

# **Understanding the Early Years: Cowichan Valley, British Columbia**

## **A Community Research Report**

Prepared for:  
Human Resources and Skills Development Canada

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A Community Research Report**

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## EXECUTIVE SUMMARY

The Cowichan Valley is located in the traditional territory of the Hul'qumi'num people between Victoria and Nanaimo on south-central Vancouver Island. It includes many rural and small urban communities, including Kuper and Thetis Islands, Chemainus, Crofton, North Cowichan, Maple Bay, Duncan, Lake Cowichan, Youbou, Honeymoon Bay, Mesachie Lake, Cobble Hill, Sahtlam, Glenora, Cowichan Bay, Cowichan Station, Shawnigan Lake, Mill Bay and Malahat. There are seven First Nations, including Chemainus, Halalt, Lyackson, Cowichan Lake and Malahat, Penelakut Tribes and Cowichan Tribes, the largest in B.C., as well as members of the Métis Nation. These communities are connected through people working and travelling between them, by shared family and social networks and through the regional delivery of services. With some of the richest agriculture land in B.C., the Cowichan Valley's agriculture and agri-tourism industries continue to grow. Tourism is also thriving as a result of high mean temperatures, ease of access to oceans and lakes, marine villages and diverse recreational areas and trails. Forestry also continues to be an economic driver, although there is a transition to other manufacturing including value-added wood production. The Cowichan Valley Understanding the Early Years (UEY) project is hosted and managed by Volunteer Cowichan, a non-profit organization.

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

The data in this report, which were collected from parents and their kindergarten children using the PIDACS, are a snapshot from late 2008 to early 2009 of the lives of kindergarten children whose parents agreed to participate in the survey. The 287 parents who were interviewed and 221 children who completed the direct assessments provide information on how kindergarten children in Cowichan Valley are doing. Other local information available through the UEY project includes the results of kindergarten teacher assessments of children's development using the *Early Development Instrument*, information on the availability and accessibility of programs and services, and data from the Canadian Census describing local socio-economic characteristics. Taken together, these data can be used to start conversations in the community about the implications of the research and the needs of children in Cowichan Valley. This process can help communities develop a community action plan aimed at addressing the needs of the community.

In 2006, according to the 2006 Canadian Census data (see Table 1-1), there were about 64,000 residents in Cowichan Valley, and of these about 3,500 were children aged 0-5. There are many programs and initiatives to support early childhood development; citizens have made a concerted effort to connect children and families to their communities and bridge differences for the benefit of young children. Access to childcare, especially care for infants, is a constant challenge for many parents.

The 2006 Canadian Census data also indicate that compared with the rest of Canada, Cowichan Valley had a relatively low level of family income: in 2006, average income was

about \$72,000 per year compared to the national average of \$82,000 per year, and the community's median income of about \$62,000 was below the national median of about \$66,000. About 9% of the residents of Cowichan Valley were Aboriginal, and between 2001 and 2006 less than 1% of its population were recent immigrants.

Results from the PIDACS data collected for Cowichan Valley indicated that about 11% of mothers surveyed were experiencing depression and 12% of the families had low levels of family functioning. The prevalence of parents reporting a positive, 'authoritative' parenting style was 59%, which was comparable to the Canadian PIDACS average. The quality of local neighbourhoods was an issue for many parents in Cowichan Valley, with nearly half of the families reporting low levels of neighbourhood quality. However, they did feel their neighbourhoods were safe and socially cohesive, and that there were high levels of social support. The level of kindergarten children's participation in organized sports was relatively low, but they had high levels of participation in unorganized sports.

They also tended to be actively engaged in community activities, especially the use of outdoor recreational facilities, with 92% of families using parks, play spaces and recreational facilities at least once a month. The most prominent barriers to participation in children's programs were that programs were not available at convenient times (reported by 55% of parents), programs were only available to older children (50%), programs were too costly (44%), there was not enough time (39%), and it was not available nearby (30%).

About 53% of the families in this community used some form of child-care arrangement while working or studying. The most frequently used type of care, used by 12% of families, was care in the home of a non-relative.

The research results showed that most kindergarten children in Cowichan Valley were generally faring well; the average score on receptive vocabulary was comparable to the Canadian PIDACS average, and the average score on an assessment of number knowledge was above the Canadian average. The average scores on a measure of pre-literacy skills were below the Canadian averages. The prevalence of children with behavioural problems in Cowichan Valley was comparable to the Canadian average, except for anxiety, which was below the Canadian average. Also, only 8% of the children in the sample scored poorly on a measure of positive social behaviour. The prevalence of children with significant health problems was comparable to the Canadian average on assessments of general health, asthma and allergies. Cowichan Valley had a relatively low prevalence of children with other chronic conditions.

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



# I

## INTRODUCTION



## **I. INTRODUCTION**

### **A. COWICHAN VALLEY, BRITISH COLUMBIA - MILIEU FOR YOUNG CHILDREN'S DEVELOPMENT**

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

The Cowichan Valley is located in the traditional territory of the Hul'qumi'num people between Victoria and Nanaimo on south-central Vancouver Island. Most of the people in Cowichan Valley live in the eastern part of the region. There are many rural and small urban communities, including Kuper and Thetis Islands, Chemainus, Crofton, North Cowichan, Maple Bay, Duncan, Lake Cowichan, Youbou, Honeymoon Bay, Mesachie Lake, Cobble Hill, Sahtlam, Glenora, Cowichan Bay, Cowichan Station, Shawnigan Lake, Mill Bay and Malahat. There are seven First Nations, including Chemainus, Halalt, Lyackson, Cowichan Lake and Malahat, Penelakut Tribes and Cowichan Tribes, the largest in B.C., as well as members of the Métis Nation.

When the 2006 Canadian Census was taken, the population of Cowichan Valley was approximately 64,000 (see Table 1-1). There were about 14,000 children and youth from ages 0 to 18, and of these nearly 3,500 were children aged 0 to 5 years. Compared with the rest of Canada, Cowichan Valley had relatively low levels of family income; the average income was about \$72,000 while the median income was about \$62,000. The unemployment rate was 6.3%, which is slightly lower than the national rate of 6.6%. The level of education of adults was comparable to the national average.

The 2006 Canadian Census data also show that Cowichan Valley has a large Aboriginal population, at 9.1%. Between 2001 and 2006 less than 1% of its population were recent immigrants. About 15% of the residents of Cowichan Valley had moved during the year preceding the 2006 Canadian Census, a rate that was comparable to the national average.

The small, unique communities that make up UEY Cowichan Valley are connected through people working and travelling between them, by shared family and social networks and through the regional delivery of services. With some of the richest agricultural land in B.C., the Cowichan Valley's agricultural and tourism industries continue to grow. Tourism is also important as a result of high mean temperatures, numerous beaches, lakes, marine hamlets and diverse recreational areas and activities. Forestry continues to be an important economic driver.

Through the work of many hard-working and dedicated community members throughout the Cowichan Valley, there are various programs and initiatives to support early childhood development. Efforts to connect children and families to communities, and a dedicated effort to work together to bridge differences for the benefit of young children are ongoing and have helped raise awareness and coalesce community resources. Access to childcare, especially care for infants, is a constant challenge for many parents.

**TABLE 1-1. 2006 Census Profile for Cowichan Valley compared with British Columbia and Canada**

	<b>Cowichan Valley</b>	<b>British Columbia</b>	<b>Canada</b>
Total population	64,030	4,074,385	31,241,030
Number of children ages 0-18	14,320	879,890	7,154,210
Number of children ages 0-5	3,445	240,790	2,013,065
Average family income (economic families)	\$72,153	\$80,511	\$82,325
Median family income (economic families)	\$62,331	\$65,787	\$66,343
Economic families with income below \$30,000 (%)	16.6	16.2	15.1
Education - Population 15 years and older with:			
No certificate, diploma or degree (%)	24.1	19.9	23.8
High school or equivalent (%)	27.6	27.9	25.5
Post secondary education (%)	48.3	52.2	50.7
Unemployment Rate (% adults 15 years and over)	6.3	6.0	6.6
Moved residence within previous year (%)	14.6	17.0	14.1
Aboriginal population (%)	9.1	4.8	3.8
Immigrated 2001-2006 (%)	0.7	4.3	3.6

