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Computer Literacy and Poverty in Children

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‘Happy are the poor; for the Kingdom of God is yours.’

Luke 6:20

These are the words which Christ used to comfort and describe the poor of Israel almost two thousand years ago. Christ used the term *poor* not as a social, economic term, but as a spiritual term to describe a lack of faith. As we approach the next millennium, we recognize the word *poor* in a very different context. The poor in the twenty first century are not defined in spiritual terms as Christ had done, but in the context of a marginalised social class. In contemporary Canadian society, this marginalisation continues with little notice.

Although better off than other industrialized nations, Canada continues to have a large number of poor within its cities and rural communities. Over the past three years, Canada has been recognized by the United Nations as the best country in the world in which to live.¹ However, Canada continues to have difficulty dealing with its impoverished citizens. The social safety net which was established in the post World War II era has been dismantled in the nineties due to the failure of Keynesian economic policy. This depletion of social programs, which directly dealt with the impoverished of Canadian society has led to a crisis situation in the nation. With unemployment rates estimated at ten percent and poverty rates estimated at seventeen percent, many Canadians have been left economically vulnerable due to the depletion of Canada’s social safety-net with some being more susceptible than others.

Constituting the largest group of impoverished, children are faceless victims who are not reflected in the national poverty rate. After analysing the statistics concerning poverty, children have the highest incidence of poverty in Canada. There are many reasons attributed to this elevated

¹ United Nations Web Site <http://www.un.org>

percentage of poverty among children. Among the reasons for child poverty are high unemployment, depletion of social programs, lack of education and high incidence of poverty among families. These examples have traditionally been associated more with adults than children, but these are also the main factors contributing to child poverty in Canada.

Children who are born into poverty are more likely to remain poor. This phenomena known as the cycle of poverty is the basis for poverty among children. There are many reasons for the continuation of this phenomenon, but one of the largest catalyst in the cycle of poverty is the quantity of education received by impoverished children. Children who are born into poverty are more likely to receive a lower quality and quantity of education due to barriers which are present in the educational system. This lack of formal education will dictate the future skills that the child will possess when entering the workforce and consequently, his or her employment direction. It is believed that through advancing the education levels of children who live in poverty, the number of children in the cycle of poverty will be reduced and consequently, the cycle will be broken.

As Canada enters the twenty first century its labour force has become more technologically oriented. Over the past seventeen years, computers have become an integral part of Canadian life. As these innovations become more widespread, computer skills will become the determining factor between the employable and the unemployed. This division between the employable and the unemployed is a new factor in future discussions concerning child poverty in Canada. Due to social and economic constraints, children who are born into poverty may not have the facilities necessary to acquire the computer skills necessary to become employable in the emerging technological labour force, thus causing a potential generational risk. This potential generational risk will be illustrated through an examination of child poverty and labour trends both at the National level and locally using

the example of the City of Peterborough. Through these examinations, it will be illustrated that due to the lack of computer facilities open to children in poverty, there is a potential for an entire generation of children who will not possess the skills necessary to be competitive in the labour market of the twenty first century.

In order to establish the degree of child poverty within Canadian society, it is necessary to analyze the criteria in which poverty is determined. In Canada, the most used criteria to measure poverty is determined by Statistics Canada. Statistics Canada does not publish a defined measure of poverty, rather it publishes levels of income where families or individuals can survive with adequate food and shelter in a predetermined population. These levels are widely interpreted as poverty lines. Prior to 1971, these levels were determined by a measure of seventy percent of gross family income. This percentage was established using a survey in 1959. Statistics Canada concluded that on average a family spent about one half of its income on food and shelter. As a means of setting a cut off income, Statistics Canada stated that a family who spent significantly more than half of the family income on food and shelter is considered to be impoverished. This measure of poverty was used until the survey of incomes became annual.²

The survey of incomes which is used by Statistics Canada is designed to encompass all of Canada's households. The most recent example of Statistics Canada's annual survey is in 1994. The sample used for this survey totaled 39,000. It did not include the North West Territories, the Yukon, or inmates of institutions. The survey results included all revenue from employment, investments, and government. The household income includes all members of the household over 15.

² Lockheed, Clarence. David P. Ross, E. Richard Shillington. The Canadian Fact Book on Poverty. Ottawa: The Canadian Council on Social Development. 1994. Pg 13.

In 1971, Statistics Canada abandoned the seventy percent of family income and used a different means of measuring Low Income Cut Offs. The new income cut offs would be determined using an estimation of the gross income spent on food and shelter. This percentage is increased arbitrarily by twenty percent and results in a cut off rate. These numbers are compiled every two or four years. The 1996 poverty lines which were published by Statistics Canada are determined using a 1992 base. The numbers have been adjusted by the rate of inflation.

Statistics Canada Low Income Cut-offs, 1996 ³					
1992 Base					
Size of Area of Residents					
Size of Household	500,000 +	100,000-499,999	30,000-99,999	Less than 30,000	Rural Areas
1 person	17,132	14,694	14,591	13,577	11,839
2 persons	21,414	18,367	18,239	16,971	14,799
3 persons	26,633	22,844	22,684	21,107	18,406
4 persons	32,238	27,652	27,459	25,551	22,279
5 persons	36,036	30,910	30,695	28,562	24,905
6 persons	38,835	34,168	33,930	31,571	27,530
7 or more	43,634	37,427	37,166	34,581	30,156

By using an estimation of the daily cost to maintain adequate food and shelter in the predetermined populations, Statistics Canada believes that a more accurate measure of the number of households who live in poverty will be achieved.

While being the most accepted means of determining poverty in Canada, the Statistics

³ Statistics Canada Website <http://www.statscan.com>

Canada's Low Income Cut Off is not the only guideline used in Canada. To accurately determine child poverty and consequently, poverty in general, other guides must be used to contrast or support Statistics Canada. One of the indicators which can be used to contrast the Statistics Canada is the guide published by the Canadian Council on Social Development. This guide has been adopted to determine poverty, however, its premise is to investigate income inequality by creating a minimum income standard. Therefore, the CCSD standards provide income levels for income equality and do not define income needs for essentials as does the Statistics Canada's Low Income Cut Offs, however, it is still a useful indicator to illustrate the relationship between poverty and income standards.

