THE EFFECTS OF CULTURAL AND ECONOMIC CAPITAL ON BOTH FORMAL AND INFORMAL LEARNING FOR THE WORKPLACE

by

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Abstract

The aim of the thesis was to explore the magnitude of inequity in accessibility to initial formal education, continuing adult education, and work-related informal learning for the workplace. The two main issues that the thesis attempted to determine is whether social background characteristics that affect initial educational attainment continue to influence participation in adult education and work-related informal learning. More specifically, this research focused on three main questions: First, to what extent does parents’ social background influence educational attainment levels for Canadians from different generations? Second, to what extent does parents’ social background influencing participation in adult education for their offspring beyond the effects of an individual’s own social background? And, third, to what extent does parents' social background have on their offspring’s participation in informal learning for the workplace beyond the effects of an individual's own social class background? A secondary data quantitative analysis was carried out on the data collected in the 2004 Work and Lifelong Learning (WALL) survey. Both crosstab analysis and structural equation analysis were used to obtain an overview of inequities in participation in formal education and informal learning and to test the applicability of Bourdieu’s social reproduction theory. Overall, the findings of this thesis indicate that social reproduction occurs not only through the formal education system, but also through the adult education system. More specifically, parents’ education continues to be a good predictor of the level of education attained by offspring. Moreover, one’s level of education continued to be a predictor of participation in adult education. Social reproduction was not present for work-related informal learning. In fact, those from low incomes were more likely to engage in informal learning than those from high incomes. These findings indicate that despite level of cultural and economic capital, the majority of Canadians engage in a learning activity. It is apparent that structures that are present in our formal education system continue to advantage students with high cultural and economic capital; however, work-related informal learning is accessible to all.
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Chapter 1

INTRODUCTION

The new so-called knowledge economy has increased the gap between the rich and the poor in Canada. Those who are self employed or who work part-time have suffered the most (Campaign 2000 2002). Canadians with high levels of education earn more money, experience better employment opportunities, and face lower rates of unemployment (Baran and Riddell, 2000).

Over the last four decades, governments have been working on lifelong learning policies and programs. According to Rubenson (2002), there have been three generations of lifelong learning. The first generation began in the 1960s with the view that lifelong learning would benefit civil society. In the 1980s, the second generation’s main focus for lifelong learning was to increase a country’s ability to compete in the global market. Currently in Europe, there exists a third generation where the main focus of lifelong learning is to promote active citizenship and employability.

The government of Canada sees the recognition and continuous focus on enhancing lifelong learning as vital in improving social inclusion and increasing economic productivity for our citizens (Cappon 2006). However, the policies put forth in trying to ensure that Canadians have equitable access to lifelong learning have not had much impact. Comparisons among OECD countries for 2006 show that although Canadians are leading other countries in terms of literacy among secondary students, they are not faring as well in terms of adult literacy (Composite Learning Index 2006). The adult literacy rate is lower than those from other OECD countries, Canadian businesses are less likely to provide training for their employees, and although we have one of the highest educational attainment levels, we fare less well internationally for university educational attainment (Campaign 2000 2002).

In addition to the problems outlined above, inequities in accessibility to formal education, participation in adult education and informal learning persist. Those from privileged backgrounds have a higher presence in our universities (Stowe 2001). As well, those with higher levels of education are more likely to participate in adult education courses (Livingstone, Raykov et al.
Opportunities for work-related informal learning are also unequal, with those in higher employment levels having access to more and better opportunities for informal learning than those towards the bottom (Hewison, Dowswell et al. 2000; Rainbird 2000; Evans and Hodkinson 2002). However, Livingstone and Stowe (2006) have found that overall fewer inequities in work-related informal learning exist compared for formal education.

The aim of the thesis is to explore the magnitude of inequity in accessibility to education attained, continuing adult education, and work-related informal learning for the workplace. The two main issues that the thesis will attempt to determine are: first, the extent to which background characteristics have consequences for intergenerational educational mobility, and second, whether social background characteristics that affect initial educational attainment continue to influence participation in adult education and work-related learning. This research will focus on three main questions:

1) To what extent does parents’ social background influence educational attainment levels for Canadians from different generations?

2) To what extent does one’s social background affect participation in adult education? And, to what extent does parents’ social background affect offspring’s participation in adult education?

3) To what extent does one’s social background affect participation in work-related informal learning? And, to what extent does parents’ social background affect offspring’s participation in work-related informal learning?