**Source:** Statistics Canada custom tabulations from the 2006 Census

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

## B. WHAT THIS STUDY IS ABOUT

### *Background: Understanding the Early Years Initiative*

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

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

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

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

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

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

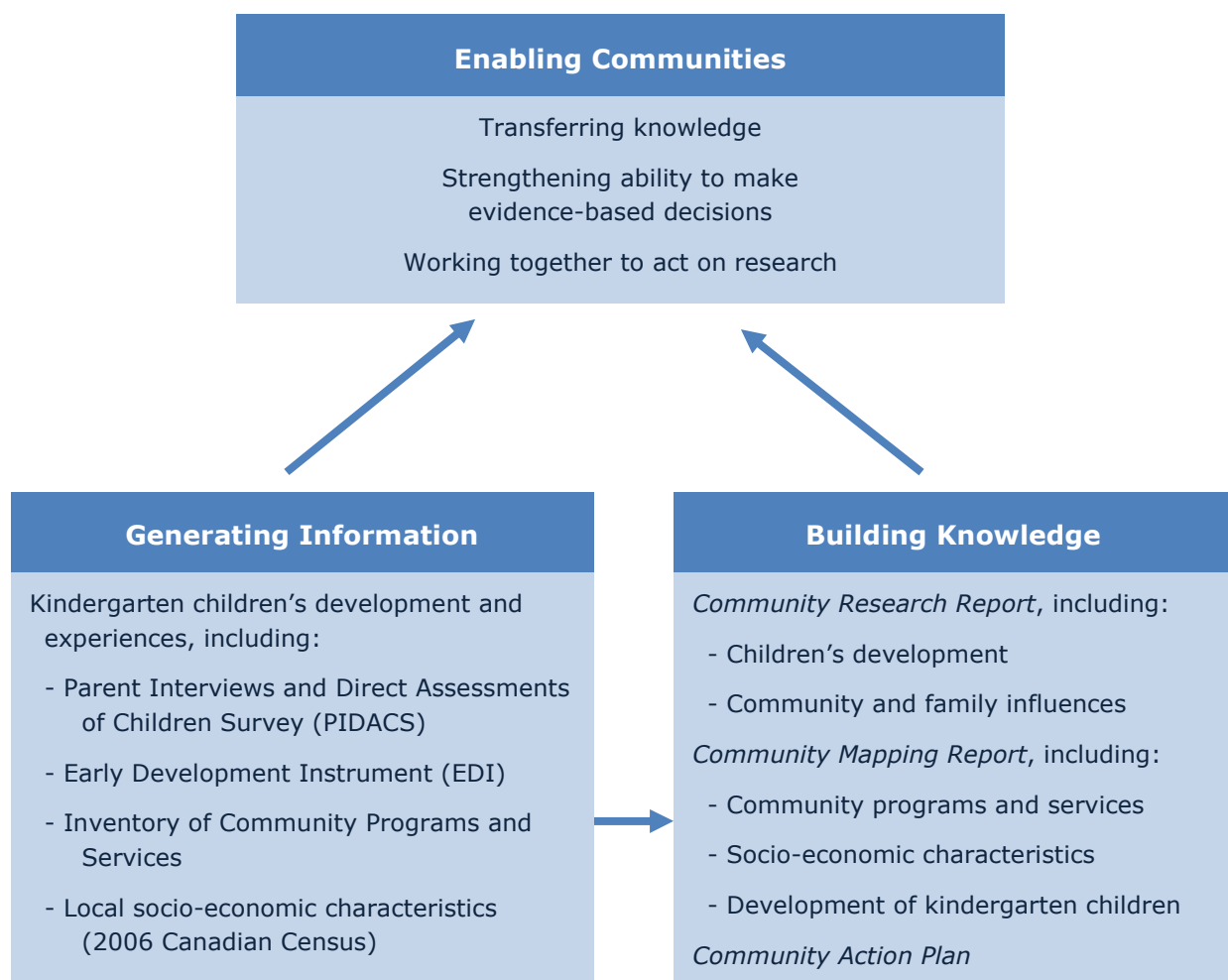
This information enables local UEY project staff, the UEY community coalition of organizations and individuals, and other community members to develop approaches to enhance the development of young children by building on the community's strengths and by addressing weaknesses in programs and services.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

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

UEY was launched in 1999 as a research initiative to enhance knowledge of community factors that influence the early development of children. It began with a pilot initiative in North York, Ontario and included 12 community projects by 2002. In 2004, UYE became a national initiative. A further 21 community projects began their three years of UYE activities in 2005, another 15 projects began in 2007, and one First Nations project began in 2008. This report, *Understanding the Early Years: Cowichan Valley, British Columbia*, presents results for one of the 15 community projects that started UYE in 2007. Please see Appendix A for a list of all the UYE communities.

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

**FIGURE 1-1. Key Components of the UYE Design**



## C. HOW THE STUDY WAS CONDUCTED

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

**TABLE 1-2. Types of Uey Information and Data Sources**

Type of Information	Data Source	Collected By
<b><i>Development of kindergarten children</i></b>		
<i>Parents' perspectives</i>	Interview with parents using the <i>Parent Interviews and Direct Assessments of Children Survey</i>	R.A. Malatest & Associates Ltd., under contract to Human Resources and Skills Development Canada
<i>Children's abilities</i>	Three direct assessments of children's cognitive abilities using the <i>Parent Interviews and Direct Assessments of Children Survey</i>	R.A. Malatest & Associates Ltd., under contract to Human Resources and Skills Development Canada
<i>Teachers' perspectives</i>	Teacher-completed checklist, the Early Development Instrument	The Human Early Partnership at the University of British Columbia, Vancouver, B.C., as part of an initiative of the Government of British Columbia
<b><i>Family circumstances and children's experiences at home and in the community</i></b>	Interview with parents using the <i>Parent Interviews Direct Assessments of Children Survey</i>	R.A. Malatest & Associates Ltd., under contract to Human Resources and Skills Development Canada
<b><i>Information on community programs and services</i></b>	<i>Inventory of Community Programs and Services</i>	UEY Cowichan Valley
<b><i>Local socio-economic characteristics</i></b>	2001 and 2006 Canadian Censuses (and other available data)	Statistics Canada

The parent and child data in this report are from the *Parent Interviews and Direct Assessments of Children Survey* collected during the 2008-09 school year. The social and community contexts of the Cowichan Valley community, presented in the Introduction, were provided by the local Uey project staff and developed from 2006 Canadian Census data.

## *Parent Interviews and Direct Assessments of Children Survey*

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

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

*The PIDACS direct assessments* are conducted with the child by a trained assessor at the child's school. The assessments include measures of children's receptive vocabulary, copying and printing skills related to early literacy, and number knowledge. The instruments used to assess these skills are described in greater detail later in this report. The data from the PIDACS direct assessments can be used with the data from the PIDACS parent interviews 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.

*The PIDACS target population* in each UEY community was children entering kindergarten in autumn 2008. In most UEY communities, including Cowichan Valley, all the eligible children and their parents were invited to participate; in communities with more than 600 kindergarten children, a sample was drawn with the intention of representing the kindergarten population. The data collection occurred from late autumn 2008 to spring 2009. Thus, the vast majority of the children was five or six years old at the time of the data collection. In Cowichan Valley, 287 parents or guardians were interviewed, and 221 children were administered the direct assessments. The average age of this sample of children in Cowichan Valley was 5 years, 7 months.

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



*The PIDACS sample size* for Cowichan Valley is sufficiently large to provide accurate estimates of the mean scores for the measures of children's outcomes and for various aspects of family and community context. For example, on the measure of receptive vocabulary, the average score in Cowichan Valley was 101.0. The standard error of this estimate, which provides an indication of how accurately the estimate was measured, is 0.9. If one could repeat the study a number of times, the estimates of the mean would lie within a range of plus or minus two standard errors, or between 99.2 and 102.8, about 19 times out of 20. All comparisons were tested for statistical significance at this level of significance ( $p < 0.05$ ).

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

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

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

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

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

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

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

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<sup>2</sup> Scarborough, H. S. (1998). Early identification of children at risk for reading disabilities: Phonological awareness and some other promising predictors. In B. K. Shapiro, A. J. Capute, & B. Shapiro (Eds.), *Specific reading disability: A view of the spectrum* (pp. 77-121). Hillsdale, New Jersey: Erlbaum.

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

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

Finally, UEY is a descriptive study designed to provide a rich description of the family and community factors that 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 National Longitudinal Survey of Children and Youth and Ontario's Better Beginnings Better Futures Program,<sup>3</sup> and studies that involve the random assignment of communities to treatment and control groups.

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

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

The 2009 EDI collection for Cowichan Valley was carried out by the Human Early Learning Partnership (HELP) at the University of British Columbia, as part of an initiative of the Government of British Columbia. Through a contract with HELP, the Cowichan Valley project was provided with EDI results which will be presented in their community mapping report and will inform the development of their action plan; however, the EDI results are not included in this report.

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

## D. PORTRAIT OF THE KINDERGARTEN CHILDREN'S FAMILIES

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

### *Family Income*

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

The median family income of the families in the Cowichan Valley PIDACS sample was about \$62,000, which was lower than the Canadian PIDACS median of \$73,800. (The average income for the PIDACS is not reported, as the sample means can be strongly influenced by outliers.) About 24% of the children in the Cowichan Valley sample were living in families with annual incomes below \$30,000. The Canadian PIDACS average was 16%.

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

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

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

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

## Parents' Employment

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

In Cowichan Valley, 36% of the mothers surveyed were not employed. This was comparable to the Canadian PIDACS percentage (33%). Respondents also reported that 8% of the fathers of kindergarten children in Cowichan Valley were not employed, which was higher than the Canadian percentage (6%).

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

## Parents' Level of Education

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

In Cowichan Valley, 8% of the mothers and 5% of the fathers surveyed reported that they had not completed secondary school. The Canadian PIDACS average for the mothers of kindergarten children not completing secondary school was 5%; for fathers it was 7%.

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

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

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

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

## *Family Structure*

About 15% of Canadian families with young children are headed by a single parent, usually the mother. According to results from parents' reports in PIDACS, 21% of the children in Cowichan Valley were living in single-parent families.

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

About 10% of the children in the Cowichan Valley sample did not have any brothers or sisters, while 53% had one sibling, and 37% had at least two siblings. The average number of siblings in the Cowichan Valley sample was 1.4; the Canadian PIDACS average was 1.3 siblings.

## *Other Demographic Characteristics*

About 13% of the children in the PIDACS sample for Cowichan Valley were of Aboriginal background. According to the 2006 Census data, 9% of the Cowichan Valley population reported they were Aboriginal. About 3.8% of Canadians were of Aboriginal background, based on the 2006 Canadian Census.

Less than 4% of the children in the Cowichan Valley PIDACS sample were immigrants, or born outside Canada. Results from the 2006 Canadian Census indicate that less than 1% of the families in this community were recent immigrants who had immigrated between 2001 and 2006, while the national rate was 3.6%.

Since the number of Aboriginal and immigrant children in the sample was quite small, these factors are not considered further in this report.

In about 93% of the families in the Cowichan Valley PIDACS sample, English was the language that the mother and father learned at home during childhood. In another 5% of the families, French was the childhood language of at least one parent. In 2% of the families, the parents spoke a language other than English or French during their childhood.

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

# II

HOW ARE CHILDREN DOING IN  
COWICHAN VALLEY?





