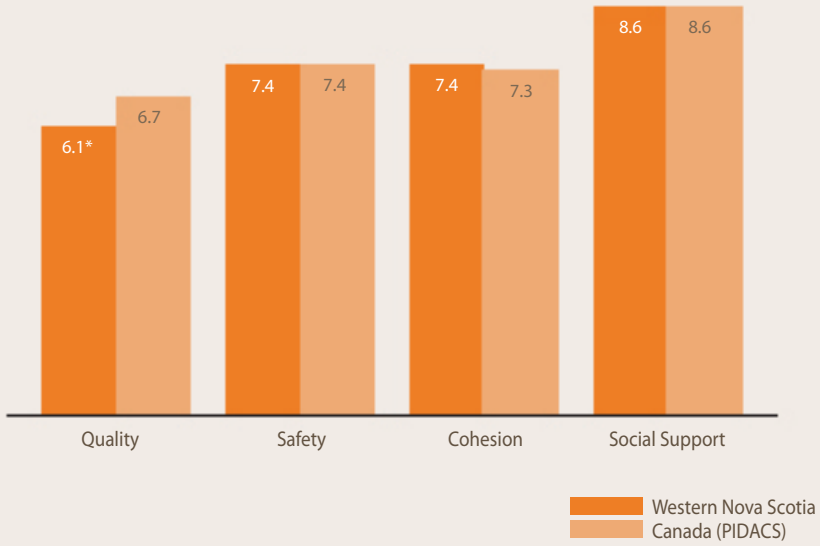
[43] Mulvaney, C. & Kendrick, D. (2005). Depressive symptoms in mothers of pre-school children effects of deprivation, social support, stress and neighbourhood social capital. *Social Psychiatry and Psychiatric Epidemiology, 40*, 202-208.

Neighbourhood Cohesion. This PIDACS measure refers to whether neighbours are close and support each other. In communities that score high on this measure parents feel that neighbours help each other, that when there is a problem the neighbours get together to deal with it, that there are adults in the neighbourhood that children can look up to, that parents watch out to make sure children are safe, and that when the family is away from home the neighbours keep their eyes open for possible trouble. The score for Western Nova Scotia on this measure was 7.4, which is comparable to the Canadian PIDACS average.

Social Support. This PIDACS measure assesses the level of support the parent feels from friends and family members. In communities that score high on this measure parents feel that there are family and friends that help them feel safe, secure, and happy, that there are people they can turn to for advice or talk about problems, and that there are people who share their interests and have similar attitudes and concerns. The score for Western Nova Scotia on this measure was 8.6, which is comparable to the Canadian PIDACS average.

FIGURE 3-9. Neighbourhood Characteristics and Social Support

Average scores on a ten-point scale



Note: Statistically significant differences are indicated with an asterisk.
Source: PIDACS, 2006-07.

IV

LOOKING FORWARD

IV. LOOKING FORWARD

A. WHAT MAKES WESTERN NOVA SCOTIA UNIQUE?

Community-based research is important as it can help a community understand how well its youngest citizens are developing and how it 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 grade primary using three different approaches: direct assessments of children, parent perceptions and teacher assessments.

The first approach involved direct assessments of the children's language and cognitive skills, through the *Parent Interviews and Direct Assessments of Children Survey (PIDACS)*. The children of Western Nova Scotia had above-average scores on all three of the direct assessments used in PIDACS. About 5 to 10% of the children had low scores on these assessments, compared with the national average of 15%.

The second approach involved the children's parents, who assessed their children's health and behaviour as part of the PIDACS parent interview. Based on parents' responses, the prevalence of children in Western Nova Scotia with behavioural problems was generally quite low, and consistent with Canadian norms. Only 3% of the children in the sample exhibited signs of depression, which is lower than the Canadian average. The prevalence of children with significant health problems was comparable to the Canadian average.

The third approach involved grade primary teachers, who provided their perceptions of how well each child in their class was faring in each of five developmental domains on the *Early Development Instrument*. On this assessment, the children in this community were rated above the national average on 'language and cognitive development', but were rated below average on 'physical health and well-being' and 'social competence'. Their scores for the other two domains – 'emotional maturity' and 'communication skills and general knowledge' – were comparable to the Canadian average.