Previous research has focused on one’s own demographic characteristics rather than looking at potential enduring effects of parents’ background on participation in adult education and the extent to which this potential enduring effect is related to participation in work-related informal learning.
For this thesis, cultural capital is operationalized as education level and economic capital is operationalized as occupational class and income (for respondents only). The data collected in the survey include parents’ education and occupational class but not income and respondents’ education, occupational class, and income. The operationalization of these variables is discussed further in the chapter on methodology. Several researchers who study accessibility to education using Bourdieu’s social reproduction theory have used parental education as a proxy for cultural and parental occupation as a proxy for economic capital (Erikson and Jonsson 1996; Nakhaie 2000; Andres and Grayson 2003).

The layout of this thesis is as follows: The second chapter outlines the theoretical perspective used to guide the research for this thesis, followed by a review of literature that pertains to participation in education, adult education, and informal learning. A conceptual model based on the findings from the review of literature is proposed in the same chapter. The third chapter describes the methodology used for the analysis. The fourth chapter discusses the findings that pertain to the effects of parents’ social background on respondents’ level of education. The fifth chapter summarizes the findings from the analysis that looks at the effects of parents’ social class background and one’s own social class background on participation in adult education. The sixth chapter outlines the effects of parents’ social class background and one’s own social class background on participation in work-related informal learning. The seventh chapter outlines the results from a structural equation model that tests the effect of background variables on education level, participation in adult education, and participation in work-related informal learning. The eighth chapter is the conclusion which contains a summary of the findings, the limitations of the research, and recommendations.


**Chapter 2**

**REVIEW OF LITERATURE**

**Introduction**

This chapter's focus is a review of previous research in order to understand issues of accessibility to postsecondary education, adult education and informal learning. The chapter begins with a discussion of the theoretical perspective that is used to guide this research followed by a review of previous research that addresses issues of social class and participation in postsecondary education, adult education and informal learning. Finally, a conceptual model is proposed to explain the effect of one's social class on participation.

**Theoretical Perspective**

The theoretical perspective to be used for this thesis is social reproduction theory proposed by Bourdieu where he explains that the structures in the formal education system disadvantage those from low social class. Although Bourdieu's theory is based on the education system in France, many of the factors outlined in Bourdieu's theory that explain how social reproduction persists through the French education system are also relevant to the Canadian education system and Canadian society.

Bourdieu’s theory of social reproduction is most appropriate for this thesis for two reasons: the first reason is the applicability of his theory to the Canadian context. We will see from the review of literature that in Canada, previous research has consistently found that parents’ cultural and economic capital are strong predictors of education level attained. The second reason is the quantitative nature of Bourdieu’s analysis which that led to the development of his social reproduction theory. A similar quantitative analysis was carried out in this thesis.

Bourdieu’s social reproduction theory focuses on the role that education plays in reproducing inequities. Public education began in a socio-historical context where people exercised symbolic domination. The institutionalization of education has allowed for the regulation of knowledge. It is seen as a means of allowing those in power to assert social control, social selection, and symbolic domination. More specifically, the materials produced for education (such as text books and
curriculum), particular practices (such as testing) are used to perpetuate a regime of dominance. Bourdieu and Passeron (1990) explore the relationship between the autonomous view of the school as a place to learn and the external pressures that schools face as producers of knowledge. Programs implemented by the government such as national testing, program evaluations, and curriculum testing create a situation where schools are seen more and more by society as factories that turn out knowledgeable students (Bourdieu and Passeron 1990).

In order to understand the applicability of Bourdieu’s social reproduction theory in studying equity in formal and informal learning, it is important to first understand the concepts and terms underlying his theory. A review of the terms that Bourdieu uses and their definitions will precede the discussion about the applicability of the theory with regards to accessibility to formal and work-related informal learning.