## II. HOW ARE CHILDREN DOING IN COWICHAN VALLEY?

### A. DEVELOPMENTAL OUTCOMES IN EARLY CHILDHOOD

The research on child development has provided guidance on the developmental outcomes that are most important at various stages of development. Efforts to monitor early childhood outcomes have emphasized developmental outcomes in five domains: (1) physical well-being and motor development, (2) social and emotional development, (3) approaches to learning, (4) language development, and (5) cognition and general knowledge.<sup>12</sup> 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.<sup>13</sup>

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

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

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

Rhode Island Kids Count (2005). Getting Ready: Findings from the National School Readiness Indicators Initiative, A 17-State partnership. Available on-line: [http://www.gettingready.org/matriarch/MultiPiecePage.asp?Q\\_PageID=E\\_318&A\\_PageName=E\\_NationalSchoolReadinessIndicat](http://www.gettingready.org/matriarch/MultiPiecePage.asp?Q_PageID=E_318&A_PageName=E_NationalSchoolReadinessIndicat).

<sup>13</sup> UNICEF (2002). *UNICEF's priorities for children, 2002-2005*. New York: UNICEF.

<sup>14</sup> Canadian Institute of Child Health (2000). *The Health of Canada's Children: A CICH profile*. Ottawa: Canadian Institute of Child Health.

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

<sup>16</sup> 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.

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

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

The rate at which children acquire language differs considerably among children, even among those from the same family. During the 1970s and 80s, researchers were concerned with whether variation in early literacy skills was attributable mainly to differences in children's innate capacity, or to differences in their exposure to speech and language. The evidence indicated that hereditary effects are relatively weak: only about 10 to 12% of the variation in children's vocabulary scores was explained by parents' vocabulary scores.<sup>19</sup> 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.<sup>20</sup> It is also related to children's exposure to language in the home and to the nature of their interactions with their parents.<sup>21</sup>

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.<sup>22</sup> This, in the longer term, has important implications for their progress at school.

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

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

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

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

<sup>20</sup> 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.

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

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

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

## B. DEVELOPMENTAL SKILLS

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

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

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

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

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

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

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

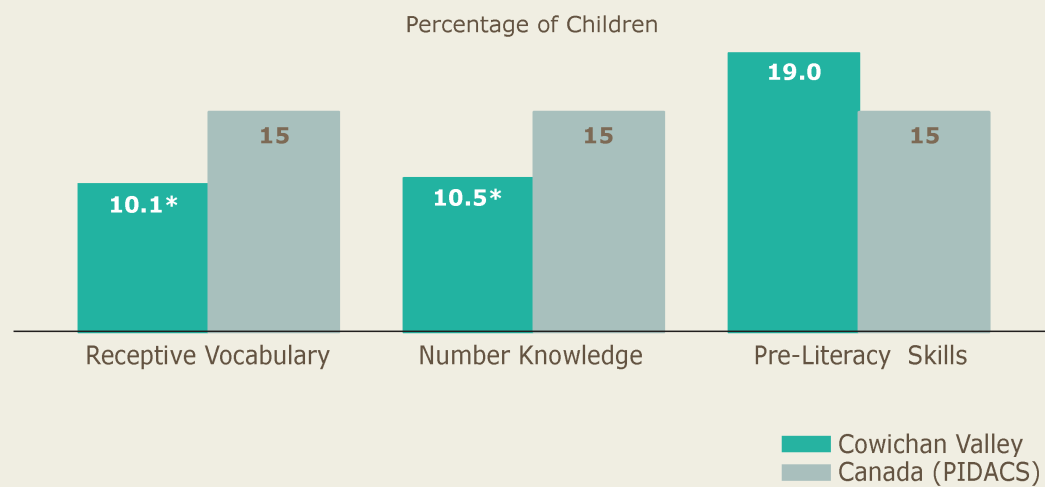
	Cowichan Valley		Canadian Average (PIDACS)	
	Mean	S.D.	Mean	S.D.
Receptive Vocabulary	101.0	12.9	100.0	15.0
Number Knowledge	<b>102.3</b>	13.8	100.0	15.0
Pre-Literacy Skills	<b>96.1</b>	14.6	100.0	15.0

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

**Source:** PIDACS, 2006-07 (Canada) and 2008-09 (Cowichan Valley).

Table 2-1 depicts the average scores on the direct assessments for the participating children. The children of Cowichan Valley had an average score of 101.0 on the assessment of receptive vocabulary. This was comparable to the Canadian PIDACS average. (See discussion regarding the Canadian PIDACS average on page I-8). The average score on the assessment of number knowledge was 102.3, which was higher than the Canadian PIDACS average. On the assessment of pre-literacy skills, the children of Cowichan Valley had an average score of 96.1, which was lower than the Canadian PIDACS average.

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



**Note:** Statistically significant differences are indicated with an asterisk.

**Source:** PIDACS, 2006-07 (Canada) and 2008-09 (Cowichan Valley).

Figure 2-1 shows the percentage of children in Cowichan Valley with scores below 85 on the three direct assessments. About 10% of the children in this community had low scores on the assessment of receptive vocabulary. This prevalence of vulnerability was lower than that seen in the Canadian PIDACS population. Similarly, about 10% of the children in Cowichan Valley had low scores on the assessment of number knowledge, which was also a lower percentage than in the Canadian PIDACS population. On the assessment of pre-literacy skills, about 19% scored below 85, which was comparable to the percentage in the Canadian PIDACS population.

## C. BEHAVIOURAL OUTCOMES

### *PIDACS Assessments of Behavioural Outcomes Based on Parent Interviews*

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

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

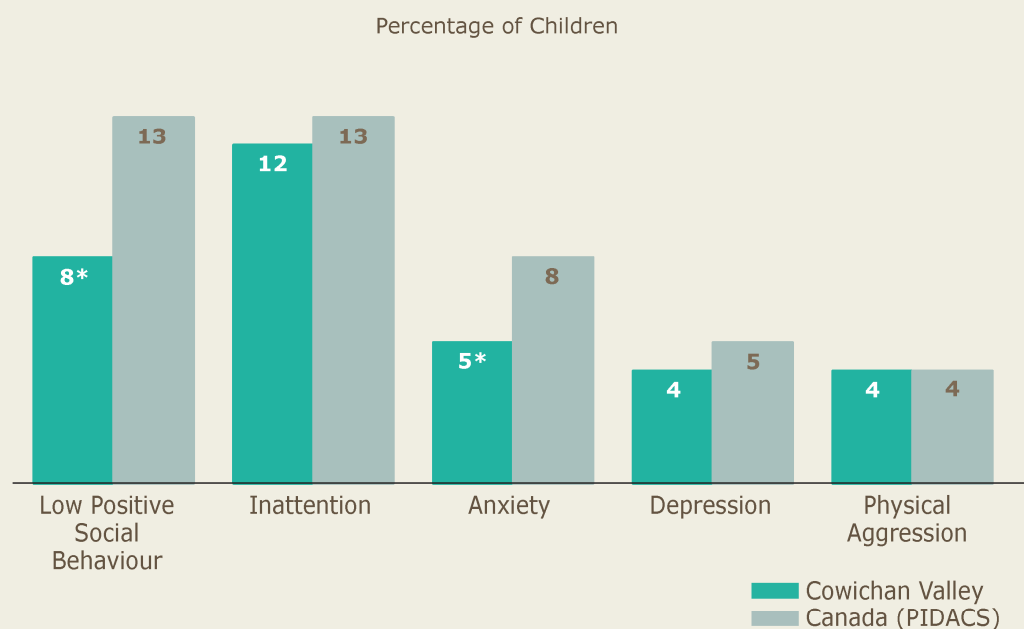
*Inattention.* Children who are inattentive tend to have trouble sitting still, are restless or easily distracted, have trouble sticking to any activity or concentrating for long periods, and may have difficulty waiting their turn in games or groups. Children who are considered 'hyperactive' often display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

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

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

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

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



**Note:** Statistically significant differences are indicated with an asterisk.

**Source:** PIDACS, 2006-07 (Canada) and 2008-09 (Cowichan Valley).

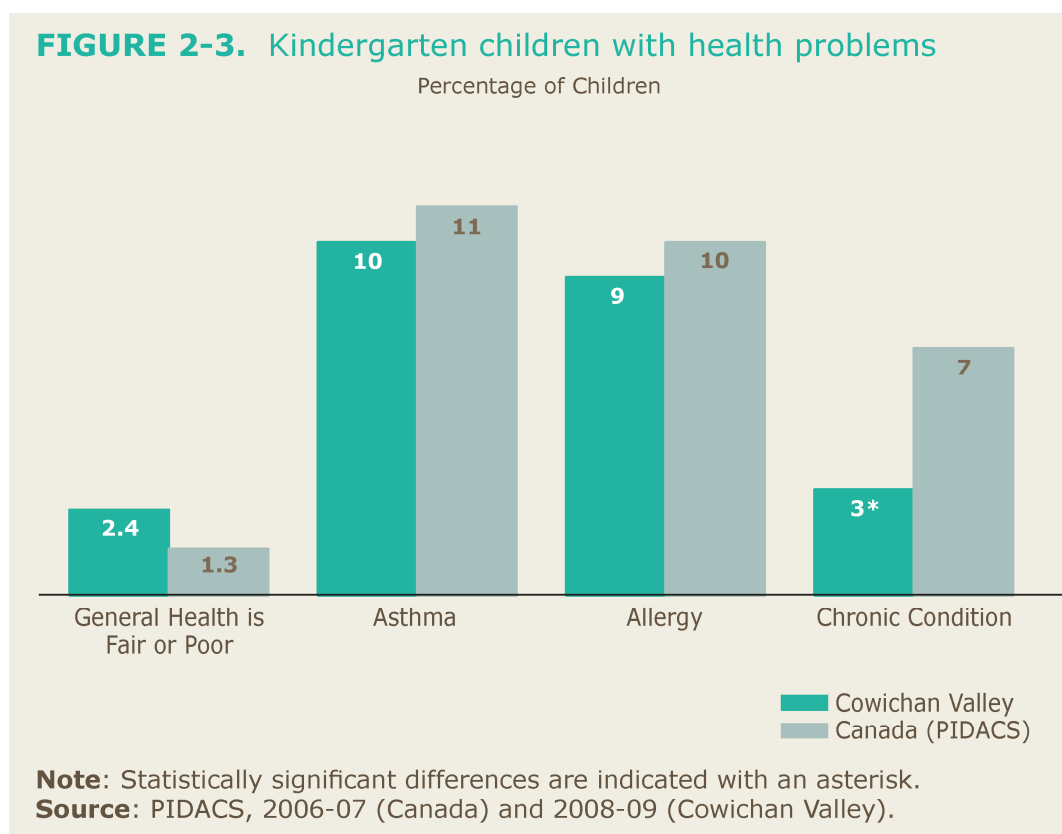
Figure 2-2 shows the proportion of children with low scores on the measures of positive social behaviour, and data for the four types of behavioural problems, based on the reports of parents in the PIDACS interview. In Cowichan Valley, a smaller proportion of children displayed low positive social behaviour than was the case among their Canadian PIDACS counterparts (8% locally as opposed to 13% nationally). About 12% of the children in the community had problems with inattention, 4% displayed depressive symptoms, and 4% were physically aggressive. These results were not significantly different from the corresponding Canadian averages. Only about 5% of the children displayed high levels of anxiety, which is a lower than the percentage in the Canadian PIDACS sample.