The means by which the CCSD determines their minimum income standard is very simplistic. The CCSD uses the Statistics Canada report on family income to obtain an average. This average is halved to obtain an income standard. To establish the levels for certain family sizes, fifty percent of the average income for a three person family is used for an individual and eighty three percent for a family of two. After this level, sixteen percent is incremented for each person.⁴

⁴ Lochhead, Clarence. David P. Ross, E. Richard Shillington. The Canadian Fact Book on Poverty. Ottawa: The Canadian Council on Social Development. 1994. Pg 16

Lines of Income Equality Developed by the CSSD,1994.	
Family Size	Income Level (\$)
1 person	13,770
2 persons	22,950
3 persons	27,540
4 persons	32,130
5 persons	36,720
6 persons	41,310
7 persons	45,900

Through the use of the Statistics Canada average income levels, the CCSD provides a helpful indicator in determining poverty levels with its levels of equality. However, the CSSD is not as helpful as the Senate Committee Poverty Lines when comparing the different means of determining poverty.

Created in 1969 as a basis for the Senate's Committee on poverty guaranteed annual income scheme, the Senate Committee Poverty Lines provide a relative judgement of poverty lines. It was established in 1969, that the manner which Statistics Canada determined poverty was inadequate. As stated earlier, prior to 1971, Statistics Canada used an estimation of expenditures based on the 1959 census. While being somewhat indicative of poverty levels, the Low Income Cut Offs were not sufficient for the Senate's Committee's guaranteed annual income scheme. In order to create satisfactory poverty lines, the Senate Committee created a formula where a minimum income guarantee was developed using consumer expenditure data and the current social assistance rates.

This minimum was divided arbitrarily by seven and the quotient was called family size equalizer points.⁵ Under this scheme, an individual would receive three points, a family of two would receive five points, and the points would be incremented by one per family member thereafter. This means of determining poverty is more relative to market standards than Statistics Canada, however it does not differentiate between regions or population densities.

Family Size	Income Level (\$)
1 person	13,300
2 persons	22,190
3 persons	26,620
4 persons	32,050
5 persons	35,490
6 persons	39,920
7 persons	44,350

The Senate Committee has illustrated a preference to a relative definition of poverty with revising the poverty lines on a years basis. Even though the Senate Committee's poverty lines are not as comprehensive as Statistics Canada, they provide a yearly indication of poverty lines. Due to the death of Senator Croll, these lines have no longer been updated by the Senate.

⁵ Lochhead, Clarence. David P. Ross, E. Richard Shillington. The Canadian Fact Book on Poverty. Ottawa: The Canadian Council on Social Development. 1994. Pg 16.

⁶ Lochhead, Clarence. David P. Ross, E. Richard Shillington. The Canadian Fact Book on Poverty. Ottawa: The Canadian Council on Social Development. 1994. Pg 16.

After examining numerous guides which are used to determine poverty in Canada, it becomes apparent that Statistics Canada is the most comprehensive of all guides. It has firmly established that due to limitations of other guides and comprehensiveness of Statistics Canada's poverty lines, it would be most beneficial to examine child poverty in Canada using the Low Income Cut Offs determined by Statistics Canada.

Children have continually been seen as the victims in the statistics of poverty. Using the poverty cut off level set out by the Statistics Canada in 1994 of 54.7 percent of gross income, children are statistically the highest single group affected by poverty. Between the years of 1980 and 1995 the amount of children who live in poverty based on estimations using Statistics Canada data has increased by 28.3 percent. In contrast, the poverty rate during the same time period increased by 26.7. The most remarkable statistic revealed during the years of 1980 and 1991 was that a number of female - lone parent families are living in poverty. It was found that single parent families headed by females increased by 58 percent over the eleven year span. This growth is non-portioned to all other types of growths in families who live in poverty.

According to the Canadian Council of Social Development, children constitute forty percent of the welfare recipients in Canada.⁷ In addition to this indicator, there is estimated to be 500,000 children living with their families in housing which does not meet federal standards for adequate housing. Both of these indicators illustrate a link between adults who live in poverty and children. Children who live in poverty more likely have parents who live in poverty. Therefore, with the recognition of this link between parents and children in poverty, the reasons for child poverty

⁷ The Canadian Council on Social Development. [Http://www.achilles.net/~council](http://www.achilles.net/~council)

becomes apparent.

Child poverty is a phenomenon caused by fluctuations in the economy and the depletion of social programs. As stated earlier, fluctuations in the economy and the depletion of social programs are usually associated in relation to adults rather than children. This assumption is found to be false when comparing the statistics concerning child poverty and poverty in general. Between the years of 1980 and 1994, the amount of people living in poverty increased by 1.1 million. In this same time period, children who live in poverty increased by almost 500,000. While not clearly defining the link between adult poverty and child poverty the statistics illustrate a relationships between the two poverty rates. In order to truly define this link between adult issues concerning poverty and child

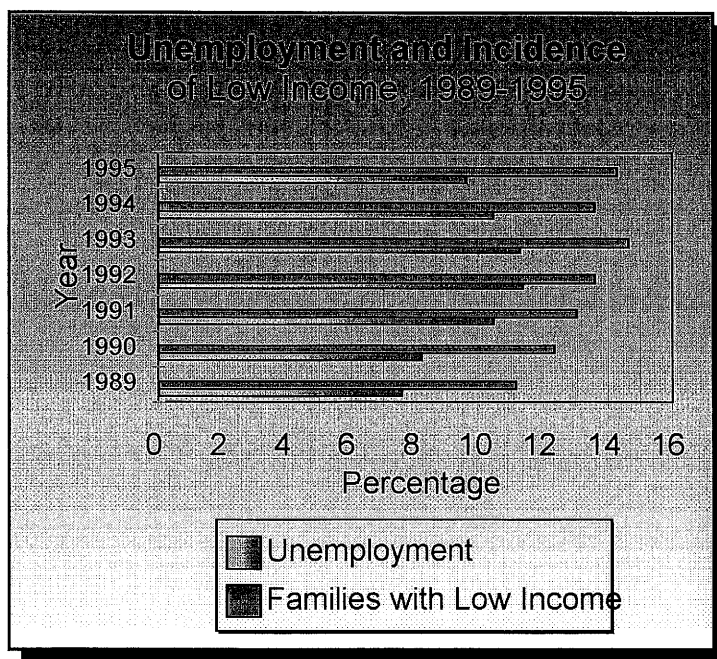


Figure 1 When compared, Canada's unemployment rates have a direct relationship to incidence of low income.

issues concerning poverty, it is necessary to examine unemployment and the number of families living in low income households during this time period.