A key concept that is used in Bourdieu’s social reproduction theory is habitus. This is a term used to describe the way an individual develops his or her dispositions and attitudes. The habitus is a set of dispositions that are enduring perceptions, thoughts, and actions. The habitus is the cumulative effect of being exposed to the structures that are found in various fields in which individuals manoeuvre and the individual’s internalization of the experience (Bourdieu and Passeron 1990). Thus, we can say that the habitus is unique to every individual (Bourdieu and Passeron 1977). Bourdieu further explains that the development of the habitus is based on a dialectical relationship between one’s actions (he uses the term practice) in reaction to the structures of the environment/context. (he uses the term field). This reaction leads to a constant reshaping of one’s habitus. An individual’s actions are not necessarily conscious calculations; they are based on reactions to one’s surroundings (Bourdieu and Passeron 1977). Based on Bourdieu’s notion of habitus, individuals manoeuvre through various fields, and as events or experiences happen, the individual will unconsciously comply or react to the event without thought. The individual has internalized the “appropriate” behaviour for these specific circumstances. For example, if those who are around an individual use a certain language or behave in a certain manner, people will begin to internalize these valued behaviours and in turn behave the same way. In essence, the individual begins to perpetuate the structures of inequity that he or she is surrounded by (Bourdieu 1987). For example, low social class children may change their behaviour from a “low social class culture” to a culture that is similar to the middle class.
Bourdieu characterises social relations\textsuperscript{1} in the context of fields, which he defines as arenas in which people and organizations compete for valued forms of capital. Bourdieu sees society as containing an assortment of fields such as family, educational institutions, workplaces, associations, and many others (Bourdieu 1987; Webb, Schirato et al. 2002). An individual will play in several fields at once; each field is not fully autonomous. Social relations within each field are based on the amount of capital an individual possesses within each field. The amount of capital that one posses depends on what is valued within the field. Not all fields value the same things; therefore, each field is a site of struggle where individuals compete for what is valued. Each individual holds a position within a field based on the amount of valued capital (which is defined later in this text) the individual holds compared to others in the field. Inequalities in positions in specific fields are thought to be due to the fact that dominant classes (or those with the most capital) define what is valued within each field. Within a field, individuals compete to increase their capital either consciously or unconsciously. Struggles created by the desire for those within a field to obtain valued capital is the common element that is found in all fields; however, what is valued in each field is unique to each field (Bourdieu 1998). The struggles form the basis of the social relations for each field and each individual within a field.

The competition in a field is not a calculated competition. Bourdieu refers to this as “logic of practice”. Each individual's embodied habitus adjusts according to the external conditions within a field. For example, an individual may behave as the dominant in the field behave or may set themselves apart. The key is to enhance one’s symbolic capital which Bourdieu refers to as “profit of distinction” (Bourdieu 1990).

We can understand formal education in terms of Bourdieu's concept of field or market (Bourdieu 1982). Each field contains a set of resources to which a value is attributed and then they are distributed among individuals who are "playing" in that field. Individuals must compete for these resources because typically they are not distributed in an equitable way (Bourdieu, 1982). Resources can be thought of as material and symbolic practices or things that provide an individual power. In a field, individuals compete for the resources that will bring them power. Bourdieu's focus is on the process of regulating and attributing value and significance to resources. From Bourdieu's

\textsuperscript{1} Social relations in this context refers to a relationship between two or more individuals.
perspective, those in power regulate and attribute value to resources. For example related to education, a teacher picks a student to wipe the board at the end of the day - students will compete to wipe the board in order to gain a reputation of being helpful because it is something that teachers value. The inequity is when a teacher continuously chooses the same student to do the task.

There are three kinds of capital that Bourdieu refers to in his theories: economic capital, cultural capital, and social capital. Economic capital stands for either money or property assets (Bourdieu 1986). Cultural capital refers to an individual’s attributes, disposition, skills, and credentials that are valued in a field. Individuals bring a certain amount of cultural capital to a field with the goal to augment their capital. Those in dominant positions who hold the most power in a field decide what is of value, which then ensures that a certain level of prestige is maintained (Bourdieu 1986). The term social capital is used by Bourdieu (1986) to describe the collective support that is derived from an individual’s network of people who come into a field with a certain amount of valued capital. Each member in the network provides support for the individual. The amount of social capital that one possesses depends on both the number of people in the individual’s network and the amount of capital each individual in the network possesses themselves (Bourdieu 1986).

Each type of capital can be used to afford the children of privileged backgrounds a better education than those from less privileged backgrounds, which perpetuates inequities. More specifically, economic capital may be used by parents to either pay for tuition at private schools or to help their own child's school purchase supplies for programs that will benefit their children. For example, those with more economic capital are more likely to live in a high income neighbourhood where schools have access to more resources that help educate children than those in low income neighbourhoods. Later in the child’s life, economic capital is used more directly than indirectly. For example, economic capital is used to pay tuition at post-secondary institutions such as colleges and universities (Webb, Schirato et al. 2002).

Cultural capital, which is passed onto the child in the home from their parents, advantages students in a different way than economic capital. Bourdieu argues that it is the culture of the dominant classes (groups) that is embodied in our education system (Bourdieu 1998). For example, those who decide what is taught in schools are from university educated backgrounds with high levels of
cultural capital. Therefore, what is valued as important knowledge comes from the dominant class. Parents from higher social classes pass onto their children the cultural capital that is most valued by the education system. In order to succeed, children from lower classes would need to adopt and internalize the culture of the middle and/or upper classes. The underlying assumption held by those in authority in the education system (teachers, principals, boards, etc.) is that all children possess or should acquire the dominant cultural capital (Webb, Schirato et al. 2002). Therefore, inequalities for those who do not possess the “middle to upper class cultural capital” are not recognized.