## D. HEALTH OUTCOMES

### *PIDACS Assessments of Health Outcomes Based on Parent Interviews*

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

Figure 2-3 shows that in Cowichan Valley, 2.4% of the children were considered to be in fair or poor health by their parents. The proportions of children with asthma, allergies and other chronic health problems were 10%, 9% and 3%, respectively. The prevalence of poor general health, asthma, and allergies among children in Cowichan Valley did not differ significantly from the corresponding Canadian PIDACS averages, but for chronic conditions the prevalence was lower than the Canadian average.





## E. INEQUALITIES IN OUTCOMES

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

In Cowichan Valley, the most prominent inequalities in outcomes pertained to scores on the direct assessments, especially receptive vocabulary and pre-literacy skills. Although the differences were not statistically significant in all cases, boys tended to have a higher prevalence of low cognitive scores, as did children living in low-income and single-parent families and children whose parents had not completed secondary school. Similar patterns were observed for inattention. There were also inequalities in health status. Families with low family income, unemployed parents, or a mother who had not completed secondary school were more likely to have considered their child to have health problems.

**TABLE 2-2. Differences among Cowichan Valley sub-populations in kindergarten children's developmental outcomes (% children)**

	Cognitive			Behavioural					Health			
	Low Receptive Vocabulary	Low Number Knowledge	Low Pre-literacy Skills	Low Positive Social Behaviour	Inattention	Anxiety	Depression	Physical Aggression	Poor General Health	Asthma	Allergies	Chronic Condition
<b>All Children</b>	10	11	19	8	12	5	4	4	2.4	10	9	3
<b>Child's Sex</b>												
Girls	8	8	<b>6</b>	<b>4</b>	<b>6</b>	5	4	3	3.8	<b>4</b>	6	5
Boys	12	12	<b>30</b>	<b>12</b>	<b>17</b>	4	3	5	1.2	<b>15</b>	11	2
<b>Family Income</b>												
Below \$30,000/year	<b>20</b>	<b>25</b>	<b>40</b>	15	<b>25</b>	9	5	8	<b>11</b>	10	6	2
At or above \$30,000/year	<b>2</b>	<b>5</b>	<b>13</b>	9	<b>11</b>	3	3	4	<b>0.3</b>	9	8	2
<b>Mothers' Employment</b>												
Not employed	5	12	14	8	<b>16</b>	7	2	<b>8</b>	<b>5.8</b>	10	6	<b>7</b>
Employed	6	8	19	9	<b>7</b>	2	5	<b>1</b>	<b>0.9</b>	9	9	<b>1</b>
<b>Fathers' Employment</b>												
Not employed	0	0	8	16	22	0	0	0	<b>25</b>	11	4	3
Employed	6	8	16	8	10	4	4	4	0.0	9	9	4
<b>Mothers' Education</b>												
Did not complete secondary	<b>23</b>	23	<b>48</b>	5	<b>23</b>	12	3	11	<b>23</b>	6	5	6
Completed secondary	<b>3</b>	8	<b>15</b>	9	<b>9</b>	3	4	3	<b>0.9</b>	10	9	3
<b>Fathers' Education</b>												
Did not complete secondary	<b>37</b>	37	<b>61</b>	15	10	0	0	0	5.0	7	7	12
Completed secondary	<b>5</b>	7	<b>14</b>	7	11	4	4	4	1.8	9	8	3
<b>Family Structure</b>												
Single-parent family	<b>18</b>	<b>27</b>	<b>37</b>	11	<b>23</b>	<b>13</b>	3	8	4.9	9	6	2
Two-parent family	<b>4</b>	<b>6</b>	<b>15</b>	8	<b>9</b>	<b>2</b>	4	3	1.9	10	10	3

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

**Source:** PIDACS 2008-09 (Cowichan Valley).

# III

## FAMILY AND COMMUNITY SUPPORT FOR EARLY CHILDHOOD DEVELOPMENT



### III. FAMILY AND COMMUNITY SUPPORT FOR EARLY CHILDHOOD DEVELOPMENT

#### A. FAMILY LIFE

Earlier research based on the National Longitudinal Survey of Children and Youth identified four factors that were strongly related to children's developmental outcomes: parenting skills, the cohesiveness of the family unit, the mental health of the mother, and the extent to which parents engage with their children.<sup>24</sup> The PIDACS included measures of these four key aspects of family life. The measures used and the results pertaining to Cowichan Valley 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.<sup>25</sup>

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

According to Health Canada, about 5% to 7% of mothers experience depression after the post-partum period.<sup>26</sup> 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.<sup>27</sup> Depression among fathers may also have adverse effects, but the number of fathers studied in earlier research based on UEY and the National Longitudinal Survey of Children and Youth was insufficient to estimate its effects.

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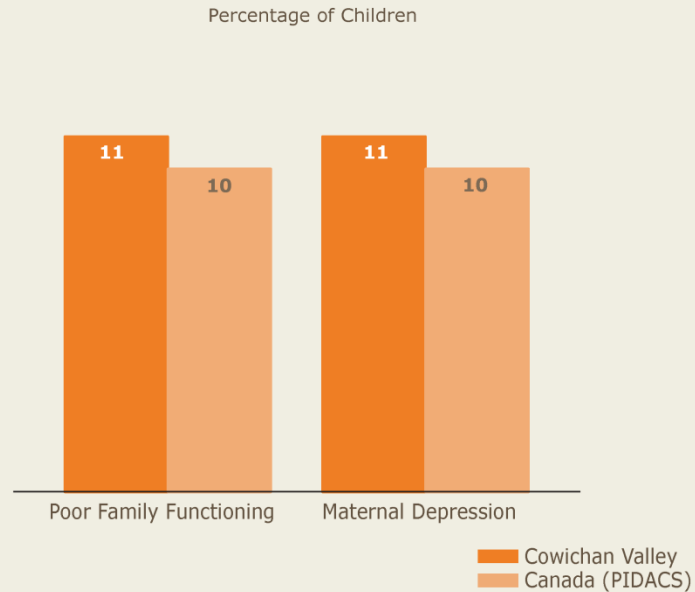
<sup>24</sup> Willms, J. D. (2002). Research findings bearing on Canadian Social Policy. In J. D. Willms, (Ed.), *Vulnerable Children: Findings from Canada's National Longitudinal Study of Children and Youth* (pp.331-58). Edmonton, AB: University of Alberta Press. (page 356)

<sup>25</sup> 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.

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

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

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



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

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

Figure 3-1 shows the prevalence of families with poor family functioning and the prevalence of maternal depression. About 11% of the families in Cowichan Valley had low scores on the measure of family functioning, and 11% of the mothers were displaying strong signs of depression. On both of these indicators, the results for Cowichan Valley were comparable to the corresponding Canadian PIDACS averages (See discussion regarding the Canadian PIDACS average on page I-8).

Table 3-1 depicts differences among sub-populations of Cowichan Valley in the prevalence of families with poor family functioning and maternal depression. As shown in the table, the prevalence of poor family functioning was 25% in low-income families, while it was only 10% in families with incomes above \$30,000. Low-income families, single-parent families, and families in which the mother had not completed secondary school were more likely to be experiencing poor family functioning. Mothers were more likely to be experiencing depression if they were unemployed or were a single parent.

<b>TABLE 3-1. Differences among Cowichan Valley sub-populations in maternal depression and poor family functioning in families with kindergarten children (% children)</b>		
	<b>Poor Family Functioning</b>	<b>Maternal Depression</b>
<b>All Children</b>	11	11
<b>Child's Sex</b>		
Girls	12	10
Boys	11	12
<b>Family Income</b>		
Below \$30,000/year	<b>25</b>	19
At or above \$30,000/year	<b>10</b>	9
<b>Mothers' Employment</b>		
Not employed	13	<b>16</b>
Employed	10	<b>7</b>
<b>Fathers' Employment</b>		
Not employed	0	6
Employed	10	6
<b>Mothers' Education</b>		
Did not complete secondary	<b>28</b>	24
Completed secondary	<b>11</b>	10
<b>Fathers' Education</b>		
Did not complete secondary	0	0
Completed secondary	10	7
<b>Family Structure</b>		
Single-parent family	<b>21</b>	<b>29</b>
Two-parent family	<b>9</b>	<b>6</b>
<b>Note:</b> Differences that are statistically significant ( $p < 0.05$ ) are in bold text.		
<b>Source:</b> PIDACS 2008-09 (Cowichan Valley).		