The greatest factors which influence poverty in Canada are unemployment and fluctuations in average household income. The link between unemployment and income is a phenomenon which is

considered to be natural. As unemployment rises, the amount of low income families increases. This is the largest cause of poverty in Canada. As income levels decrease in general because of

unemployment, low income cut offs are maintained and poverty rates rise. This increase in poverty is generally caused by the lack of income necessary to sustain the essentials. It is a combination of unemployment and a

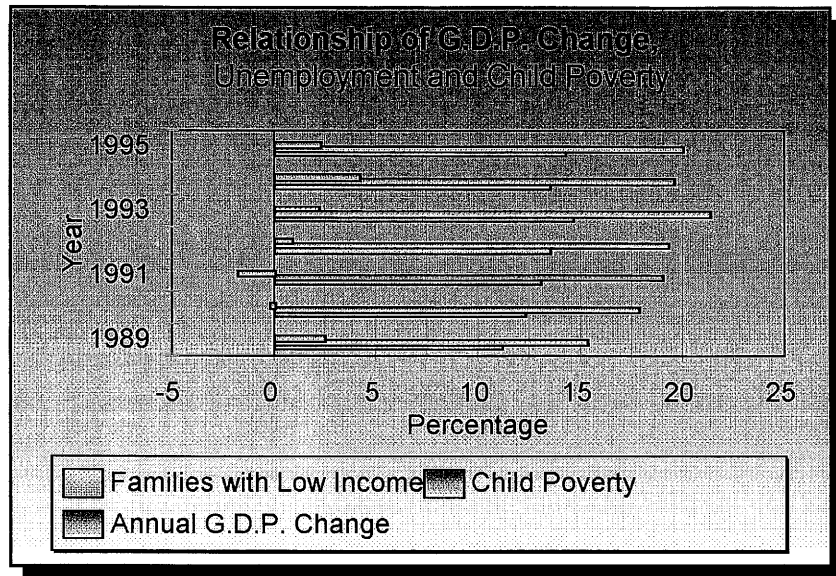


Figure 2 As G.D.P. decreases, the amount of families in low income as well as children in poverty increase.

decrease in household income which is the largest influence on the child poverty rate in Canada.

While generally associated with adult poverty, unemployment and the consequential decrease⁸

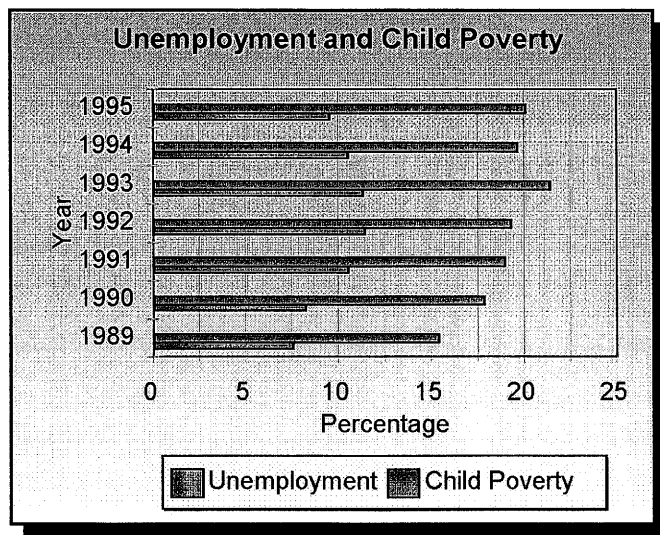


Figure 3 As unemployment fluctuates, child poverty fluctuates.

in household income is one of the greatest influences on child poverty levels in Canada. Over the years of 1989 and 1995, the unemployment levels in Canada rose from 7.5 percent in 1989 to 9.5 in 1995 with a peak rate of 11.3 percent in 1993. These levels have a direct relationship with the poverty rate among children in the same time period. Statistics clearly illustrates the

⁸ Based on data from Statistics Canada's Website for the period of 1980-1995. <http://www.statscan.com>

direct relationship between child poverty and unemployment in Canada. During this six year period the unemployment rate peaked in 1993 at 11.3 percent. This high unemployment rate coincided with the peak in 1993 of the child poverty rate at 21.3. Also during this time period, the average household income followed the same pattern. The average family income decreased with the decrease in the Gross Domestic Product.⁹ This decrease directly effected the poverty rate of children. Although not being directly involved in the labour market or contributing to the average family income, children are greatly effected by the fluctuations in these areas. Therefore, after taking into account all of these factors, it is clearly illustrated that children are statistically and economically victims of adult poverty.

As the millennium approaches, the situation which surrounds the impoverished has not improved. As stated earlier, the number of poor in Canada has increased by 26.7 percent between the years of 1980 to 1994. This number reached a peak of 5.1 million in 1993 and dropped slightly to under 5 million in 1994. Therefore, the poor constitute about one sixth of the Canadian population but has this group been recognized? In 1989, an all party resolution was adopted by the House of Commons to eliminate Child poverty by the year 2000. This objective would reduce the population of people living in poverty by 27.6 percent¹⁰ by the end of the century. In 1995, a report on the changes in child poverty and government programs since 1989 was released.