One of the features of the sample of children studied in Western Nova Scotia that stands out as unique is that the families had relatively high levels of employment and secondary school completion compared with other Canadian families. However, nearly one in every five children in Western Nova Scotia was living in a low-income family, and about one in five children was living in a single-parent family. Considering these factors together, the average level of socioeconomic status of this community is below the Canadian average, although there is a wide range of socioeconomic status across the community.

Despite the economic challenges faced by many families, the community fares well in terms of the key family and community processes related to the developmental outcomes of young children. For example, the prevalence of families with mothers experiencing depression and the prevalence of families with low family functioning were comparable to Canadian norms. On the measures of parenting practices, parents' ratings were comparable to the Canadian average. Eighty-six percent of the parents read to their child at least once every day, which is a higher rate than the Canadian average. Although the level of engagement in organized sports was comparable to the Canadian average, children were less engaged in unorganized sports programs than in other Canadian communities. Children also watched television or videos about 1.7 hours per day. Although many families made good use of local education, recreation and community resources, the overall profile is relatively low. For example, only about two of every three children in this community used parks, play spaces and trails at least once per month, which is considerably lower than the rate for other Canadian children. The prominent barriers to participation were similar to those of other communities, including not finding a convenient time to participate, not having the time to participate, and the unavailability of programs for children this age. Parents in Western Nova Scotia indicated that the unavailability of programs nearby and transportation issues were major barriers to their participation.

About 60% 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 by a non-relative in someone else's home. Parents' assessments of their local neighbourhoods were generally positive and consistent with the Canadian average. However, the score on 'neighbourhood quality' was significantly below the national average. This may be reflective of the rural nature of this community, as many families may feel they do not have adequate transportation to access services or that there are relatively few families with young children. Overall, parents felt that their neighbourhoods were safe places to raise their children, with good schools and nursery schools, and adequate recreation and health facilities for children. They also felt that their neighbours were close and supported each other, and that there were family members, friends and neighbours who helped them feel safe, secure, and happy.

B. CONCLUDING REMARKS

The UEY initiative is providing communities with valuable information about their needs and strengths. UEY is helping communities with different economic, social and physical characteristics understand how their young children are doing, what the community is doing to support those children, and family and community factors that may influence young children's development. This *Community Research Report* for Western Nova Scotia, Nova Scotia, presents data on grade primary children's development and on family and community experiences from the *Parent Interviews and Direct Assessments of Children Survey (PIDACS)*, as well as information collected using the *Early Development Instrument (EDI)*, providing grade primary teachers' perceptions of the development of the children in their classes.

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 identified by the UEY research. Through the development of the *Community Action Plan*, and events and activities to disseminate the research information to parents, service providers, educators and others, the UEY staff and coalition will engage this community around the importance of the development of their young children and approaches to enhance that development.

APPENDIX A: LIST OF PARTICIPATING COMMUNITIES FUNDED IN 2005

COMMUNITY	HOST ORGANIZATION
UEY North Shore	North Shore Community Resources North Vancouver, 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 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 Northeast Saskatchewan	Northeast Regional Intersectoral Committee Melfort, Saskatchewan
UEY Division scolaire franco-manitobaine	Division scolaire franco-manitobaine Lorette, Manitoba
UEY Ottawa	Success by 6/6 ans et gagnant Ottawa, Ontario
UEY Lower Hamilton	Wesley Urban Ministries Hamilton, Ontario
UEY Northern Region of Ontario	Superior Children's Centre Wawa, Ontario
UEY Milton	Halton Child and Youth Services Burlington, Ontario
UEY Northumberland County	Northumberland Child Development Centre Port Hope, Ontario
UEY Kawartha Lakes and Haliburton County	Ontario Early Years Centre - Haliburton Victoria Brock, Lindsay, Ontario
UEY Niagara Region	Early Childhood Community Development Centre St. Catharines, Ontario
UEY Pointe-de-l'Île	Centre 1, 2, 3 Go ! 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