### Parenting Practices

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

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

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

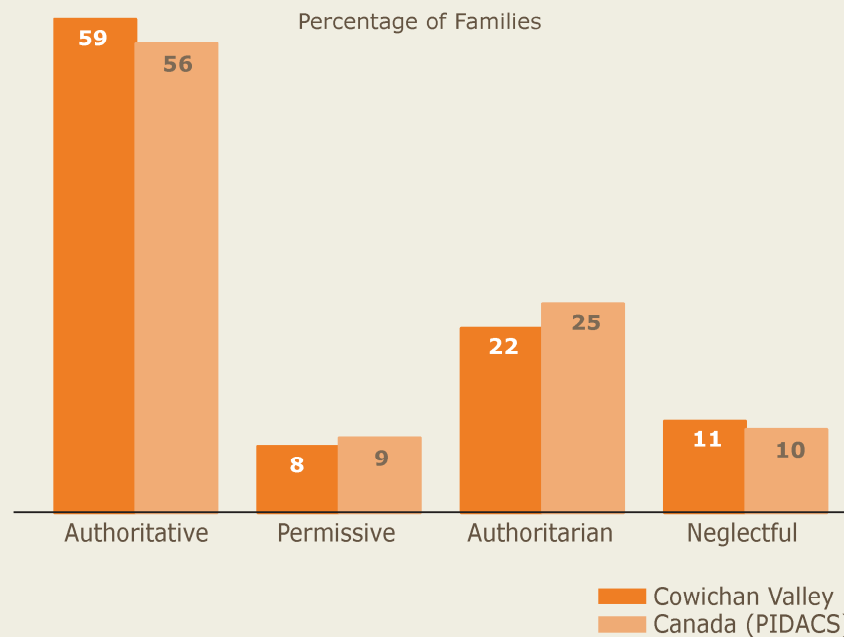
As illustrated in Table 3-2, these two constructs are commonly used in a typology of parenting styles, which classifies parents in terms of their responses to the needs of children for nurturance and supervision.<sup>28</sup>

TABLE 3-2. Typology of parenting styles as a function of "Love and Support" and "Authority"			
		Love and Support	
		High	Low
Authority	High	Authoritative	Authoritarian
	Low	Permissive	Neglectful

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



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



**Note:** Statistically significant differences are indicated with an asterisk.

**Source:** PIDACS, 2006-07 (Canada) and 2008-09 (Cowichan Valley).

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

Figure 3-2 shows the percentage of families in each of the four categories for Cowichan Valley compared with the national average. About 59% of Cowichan Valley's parents were considered authoritative, which was comparable to the Canadian PIDACS average. The percentages of families in the other three categories also did not differ significantly from the Canadian average.

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

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

In Cowichan Valley, 78% of the parents read to their child at least once every day. This was comparable to the Canadian PIDACS average of 77%. On average, the kindergarten children spent 1.6 hours per day watching television, which was the same as the Canadian average.

Table 3-3 depicts differences among sub-populations in Cowichan Valley in the percentage of parents displaying authoritative parenting practices, the percentage reading to their child at least once a day, and the average time spent watching television or videos. Mothers who were unemployed, single parents, and parents in low-income families were less likely to display authoritative practices. Children in low-income and single-parent families were less likely to be read to daily and on average spent more time watching television or videos.

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

	Authoritative Style (% children)	Reads to Child at Least Once a Day (% children)	Child Watching Television or Videos (hours)
<b>All Children</b>	59	77	1.6
<b>Child's Sex</b>			
Girls	63	77	1.6
Boys	55	78	1.7
<b>Family Income</b>			
Below \$30,000/year	<b>39</b>	<b>64</b>	<b>2.2</b>
At or above \$30,000/year	<b>61</b>	<b>80</b>	<b>1.5</b>
<b>Mothers' Employment</b>			
Not employed	<b>51</b>	81	1.7
Employed	<b>64</b>	79	1.6
<b>Fathers' Employment</b>			
Not employed	43	65	1.4
Employed	63	79	1.6
<b>Mothers' Education</b>			
Did not complete secondary	39	<b>58</b>	1.6
Completed secondary	61	<b>81</b>	1.6
<b>Fathers' Education</b>			
Did not complete secondary	80	73	1.4
Completed secondary	60	78	1.6
<b>Family Structure</b>			
Single-parent family	<b>47</b>	<b>67</b>	<b>2.0</b>
Two-parent family	<b>63</b>	<b>81</b>	<b>1.5</b>

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

**Source:** PIDACS 2008-09 (Cowichan Valley).

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

	Cowichan Valley	Canada (PIDACS)
<b>Parent does the following activities with the child at least once every day</b>		
Encourages him or her to use numbers in daily activities	74	71
Teaches him or her to read words	<b>57</b>	63
Tells stories	59	61
Takes him or her outside to play	44	47
Watches television with him or her	41	47
Teaches him or her to print letters or numbers	<b>39</b>	46
Sing songs (including action songs)	47	41
Plays cards or board games	<b>5</b>	9
<b>Child does the following activities at least once every day</b>		
Plays with pencils or markers doing real or pretend writing	73	72
Reads or tries to read	65	71
Looks at books, magazines, comics, etc. on his or her own	<b>75</b>	63
Does puzzles	<b>7</b>	10
<b>Note:</b> Differences that are statistically significant ( $p < 0.05$ ) are in bold text.		
<b>Source:</b> PIDACS, 2006-07 (Canada) and 2008-09 (Cowichan Valley).		

Table 3-4 shows the percentage of parents who were engaged with their child doing various activities at least once every day. For three of the eight activities parents in Cowichan Valley were less engaged than their Canadian PIDACS peers. These included: teaching the child to read words, teaching the child to print letters or numbers, and playing cards or board games with the child. On the other five activities the levels of engagement were comparable to the national average. With respect to literacy-related activities, a relatively high percentage of children in Cowichan Valley looked at books, magazines and comics on their own, while a relatively low percentage did puzzles.

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

	Parents' Engagement with Child								Child's Activities			
	Encourages Use of Numbers	Teaches to Read Words	Tells Stories	Takes Outside to Play	Watches Television	Teaches Printing	Sings Songs	Plays Games	Does Real or Pretend Writing	Reads or tries to Read	Looks at Books, Etc.	Does Puzzles
<b>All Children</b>	74	57	59	44	41	39	47	5	73	65	75	7
<b>Child's Sex</b>												
Girls	78	60	62	44	41	<b>47</b>	48	5	<b>88</b>	<b>74</b>	<b>82</b>	<b>10</b>
Boys	69	53	57	43	42	<b>32</b>	45	6	<b>59</b>	<b>57</b>	<b>68</b>	<b>4</b>
<b>Family Income</b>												
Below \$30,000/year	74	55	65	44	<b>61</b>	27	43	5	70	66	69	6
At or above \$30,000/year	74	56	55	45	<b>36</b>	39	49	4	76	64	74	6
<b>Mothers' Employment</b>												
Not employed	73	<b>69</b>	<b>73</b>	<b>54</b>	43	47	45	5	76	69	<b>82</b>	7
Employed	75	<b>50</b>	<b>55</b>	<b>38</b>	38	36	50	6	74	64	<b>71</b>	7
<b>Fathers' Employment</b>												
Not employed	81	75	56	22	52	40	39	0	87	<b>94</b>	97	<b>19</b>
Employed	74	54	61	45	40	40	47	5	73	<b>65</b>	73	<b>5</b>
<b>Mothers' Education</b>												
Did not complete secondary	75	<b>85</b>	63	<b>66</b>	57	47	32	11	66	67	73	5
Completed secondary	75	<b>54</b>	61	<b>42</b>	39	39	49	5	77	66	76	7
<b>Fathers' Education</b>												
Did not complete secondary	90	72	58	<b>80</b>	55	58	43	0	64	74	69	10
Completed secondary	75	56	60	<b>42</b>	43	39	48	5	76	64	75	6
<b>Family Structure</b>												
Single-parent family	65	59	52	45	42	40	40	6	66	58	68	8
Two-parent family	77	57	62	44	42	39	48	5	75	68	77	6

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

**Source:** PIDACS 2008-09 (Cowichan Valley).

Table 3-5 displays differences among sub-populations in Cowichan Valley in the percentage of parents engaged in various activities with their child at least once every day, and the percentage of children that were engaged in literacy activities at least once every day. There were very few significant differences among sub-populations. The most noteworthy differences pertained to the sex of the child; girls were more likely to engage in literacy-related activities such as doing real or pretend writing or reading or trying to read. Mothers who were unemployed were more likely than employed mothers to be engaged with their child on some of the literacy-related activities.

## B. CHILDREN'S PARTICIPATION IN COMMUNITY ACTIVITIES

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

An important example is the opportunity to engage in sports activities in the local neighbourhood. Research on Canadian youth has found that children's involvement in unorganized sports is an important protective factor against childhood obesity, more so than participation in organized sports involving a coach or instructor. The amount of time children spend watching television and videos is a risk factor for childhood obesity.<sup>31</sup> 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.<sup>32</sup>

### *Physical and Leisure Activity*

Figure 3-3 shows the number of times per week that kindergarten children in Cowichan Valley were engaged in sports and other activities. On average, they were engaged in organized sports that involve a coach or instructor about 1.2 times per week, which was lower than the Canadian PIDACS average of 1.4 times per week. However, the children in Cowichan Valley were more frequently engaged in unorganized sports: 4.6 times per week compared to the Canadian PIDACS average of 3.8 times per week. Unorganized sports do not involve a coach or instructor, and thus can include many types of activities that children engage in such as running, skipping, swimming or sports activities in their neighbourhood. Although the overall level of activity of the children in this community was close to the Canadian PIDACS average, Canada's *Physical Activity Guide for Children* recommends that children gradually increase the amount of time spent in physical activity per day to 60 minutes of moderate physical activity and 30 minutes of vigorous activity.<sup>33</sup>

The participation rates of Cowichan Valley children in art, music, and other cultural activities was comparable to the Canadian PIDACS average, as was participation in clubs, groups, and community programs, such as Beavers, Sparks, and church.