Campaign 2000 is a non-partisan group which upholds the resolution made by the House of Commons in 1989 by reporting progress made towards the elimination of Child poverty. Comprised of many commercial and social lobby groups, Campaign 2000 reported the changes which have taken

⁹ Based on data from Statistics Canada's Website for the period of 1989-1995.
<http://www.statscan.com>

¹⁰Based on data from Statistics Canada's Website for the period of 1989-1995.
<http://www.statscan.com>

place since 1989 in the area of Child Poverty. The group reports that most areas concerning Child Poverty have worsened or seen no improvement, however, improvements have been seen in four key areas; infant mortality, school drop out rate, job creation and spending to prevent child poverty. The most important area which has been addressed is the school drop out rate. As of 1995, the school drop out rate among children in poverty decreased by 65 percent.¹¹ This can be attributed to initiatives such as the "10-10" program in 1992-1994, where the federal government aimed to lower the national drop out average from 30 percent. The other key area which the federal government showed an improvement was in spending to prevent more child poverty. During the years of 1991 to 1993, the Canadian economy slowed down and decreased in size.¹² This unstable economic state caused many people to fall into poverty. Through federal government initiatives, there was an increase in spending to prevent further child poverty. These initiatives included income support programs and child tax benefits. However, the increase in spending by the federal government did not offset a 55 percent rise in child poverty between the 1989-1995 time period even though Canada increased its spending to a level above the United States and Australia.¹³

Despite their commitment to the elimination of child poverty in 1989, the federal government reduced spending for programs which are essential to children. In their 1995 budget, the federal government reduced spending in the areas of health, social services, and post-secondary education.¹⁴

¹¹ Campaign 2000, Report Card 1995, pg 1

¹²Based on data from Statistics Canada's Website for the period of 1989-1995.
<http://www.statscan.com>

¹³ Campaign 2000, Report Card 1995, pg 4

¹⁴ Campaign 2000, Report Card 1995, pg 5.

It has been seen that federal involvement in these areas is essential to ensure fair and adequate distribution of funds throughout the country. With the introduction of the Canada Health and Social Transfer in the 1995 budget, provinces will decide the amount of funding the aforementioned

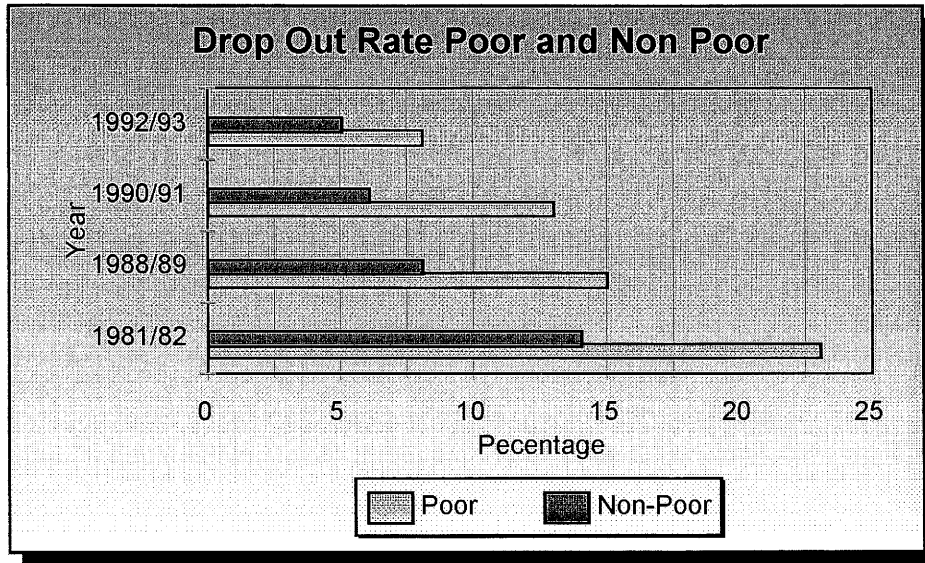


Figure 4 Although dropping over the 10 years, the drop out rate among the “poor” remains higher than “non-poor”.

programs will receive. By leaving the decision of funding to the provinces, there will be a non-standard distribution of services across the country in the future.

Statistics over

past years have shown that poverty has a direct influence on education. In a report from the Senate Committee on poverty in 1968, it was established that there is a direct correlation between poverty and education. This link was further substantiated in 1994 with the release of a ten year study on drop out rates among children 16 and 17 years of age.

Although there is a marked decline in the drop-out rate within the ten year period of 1981-1991, the drop out rate among “poor” children is still substantially higher. This high drop out rate can be attributed to a number of reasons. Among these reasons is the generational perpetuation of low income because of a lack of education. In 1968, it was established by the Senate Committee that education directly influenced the income of an individual. At the time, a university degree would earn

an individual 84.2 percent more in a non-farm labour market. This number is a base indicator to the 1994 statistic that individuals who grew up in a household where their parents received a post secondary education received a higher income. It was also established that adults whose parents graduated with a post secondary education were less likely to live in a household with an income less than \$20,000.¹⁵ Although having a substantial affect on income levels, parents' educational levels are not the only reason attributed to the higher drop out rate among children who are impoverished.

As presented in 1968 to the Senate Committee, the home environment plays a crucial role in a child's educational development. As seen before, parents of children who are in poverty tend to have less education. This factor creates, in some cases, an un-nurturing educational environment. The child may not see the value of his/her education due to lack of encouragement in the household and/or frustration in facing social barriers. Therefore, he/she may tend to become focused on the loss of income which attendance of classes causes the household. In statements made to the Senate Committee, it was exposed that children were coming to school hungry, sick, or malnourished. These problems were seen in 1968 as a main obstacle to the success of children who live in poverty and continue to be a problem in contemporary times. Recent studies have substantiated this fact, showing that children who have eaten an hour before taking tests, score higher than children how have not eaten. Although important, the fundamental obstacle facing children who are in poverty is not the home environment but the educational system itself.

According to statements given to the Senate Committee in 1968, there are other reasons which can be associated with the high drop out rate among children who are in poverty. Although

¹⁵ Lochhead, Clarence. David P. Ross, E. Richard Shillington. The Canadian Fact Book on Poverty. Ottawa: The Canadian Council on Social Development. 1994. Pg 68

statistics have shown parental education levels are highly influential on a child's education level, lobby groups see other reasons for a high drop out rate. There are many reasons that lobby groups attribute to the high drop out rate, among these being economic barriers, stigma of the poor in the educational system, and the educational system itself. The Senate Committee states that educational quality and quantity is dependent on the economic status of the community which surrounds it.¹⁶ Therefore, a poor community will have a lower quality of education than a more affluent community. This gap occurs because funding for schools is taken from community property taxes. The inadequate funding of schools in poorer communities is a group economic barrier, however, there also exists household economic barriers. The Senate Committee stated:

Education is a luxury the poor cannot afford. Lack of money directly affects the school careers of children from low-income families in a number of ways. Direct costs include the costs of transportation to and from school, books and supplies, sports equipment, bus tours and extra-curricular activities. In some provinces where these costs are met through welfare services, the child is subjected to embarrassment by public segregation within the school system.¹⁷

These hidden costs to education in poor communities deprive children from a complete education. Children who live in poverty cannot fully participate in the educational process, thus creating an alienated group in the classroom. This group of children are further isolated by programs which are intended to integrate. It is the stigma of being poor, in combination with the isolation created by programs which contributes to the high drop out rate.