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<sup>30</sup> 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.

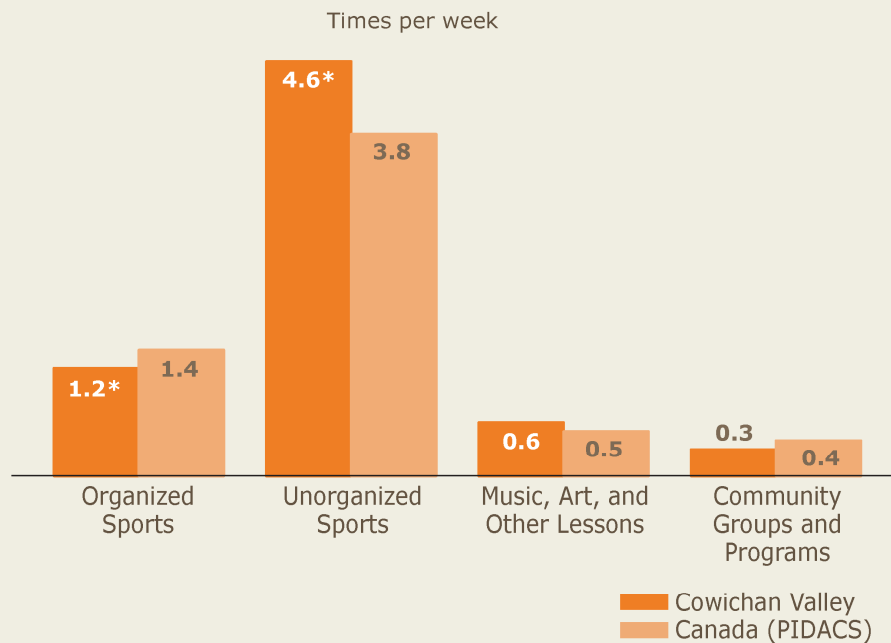
Hertzman, C. & Kohen, D. (2003). Neighbourhoods matter for child development. *Transitions, Autumn*, 3-5.

<sup>31</sup> 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.

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

<sup>33</sup> Public Health Agency of Canada (2007). Canada's physical activity guides for children and youth. Online at: [http://8/www.phac-aspc.gc.ca/pau-uap/paguide/child\\_youth/index.html](http://8/www.phac-aspc.gc.ca/pau-uap/paguide/child_youth/index.html).

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



**Note:** Statistically significant differences are indicated with an asterisk.

**Source:** PIDACS, 2006-07 (Canada) and 2008-09 (Cowichan Valley).

Differences among sub-populations in participation in organized and unorganized sports are shown in Table 3-6. On average, boys in Cowichan Valley were more frequently involved in organized sports than girls. Also, children in low-income and single-parent families and children whose mothers had not completed secondary school were less likely to be involved in organized sports. Children in low-income families tended to be more active in unorganized sports.



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

	Organized Sports	Unorganized Sports
<b>All Children</b>	1.2	4.6
<b>Child's Sex</b>		
Girls	<b>1.0</b>	4.5
Boys	<b>1.5</b>	4.7
<b>Family Income</b>		
Below \$30,000/year	<b>0.7</b>	<b>5.2</b>
At or above \$30,000/year	<b>1.4</b>	<b>4.4</b>
<b>Mothers' Employment</b>		
Not employed	1.1	4.7
Employed	1.3	4.5
<b>Fathers' Employment</b>		
Not employed	0.7	4.4
Employed	1.3	4.6
<b>Mothers' Education</b>		
Did not complete secondary	<b>0.3</b>	5.0
Completed secondary	<b>1.3</b>	4.5
<b>Fathers' Education</b>		
Did not complete secondary	0.8	4.6
Completed secondary	1.3	4.5
<b>Family Structure</b>		
Single-parent family	<b>0.9</b>	4.7
Two-parent family	<b>1.3</b>	4.6

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

**Source:** PIDACS 2008-09 (Cowichan Valley).

## *Use of Community Resources*

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

### *Educational Resources*

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

### *Entertainment and Cultural Resources*

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

### *Recreational Resources*

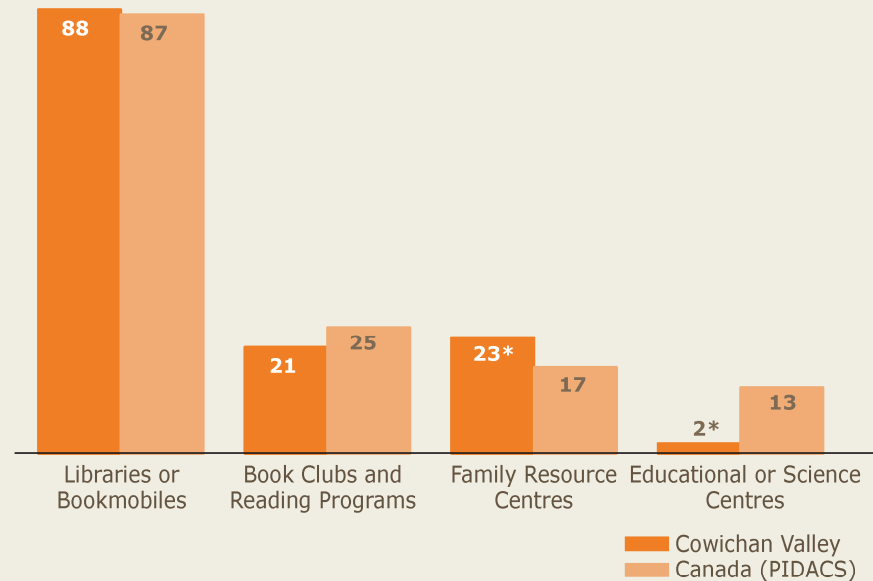
- parks, play spaces and recreational trails;
- beaches, indoor or outdoor pools, or wading pools;
- skating or hockey rinks or skiing facilities;
- recreational or community centres; and
- provincial or national parks and camping areas.

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

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

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

Percentage of children attending at least once per month



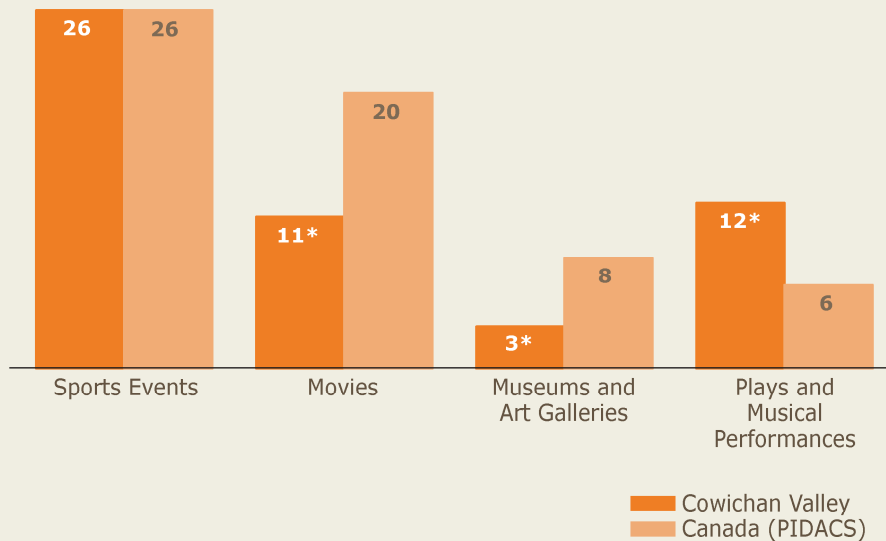
**Note:** Statistically significant differences are indicated with an asterisk.

**Source:** PIDACS, 2006-07 (Canada) and 2008-09 (Cowichan Valley).

About 88% of the kindergarten children in Cowichan Valley used a library or bookmobile at least once a month, and about 21% frequently attended book clubs or were enrolled in reading programs. These participation rates were comparable to the corresponding Canadian averages. The children in this community used family resource centres more frequently than other Canadian children this age in the PIDACS sample, but they had less exposure to educational or science centres.

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

Percentage of children attending at least once per month



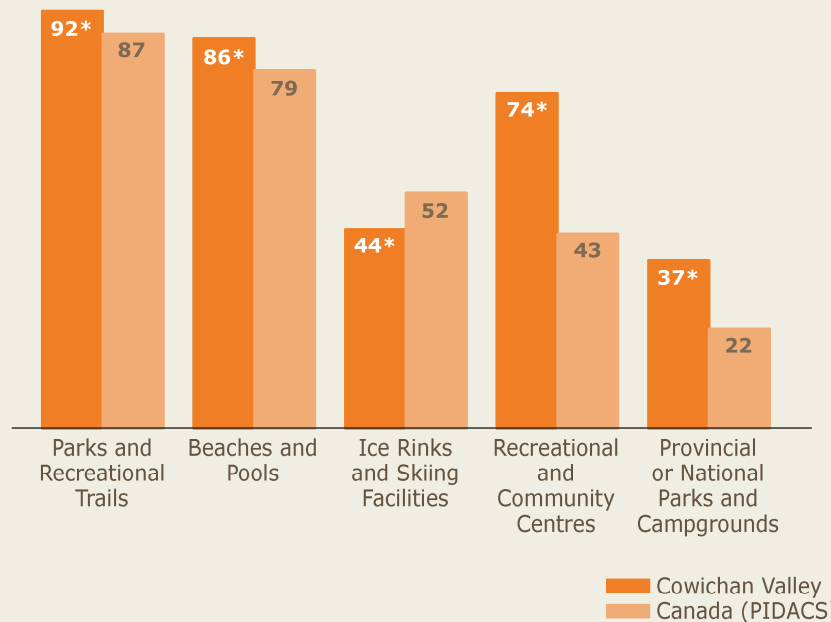
**Note:** Statistically significant differences are indicated with an asterisk.