The education system as a body does not encompass all of its members equally. Children who

¹⁶ Poverty in Canada: A Report of the Special Senate Committee Ottawa: Information Canada, 1971.) 118.

¹⁷ Poverty in Canada: A Report of the Special Senate Committee Ottawa: Information Canada, 1971.) 116.

are poor are alienated by an educational system which caters to the affluent of society.¹⁸ As stated earlier, poor communities have less facilities than more affluent communities. This gap causes poor children not to develop to their full potential. Inclusive of children who live in lower income households are visible minorities and native children. The native children tend to find the educational system irrelevant to their lives. In a statement to the Senate Committee, the National Brotherhood and Indian-Eskimo Association of Canada stated: "Equality is not so easily conferred on an Indian child, with handicaps imposed by poverty, isolation, language difficulty, limited aspirations-above all, the feeling that he is inferior to the white children."¹⁹ Children who live in poverty face isolation in the educational system and this isolation is enforced by its shortcomings.

After examining statistics concerning impoverished children in Canada, an underlying cycle becomes apparent. It has been established that education plays an important role in the development of children in poverty. As stated earlier, children who are poor receive less education than children who are not poor. This lack of education has shown to result in less income for the child when joining the work force. It is these factors which clearly contribute to a phenomenon known as the cycle of poverty. The cycle of poverty is built upon the premise that a child who is poor, lives in a household which is poor. This premise has been substantiated through establishing a relationship between child poverty and poverty in general. Through examining child poverty rates in relationship to adult poverty rates, a clear relationship is established. When poverty in general increases, the amount of children in poverty increases also. This relationship, in combination with the relationships of unemployment,

¹⁸ Poverty in Canada: A Report of the Special Senate Committee Ottawa: Information Canada, 1971.) 119.

¹⁹ Poverty in Canada: A Report of the Special Senate Committee Ottawa: Information Canada, 1971.) 119.

G.D.P. changes, household income and child poverty, clearly illustrate that child poverty is directly associated with adult poverty. Therefore, it is a combination of all these relationships and a perpetual lack of education in low income households which create the phenomenon known as the cycle of poverty.

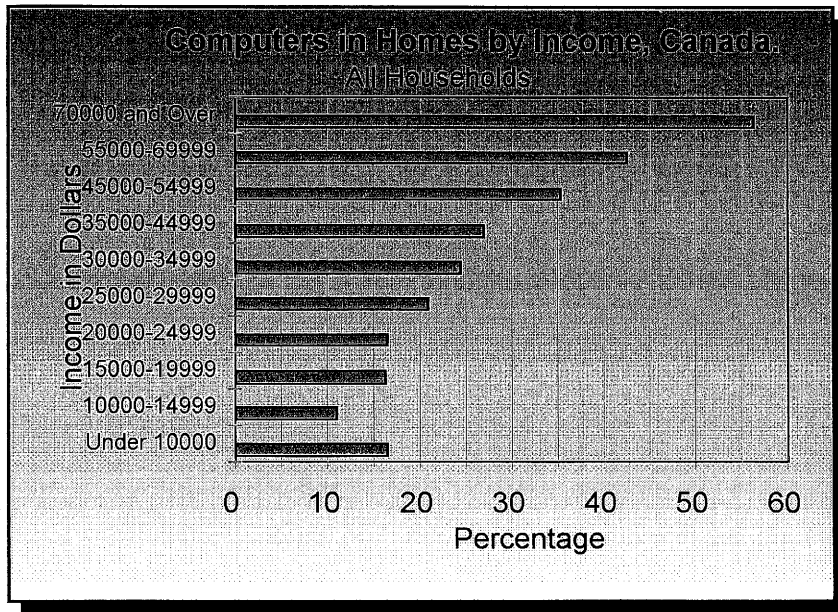


Figure 5 Percentages of population by income with computers in their home as reported by Statistics Canada in 1996.

Due to circumstances associated with poverty, households that live in poverty may not have access to computers. In 1995, it was established by Statistics Canada that income played a large role in the provision of access to computers: “...income is the passport to this (Internet)

electronic network. In 1995, households in the highest quintile (the 20% of households with the highest income) were more than four times more likely to have a computer than those in the lowest quintile (52.6% compared with 11.9%).”²⁰ This statistic outlining the amount of households with computers in the lowest quintile compared to households in the highest quintile leads to an assumption that access to computers is determined by their household income. This assumption has

²⁰Statistics Canada, Household Facilities by Income and Other Characteristics, 1995 pg. 11

proven to be true in later statistics published by Statistics Canada in their Household Facilities by Income and Other Characteristics report in 1996. In this report, it was established that households

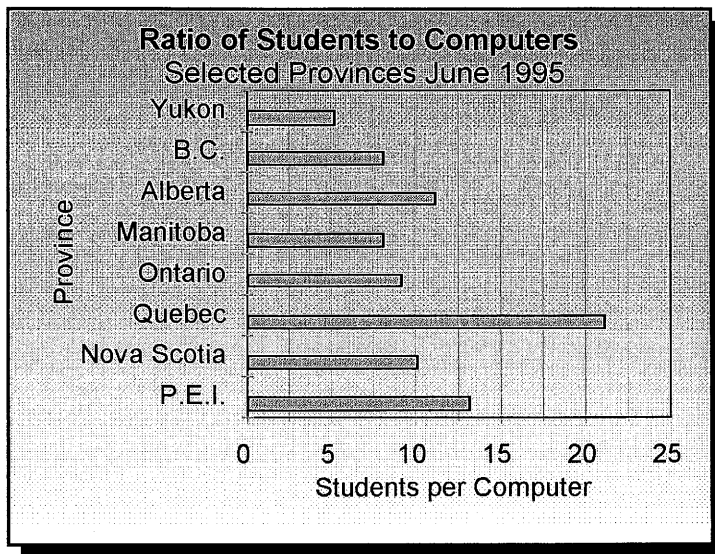


Figure 6 Ratios of students per computer in selected provinces as reported by Statistics Canada's Education Quarterly in October 1996.

who have an annual income between ten thousand and thirty five thousand dollars are less likely to have computers in their home than households who have over thirty five thousand dollars.²¹ Therefore, using the earlier connection established between household income and child poverty, it can be presumed that children's access is also determined

by household income. It is this presumption which is essential in examining the future of the children in low income households.

Over the ten year span of 1985 to 1995, computers have been integrated into the Canadian educational system. The result of this integration provided a large contribution to the increase of computer literacy among the population between the ages of 15-24.²² However, this contribution to computer literacy may not be conferred to all children, especially those living in low income areas. Access to computers in schools for children is determined by computer facilities available in the

²¹Statistics Canada, Household Facilities by Income and Other Characteristics, 1996 pg 34

²²Oderkirk, Jillian. "Computer Literacy - a Growing Requirement" Education Quarterly Review, Fall 1996. Statistics Canada, 1996. pg 11

classroom. It is these student to computer ratios which determine the amount of instruction and consequently, access to computers children receive. Through an examination of provincial ratios of computers to students, it is established that the average ratio is estimated at thirteen students to every computer.²³ This high ratio weighs heavily on the amount of computer instruction and access children who live in low income households possess.

After examining the statistics concerning children and access to computers, it becomes apparent that children in poverty may not acquire essential computer skills. As stated earlier, child poverty is connected to adult poverty, therefore a child's access to computers, as an adult's, is determined by household income. While being a large indication of a child's access to computers, computers in the home are not the only access points for children. The integration of computers in schools have provided some essential computer instruction, but computers, as other facilities in schools, are determined by funding taken from the property taxes in the school's area. Therefore, children who live and attend schools in low income areas will have higher student to computer ratios than students in more affluent areas.²⁴ This lack of computer facilities in the schools, in combination with the lack of facilities available in the home prevent children who live in poverty from acquiring essential computer skills necessary to be competitive in the future job market.

In a 1996 Statistics Canada report, it was established that computer skills is a growing requirement in today's technologically based economy. In almost every category of the labour force,

²³Oderkirk, Jillian. "Computer Literacy - a Growing Requirement" Education Quarterly Review, Fall 1996. Statistics Canada, 1996. pg 25

²⁴Y.W.C.A. Neighbourhood Computer Questionnaire, March 1997.

statistics indicated that computer usage has increased.²⁵ These occupations ranged from work in scientific research to sales. However, according to this report, computer usage tended to be focussed in the occupations which required more education. It was reported that 80% of those with a bachelor's or first professional degrees used computers in comparison to 50% with a high school degree.²⁶ Regardless of these statistics concerning the relationship between education and computer usage, there is still a large necessity for general computer skills. In all age groups under 55, it was stated that the amount of people who use computers for data entry and record keeping increased by over 60%.²⁷ While not directly connecting specific employment areas and computer skills, the increase in computer usage illustrate that computer skills are needed to be competitive in the job market.

Due to a lack of facilities in the home and in the school, children who live in poverty have a greater risk of not acquiring the skills necessary to be competitive in the job market. It has been established that a degree of computer literacy is necessary in order to be competitive in the current and future job markets. Children who live in poverty may not receive these skills and consequently, there becomes a risk of creating a marginalised, computer illiterate, uncompetitive generation. This generation at risk becomes apparent when analysing the City of Peterborough.

Situated in South Central Ontario, Peterborough provides a prime example of a diverse urban area restructuring. Over the past twenty years, the city of Peterborough has seen many changes in its

²⁵Oderkirk, Jillian. "Computer Literacy - a Growing Requirement" Education Quarterly Review, Fall 1996. Statistics Canada, 1996. pg 15

²⁶Oderkirk, Jillian. "Computer Literacy - a Growing Requirement" Education Quarterly Review, Fall 1996. Statistics Canada, 1996. pg 14

²⁷Oderkirk, Jillian. "Computer Literacy - a Growing Requirement" Education Quarterly Review, Fall 1996. Statistics Canada, 1996.pg 15.

population. While still maintaining a high European ethnic make-up, the city of Peterborough saw its general population rise in the twenty year period of 1971-1991 by ten thousand. During this time period, the highest population growth was seen in the age groups of 35-44 and over 65. While these increases have had a large influence on the general population, there has also been other factors which influenced Peterborough greatly. During this twenty year time period, there was a reduction in the population between the ages of 15-24 and a mark increase of 15.8% of children under 14.²⁸ This imbalance in the population under 24 is a main concern when discussing the future of the Peterborough community.

Due to the nature and comprehensiveness of the Statistics Canada measure of poverty, it has been established that it would be the most accurate in determining the poverty level in Peterborough. As mentioned earlier, Statistics Canada's Low Income Cut Offs are judged according to predetermined population areas. This has been seen as the most accurate manner of determining the poverty level in Peterborough. As of 1991, Peterborough's population was 68,371.²⁹ This placed Peterborough in the Statistics Canada category of urban area between 30,000-99,999. Therefore, Peterborough has a different Low Income Cut Off level than the national level which were previously stated.

²⁸ Peterborough Social Planning Council Peterborough Profile pg 22

²⁹ Peterborough Social Planning Council, Peterborough Profile 1994 pg10

Statistics Canada Low Income Cut-offs, 1996 ³⁰		
City of Peterborough		
Size of Area of Residents		
Size of Household	Per Year (\$)	Per Month (\$)
1 person	13,521	1,153
2 persons	18,762	1,562
3 persons	23,848	1,986
4 persons	27,454	2,286
5 persons	29,997	2,498
6 persons	32,559	2,711
7 or more	35,022	2,916

While not largely differing from the 1996 National Low Income Cut Offs, these levels illustrate that the cost of essential food, clothing and shelter in Peterborough is less than the national standard.