**Source:** PIDACS, 2006-07 (Canada) and 2008-09 (Cowichan Valley).

Attendance at sporting events was a frequent activity for the kindergarten children of Cowichan Valley. About one-quarter of the children participated in this activity at least once per month, which was the same as the Canadian PIDACS average. Only about 11% of the children in Cowichan Valley went to the movies at least once per month, which was lower than the Canadian average of 20%. About 3% visited museums and art galleries, which was below the Canadian average of 8%, while 12% attended plays and musical performances, which was well above the Canadian average for children this age.

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

Percentage of children attending at least once per month



**Note:** Statistically significant differences are indicated with an asterisk.

**Source:** PIDACS, 2006-07 (Canada) and 2008-09 (Cowichan Valley).

The PIDACS data indicated that the children in Cowichan Valley, like other Canadian children, frequently used parks and recreational trails, beaches and swimming pools, and recreational and community centres. Parents reported that 92% of the children in this community used parks, play spaces and trails at least once per month. This was very high, and above the rate for other Canadian children in the PIDACS sample. The children in Cowichan Valley also used beaches and pools, recreational and community centres and provincial or national parks and playgrounds more frequently than other Canadian children this age. Their use of ice rinks and skiing facilities, however, was lower than that of other Canadian children.

Table 3-7 displays differences among sub-populations of Cowichan Valley in their use of community resources. Children in low-income families tended to use some recreational facilities less frequently than other children this age, but overall there were relatively few inequalities in the use of community resources associated with family background.

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

	Educational				Entertainment and Cultural				Recreational				
	Library or bookmobile	Book clubs and reading programs	Family resource centres	Educational or science centres	Sports events	Movies	Museums and art galleries	Plays and musical performances	Parks and recreational trails	Beaches and pools	Ice rinks and skiing facilities	Recreational and community centres	Parks and campgrounds
<b>All Children</b>	88	21	23	2	26	11	3	12	92	86	44	74	37
<b>Child's Sex</b>													
Girls	89	24	24	1	<b>33</b>	8	1	12	93	87	39	71	34
Boys	87	18	21	2	<b>21</b>	14	5	12	91	85	47	77	40
<b>Family Income</b>													
Below \$30,000/year	87	<b>36</b>	31	0	24	19	4	18	<b>84</b>	82	<b>26</b>	<b>53</b>	40
At or above \$30,000/year	88	<b>16</b>	21	2	27	9	3	12	<b>95</b>	89	<b>50</b>	<b>80</b>	40
<b>Mothers' Employment</b>													
Not employed	88	25	22	2	20	9	1	<b>6</b>	92	86	<b>37</b>	68	43
Employed	90	19	23	2	29	12	4	<b>16</b>	93	86	<b>50</b>	78	35
<b>Fathers' Employment</b>													
Not employed	<b>71</b>	35	45	0	28	9	0	3	100	88	<b>15</b>	53	71
Employed	<b>88</b>	17	22	3	24	7	3	9	91	86	<b>47</b>	75	38
<b>Mothers' Education</b>													
Did not complete secondary	92	<b>51</b>	39	0	23	11	5	16	87	83	<b>18</b>	<b>41</b>	38
Completed secondary	88	<b>19</b>	21	2	27	11	3	12	93	85	<b>47</b>	<b>77</b>	37
<b>Fathers' Education</b>													
Did not complete secondary	100	30	22	0	10	5	0	5	100	90	48	74	57
Completed secondary	87	18	24	2	25	9	2	11	92	86	47	74	38
<b>Family Structure</b>													
Single-parent family	84	<b>30</b>	24	0	32	<b>30</b>	4	19	<b>84</b>	82	33	74	27
Two-parent family	89	<b>17</b>	23	2	25	<b>7</b>	3	10	<b>94</b>	86	47	74	40

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

**Source:** PIDACS 2008-09 (Cowichan Valley).

### *Barriers to Family Use of Programs and Community Resources*

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

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

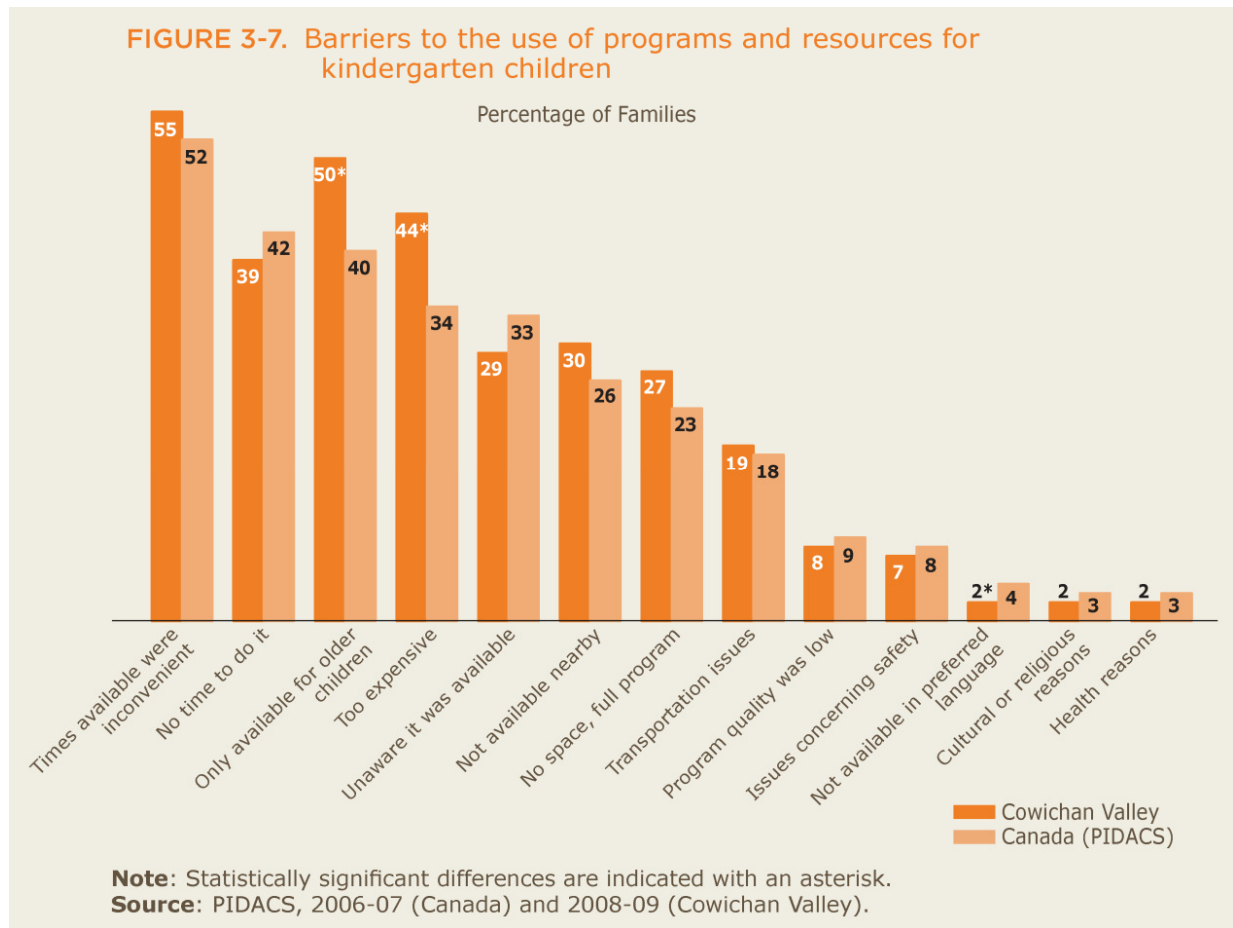


Figure 3-7 shows the percentage of families in Cowichan Valley that considered each issue to be a barrier to their use of programs and resources. The five most prominent barriers identified by the parents were: programs were not available at convenient times (55%), programs were only available to older children (50%), programs were too costly (44%), there was not enough time (39%), and programs were not available nearby (30%).

Table 3-8 displays differences in the perceived barriers to the use of programs and resources among sub-populations of Cowichan Valley for the five most important barriers identified. Program cost was a significant barrier for single-parent families and for families in which the mother had not completed secondary school.



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

	Times available were inconvenient	Only available for older children	Too expensive	No time to do it	Not available nearby
<b>All Children</b>	55	50	44	39	30
<b>Child's Sex</b>					
Girls	56	54	46	43	29
Boys	53	47	41	34	32
<b>Family Income</b>					
Below \$30,000/year	56	63	56	40	40
At or above \$30,000/year	57	48	40	43	32
<b>Mothers' Employment</b>					
Not employed	50	57	50	40	<b>40</b>
Employed	59	45	40	38	<b>27</b>
<b>Fathers' Employment</b>					
Not employed	<b>80</b>	63	47	<b>66</b>	51
Employed	<b>51</b>	47	38	<b>37</b>	31
<b>Mothers' Education</b>					
Did not complete secondary	52	63	<b>73</b>	40	39
Completed secondary	56	48	<b>41</b>	40	31
<b>Fathers' Education</b>					
Did not complete secondary	<b>17</b>	54	59	29	28
Completed secondary	<b>55</b>	48	38	39	32
<b>Family Structure</b>					
Single-parent family	59	57	<b>55</b>	36	29
Two-parent family	54	49	<b>40</b>	40	32
<b>Note:</b> Differences that are statistically significant ( $p < 0.05$ ) are in bold text.					
<b>Source:</b> PIDACS 2008-09 (Cowichan Valley).					

## 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,<sup>34</sup> and generally, the effects are stronger for children from low socio-economic backgrounds.<sup>35</sup> One must, however, stress the importance of 'high quality'. Programs are effective if they have developmentally-appropriate practices, a curriculum that emphasizes language development, a low child-to-teacher ratio, and programming that is embedded in local service delivery systems.<sup>36</sup> The quality of child-care programs tends to vary considerably in Canada, and therefore their effects also vary.<sup>37</sup>

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

In Cowichan Valley, 47% of the families cared for their children at home without any other type of arrangement. This was higher than the Canadian PIDACS average of 42%. For another 16% of families, care was provided by a relative or an older sibling at home, or by a relative in someone else's home. For those who used an alternate arrangement, the most frequent type was care by a non-relative in someone else's home. About 20% of the parents of kindergarten children used day-care centres or before-school and after-school programs. The Canadian PIDACS average was 19%.

The study also found that among those using a child-care arrangement, about 46% used two or more different types of arrangements. On average, children were cared for in child-care arrangements for about 22 hours per week.

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<sup>34</sup> 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.

<sup>35</sup> 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).

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

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

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

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

	<b>Cowichan Valley</b>	<b>Canada (PIDACS)</b>
<b>Did not use a child-care arrangement</b>	<b>47</b>	<b>42</b>
<b>Used at least one type of care arrangement</b>	<b>53</b>	<b>58</b>
<b>Most frequently used type of care arrangement</b>		
In own home by a relative (excluding siblings)	5	8
In own home by a sibling	1	1
Someone else's home by a relative	10	10
In own home by a non-relative	5	5
Someone else's home by a non-relative	12	15
Day-care centre	9	10
Before-school or after-school program	11	9
Other child-care arrangement	0	1
<b>Among those using a care arrangement, use of multiple types of care arrangements</b>		
One only	54	59
Two types	37	20
Three or more types	9	11
<b>Total time using some form of care arrangement (hours per week)</b>	<b>22.3 hours</b>	<b>18.4 hours</b>
<b>Source:</b> PIDACS, 2006-07 (Canada) and 2008-09 (Cowichan Valley).		

Table 3-10 displays differences among sub-populations of Cowichan Valley in the use of child-care arrangements. The most important determinant of whether parents used a child-care arrangement was whether or not the mother was working outside the home.

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

	Uses Child-Care Arrangement
<b>All Children</b>	53
<b>Child's Sex</b>	
Girls	58
Boys	48
<b>Family Income</b>	
Below \$30,000/year	56
At or above \$30,000/year	57
<b>Mothers' Employment</b>	
Not employed	<b>25</b>
Employed	<b>68</b>
<b>Fathers' Employment</b>	
Not employed	54
Employed	53
<b>Mothers' Education</b>	
Did not complete secondary	38
Completed secondary	54
<b>Fathers' Education</b>	
Did not complete secondary	31
Completed secondary	54
<b>Family Structure</b>	
Single-parent family	64
Two-parent family	49
<b>Note:</b> Differences that are statistically significant ( $p < 0.05$ ) are in bold text.	
<b>Source:</b> PIDACS 2008-09 (Cowichan Valley).	

## D. NEIGHBOURHOOD CHARACTERISTICS

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

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 Cowichan Valley are described below and presented graphically in Figure 3-8.

*Neighbourhood Quality.* The PIDACS interviewer asked parents some general questions on the quality of their neighbourhood, such as whether the neighbourhood had lots of other families with children, good schools and nursery schools, adequate facilities for children, such as playgrounds and pools, good health facilities, actively-involved residents, and accessible public transportation. The responses were scaled on a ten-point scale, such that 5 was a neutral response. An average rating above 5 was considered to reflect a 'quality neighbourhood'. About 52% of the parents in Cowichan Valley considered their neighbourhood to be of high quality. This was lower than the Canadian PIDACS average of 77%.

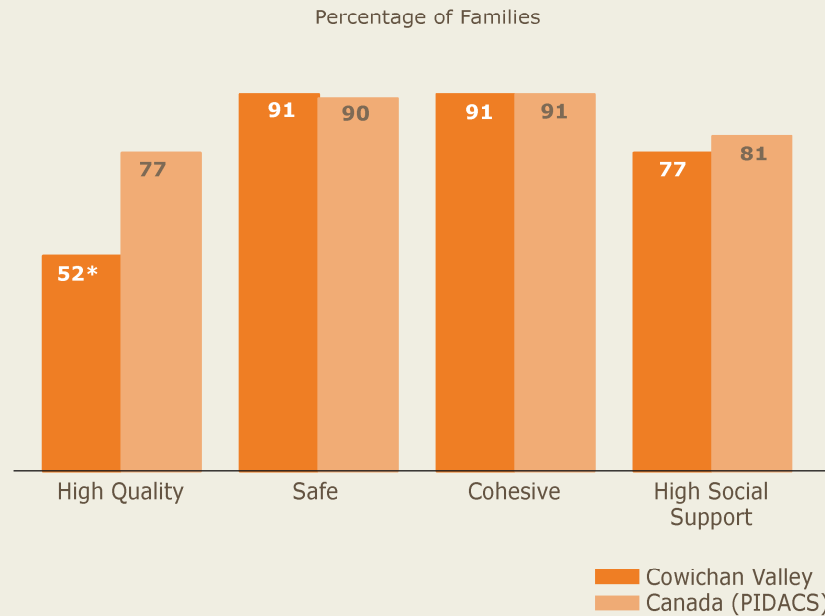
*Neighbourhood Safety.* The PIDACS parent interview included four questions on neighbourhood safety. Parents were asked whether it was safe to walk alone in their neighbourhood after dark; whether it was safe for children to play outside during the day; whether there were safe parks, playgrounds, and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

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

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

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



**Note:** Statistically significant differences are indicated with an asterisk.

**Source:** PIDACS, 2006-07 (Canada) and 2008-09 (Cowichan Valley).

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

Table 3-11 displays differences among sub-populations of Cowichan Valley in the percentage of families reporting high levels on the measures of neighbourhood characteristics and social support. The biggest differences were observed for social support. A lower percentage of parents with boys, single parents, parents in low-income families and in families in which the mother had a low level of education or the father was unemployed indicated a high level of social support.

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

	High Quality	Safe	Cohesive	High Social Support
<b>All Children</b>	52	91	91	77
<b>Child's Sex</b>				
Girls	50	89	88	<b>85</b>
Boys	54	93	93	<b>70</b>
<b>Family Income</b>				
Below \$30,000/year	43	93	85	<b>62</b>
At or above \$30,000/year	55	93	90	<b>82</b>
<b>Mothers' Employment</b>				
Not employed	48	88	91	74
Employed	54	92	91	81
<b>Fathers' Employment</b>				
Not employed	30	80	80	<b>47</b>
Employed	54	93	92	<b>81</b>
<b>Mothers' Education</b>				
Did not complete secondary	43	<b>75</b>	91	<b>48</b>
Completed secondary	52	<b>92</b>	91	<b>80</b>
<b>Fathers' Education</b>				
Did not complete secondary	67	95	88	67
Completed secondary	52	92	92	79
<b>Family Structure</b>				
Single-parent family	51	91	87	<b>65</b>
Two-parent family	52	92	92	<b>80</b>

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

**Source:** PIDACS 2008-09 (Cowichan Valley).





# IV

LOOKING FORWARD



## IV. LOOKING FORWARD

### A. WHAT MAKES COWICHAN VALLEY UNIQUE?

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

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

The second approach involved the children's parents, who assessed their children's behaviour and health outcomes as part of the PIDACS parent interview. Based on parents' responses, the prevalence of children in Cowichan Valley with anxiety problems was below the Canadian PIDACS average, while the prevalence of other behavioural problems was comparable to Canadian PIDACS norms. Only 8% of the children in the sample had low scores on the measure of positive social behaviour. On assessments of general health, asthma and allergies, the prevalence of children with significant health problems was comparable to that seen in the Canadian PIDACS population. Cowichan Valley had a relatively low prevalence of children with chronic conditions.

The 2006 Canadian Census data indicated that the average level of family income in Cowichan Valley was about \$72,000, which was below the national average of about \$82,000. The community's median income, at about \$62,000, was also below the national median of about \$66,000. There was also a high prevalence of families with incomes below \$30,000; 16.6% compared with the national average of 15.1%.

Despite these economic challenges, the prevalence of parents with an 'authoritative' style was comparable to Canadian norms. The level of participation in organized sports was relatively low, but levels of participation in unorganized sports were above the Canadian PIDACS average. Children also tended to be actively engaged in community activities, and made good use of recreational centres and outdoor recreational facilities. The most prominent barriers to participation were that programs were not available at convenient times (55%), programs were only available to older children (50%), programs were too costly (44%), there was not enough time (39%), and programs were not available nearby (30%). About 53% of the families in this community used some form of child-care arrangement while working or studying. The most frequently used type of care, used by 12% of families, was care in the home of a non-relative. Only about one-half of the parents surveyed had positive assessments of the quality of their local neighbourhoods; however, the percentages of parents considering their neighbourhoods unsafe or lacking social cohesion were comparable to Canadian averages. Most parents 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 on their needs and strengths. UEY is helping communities with different economic, social and physical characteristics to understand how their young children are faring, what the community is doing to support those children, and which family and community factors may influence young children's development. This *Community Research Report* for Cowichan Valley, British Columbia presents data on kindergarten children's development and on family and community experiences from the *Parent Interviews and Direct Assessments of Children Survey*. The data were provided by parents and trained assessors reporting on the development of the children in their homes and at school.

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

## APPENDIX A: LIST OF PARTICIPATING COMMUNITIES

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

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

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**UEY Communities (16) Funded in 2007**

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

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