Poverty is a factor which has become to a large part of the fabric in the City of Peterborough. As stated earlier, poverty, unemployment and decline in income are factors which have effected many Canadians. These factors have also effected the community of Peterborough greatly. Unemployment in this community has consistently been estimated between 1 to 2 percent higher than national averages. This higher unemployment rate has had a direct influence on the incidence of low income families in the community. The graph (Figure 7) illustrates Peterborough's high incidence of income families in the year 1991. This trend is a phenomenon which is found throughout the 1981-1991 period. However it is not the only indication of poverty in Peterborough. After examining other

³⁰ Peterborough Social Planning Council, Hunger Report pg 37

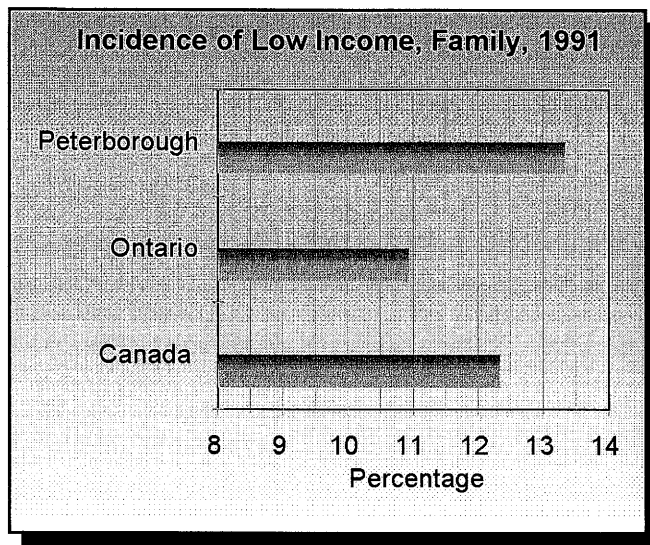


Figure 7 The incidence of low income families are higher in 1991 than provincial and national averages. This also holds true for other years.

categories of income groups, it is found that 37% of individuals living in Peterborough are living in poverty. It is a combination of these statistics which is the largest indicator of child poverty in Peterborough.

While not actually defining child poverty, individual and family poverty levels are indicative of the amount of

children living in poverty in the City of Peterborough. It has been established that poverty levels for families and individuals are consistently higher in Peterborough over the ten year period of 1981-1991. Also during this period there was a mark increase of children in the age group of 0-14. It is these two factors, in combination with higher unemployment and a consistent decrease in average household income over the years of 1981-1991³¹ which can be used to assume that the child poverty rate in Peterborough is higher than the national level.

After analysing unemployment, average income, and population factors, it becomes evident that child poverty is a phenomenon which is widespread in the city of Peterborough. There is no definite statistic concerning child poverty in the city of Peterborough, however by examining other social indicators, it is assumed that child poverty is higher in the area than the national average. As stated earlier, poverty influences many different parts in a child's development. Through education or food security, children are still the largest single group effected by poverty in Peterborough. Food

³¹Peterborough Social Planning Council, Peterborough Profile 1994 Pg 49

security is a large influence on poverty in Peterborough. This was stated in a report by the Peterborough Social Planning Council in December 1996. The survey, which was conducted to determine the level of hunger in Peterborough, asked members of the Peterborough Community questions pertaining to their food security. In the final analysis, it was found the 80% of respondents were worried about their food security. In addition to this response, 84% of households who reported food insecurities had children as members.³² While illustrating a degree of poverty in Peterborough, these statistics illustrate limitations that impoverished children in Peterborough face on a daily basis.

Access to services associated with poverty is an issue which limits individuals in Peterborough. Thus far, the term Peterborough has been used to encompass the region known as the City of Peterborough, however, there is a greater region called the County of Peterborough. The County of Peterborough encompasses all the smaller towns and villages on the periphery of the city. In order to accurately discuss the limitations of access to services associated with poverty, it is also important to assess the County of Peterborough versus to City of Peterborough.

When analysing access to services associated with poverty in Peterborough, it is essential to assess the differences in population between the County and City of Peterborough. The County of Peterborough consists of almost 5/6 the population of the City of Peterborough, however, this region contrasts the City of Peterborough to a large extent. One of the more visible characteristics is in the area of low income households. The number of low income households in the City of Peterborough is nearly twice the percentage of that in the County of Peterborough.³³ This mark difference in low income households between the City and County of Peterborough dictates the amount of services

³² Peterborough Social Planning Council, Hunger Report, pg 6.

³³Peterborough Social Planning Council, Peterborough Profile 1994 Pg 49

available to families in each area, consequently, limiting access to services. Regardless of this diversity in low income households, access to services is still an issues in both geographic regions. This holds true when dealing with access to computers for children in low income households.

Inherent within the discussion concerning children in low income households and computers is the question of access. It has been established in the 1996 Statistics Canada Education Quarterly that education and competitiveness is dependent on adequate computer skills. It was with this premise of education and access to facilities to achieve essential computer skills that a survey on availability of computers to Peterborough children was conducted in March 1996. The survey was administered to approximately 200 households with an approximate return of 40%. The households who received the survey had children who were in grades 5 and 7. These students attended three different Roman Catholic schools in Peterborough with a mixture of household incomes and types. The surveys did not ask for addresses nor names of the participants. The characteristic of anonymity did not weigh heavily in the return rate of the survey with low income households³⁴ responding remarkably lower than those above the income cut off. However, even with this large number of high and medium income participants, there is still is a trend which can be seen with the return results.

After analysing the data received through a survey concerning computer access in the home and computer literacy of Peterborough children, it was concluded that access is largely determined by income. There were 50 participants out of 75 who responded as having a computer in their home. These participants varied in household annual income from 15,000 to over 70,000 dollars, however, the majority of participants with computers had incomes over 35,000 dollars. These results illustrate

³⁴ Low Income Cut Off determined using the mode size of responding families which is four members. Y.W.C.A. Neighbourhood Computer Questionnaire, March 1997.

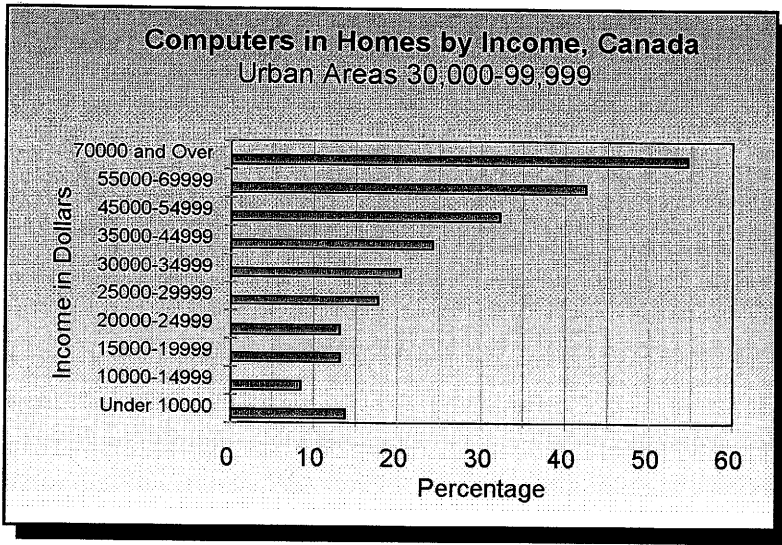


Figure 8 Percentages of population living in an urban population between 30,000-99,999 with computers as reported by Statistics Canada in 1996. This trend also holds true for the City of Peterborough.

the same tendencies as national and provincial statistics.³⁵ It was more likely in Peterborough as well as in Canada and Ontario that households with higher incomes responded as having computers in their homes. This statistic concerning access to computers in the home

coincides heavily with access to computers in the schools.

After assessing the relative computer access of children in the household, it becomes necessary to assess the access of computers in the schools. It was determined earlier that children in higher income households are more likely to have a computer in their home, therefore to adequately define access to computers of these children, a student to computer ratio for their schools must be established. Of the three schools which participated in the survey, the highest ratio was 13 students for every computer which coincides with the national average, but falls short of the provincial ratio of 9 students for every computer. However, this short fall was not shared by all the schools. The school with the lowest ratio reported as having 49 computers for 275 students, this transpires into a ratio of almost 5 students to every computer; well below the national and provincial ratios. It is this contrast in student to computer ratios which limits access according to

³⁵Statistics Canada, Household Facilities by Income and Other Characteristics, 1996 pg 34

neighbourhood. Most computers in Ontario schools are funded through school funding projects, consequently, this leaves schools in lower income areas to acquire less capital for computers. Therefore, due to lack of educational funding, in combination with the household economic barriers, children in Peterborough who live in low income household may not acquire the skills necessary to be competitive in the future Peterborough labour market.

As previously established, labour markets and family structures have been evolving greatly in the last twenty years throughout Canada. As this shift occurs, people and families are dislocated both socially and economically. Peterborough has proven to be a prime example of these shifts. In 1991, it was seen that over a ten year period, lone-parent households headed by a female had a non-proportioned increase to other family types. This phenomenon was also exhibited in Peterborough with 17.7% of all families with children in 1981 to 20.5% in 1991. The change in family has not been the only characteristic of the Peterborough population which has changed. With the change of the complexion of the typical family has come the change in the typical industry in Peterborough. While not directly dealing with computers, the service industry has developed at an astronomical pace in Peterborough. Over the twenty year period of 1971-1991, the service industry increased from 49.5% of the Peterborough labour in 1971 to 65.5% in 1991. In contrast, the manufacturing industry over the same twenty year period decreased from 22.3% in 1971 to 14.6% in 1991. These fluctuations in employment opportunity illustrate that the Peterborough market is continuing to shift into the area of service. It is the increase of employment in the service industry which holds the greatest implications for the future employability of young people in Peterborough.

As the service industry increases in the region of Peterborough, there will be a necessity to possess some essential skills. According the Human Resources and Development Canada, the service

industry encompasses many different occupations. Among industries classified as being in the service industry are occupations related to retail and sales. These occupations as do most occupations in the service industry list computer literacy as a necessary skill. It is these occupations and similar occupations which require computer skills that children in lower income households risk being excluded from.

The constant increase of population that the region of Peterborough has experienced has greatly influenced the future of the labour force. Migration patterns have shown that over the five year period of 1987-1992, the total out migration in the Peterborough area was less than its in migration. This resulted in a large population increase in the area with most of the migrants being in the 0-17 age group. Therefore, the migration patterns of the area in combination with the natural population increase, will result in a large number of people entering the labour force in the year 2000.

Children in lower income households are more likely to be excluded from attaining employment in the Peterborough labour market by the year 2000. Human Resources and Development Canada see the retail and service industry as a large growth area in the Peterborough area by the year 2000. If this assumption is proven to be accurate, children in lower income households will tend not to have the skills necessary to adequately become a member of this type of labour market, therefore, causing a generation at risk.

As the country enters into new experiences, its labour force has diversified. Over the past seventeen years, the rate at which computers have become integrated into Canadians lives has been astronomical. As this phenomenon becomes even more widespread, computer skills will become the determining factor between the employable and the unemployed. This division between the employable and the unemployed has been seen through an examination of statistics and projections

of future labour markets. However, due to social and economic constraints, children who are born into poverty are not conferred the same opportunities as children who live in more affluent households. This is seen through an examination of access to facilities for impoverished children to acquire the computer skills necessary to become employable in the emerging technological labour force. The examination of this relationship between household income and computer availability, in combination with assessing student to computer ratios, clearly indicates that children in lower income households are at a potential generational risk. This potential generational risk holds true at the national level as well as in the examination of the region of Peterborough.

As the country steps out of the Industrial Era into the Information Age, there must be a aspiration to develop a united and equal Canadian Society that can step forward into the next millennium. Canada has been deemed by the United Nations as the best country in the world in which to live for the past three years, however, this quality of life is not conferred to everyone within its borders. Discrimination, racism, classism, and sexism still haunt the society which was created over 300 years ago. These factors have proven to be detrimental at times to the prosperity of the country. If Canada is to maintain its prosperity, children must be educated in key areas. This will not occur unless all children are equal in society and have equal access to the educational system. It is after the abolishment of all socio-economic barriers and the context of terms like *poor* which hinder a child's true potential, that Canadian society will truly be the greatest place in the world in which to live.

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