Economic and cultural capital may advantage or disadvantage students in our education system. Inequalities are also created within the fields in which an individual manoeuvres. Bourdieu (1986) explains that social reproduction is perpetuated in the education system and because of this, each individual competes for the valued cultural capital within each field. Each individual will adjust his or her expectation about how much cultural capital he or she perceives can be gained within each field based on access to this valued cultural capital. Bourdieu (1986) explains that people will adjust their expectations based on their own assessment of whether or not this valued cultural capital is attainable. In other words, those with the least amount of capital will be less motivated to struggle for capital he or she understands to be unattainable. Those with more capital are in positions where they have enough power to decide which values, rituals, and conventions are going to be of most value. The fact that the privileged choose what is valued ensures that their position of privilege, prestige, and status will not be taken away (Lamont and Lareau 1988). For example, the content of what is learned in our education system is based on the language and knowledge of the privileged classes, which in turn creates a barrier for those from lower classes because these children need to learn a language that is not familiar to them (at home he or she would be exposed to working class language and knowledge). This translates in our education system by the mere fact that the system is designed by those from more privileged backgrounds who will only recognize valued capital. This leaves those without in an unprivileged position.

Based on Bourdieu’s theory of social reproduction, those from lower social class backgrounds are at a disadvantage economically and culturally and will have lower expectations of succeeding in gaining the capital necessary to succeed in the Canadian education system. The other factor that Bourdieu outlines as a potential explanation for social reproduction is that children from lower
social classes will give up on schooling once they have identified that he or she cannot compete. This notion is referred to by Bourdieu (1986) as ‘self-elimination’. A student will likely not continue with schooling because he or she does not see the benefit.

Bourdieu (1990) refers to ‘distinction’ as an increase in an individual's position within a field. For example, there are certain ways of acting if you are from the bourgeois class, so should an individual learn to behave in a "bourgeois way", he or she will gain power in a field that respects this particular behaviour. Distinction is socially legitimized and has permeated various institutions such as family, churches, governments, and schools. Schools begin to differentiate people through tests. There really is not much difference between the student who passes with a 65% and the person that fails with a 64%; however, in academia a distinction is made between these two students. The consequences of this difference can last a lifetime (Bourdieu 1982). A student may self-eliminate from the system by blaming him or herself for the failure rather than realizing that it is a systemic problem.

Another term used by Bourdieu (1982) is ‘symbolic violence’. Symbolic violence refers to the power that is exercised by those who possess symbolic resources (cultural and social capital) over those who do not have the same resources. Examples are men who may have power over women or schools who have power over students. The recipient of symbolic violence is not necessarily a passive recipient; rather individuals may be subject to the violence because they see it as a part of the way things are in a particular institution. For example, a student may accept a low grade (symbolic violence) because he or she has come to accept the system. The violence is referred to as symbolic violence because it is not a physical threat to the victim but rather an invisible threat that is more representational in nature.

In our current society, symbolic (such as cultural capital) and material (economic capital) resources are seen as valued resources. Bourdieu and Passeron (1977) see formal education as a site (field) that serves the reproduction of relations of power. Education is seen as a space where the practices that legitimize social difference and social inequalities are perpetuated, and where the regulation of access to resources, is ideologically constructed.
Bourdieu and Passeron (1977) point out that one of the purposes of education is to create a situation of social selection through meritocracy where one cannot succeed without mastering the culture of the middle to upper classes. In general, those who participate in formal education have come to embody the belief that the existing patterns of unequal distribution of resources are appropriate. People truly believe that success in education is based on an individual's ability. Few people question the fact that those in positions of power (high levels of cultural and economic capital) control social reproduction in education through the production tools used in the education system such as curriculum, text books, and dictionaries.

It is important to distinguish between those who are capable of mastering the valued cultural and social capital and those who either require extra help or who remove themselves either because of the inability to master the requirements of the education system or choose to resist the dominance imposed on them. Generally, those who self eliminate will understand this inability to be a result of personal failure to benefit from access to education.

Education is thought to have been set up in a historical context where the exercise of symbolic domination was present. The regulation of education has created a means for which those in power can assert special control, social selection, and symbolic domination. More specifically, for education specialized materials, particular practices, and selected actors are used to perpetuate a regime of dominance.

Education is used to select those who will be good citizens and those who will need to be controlled. The system provides good citizens with the skills necessary to succeed in a capitalist society while marginalizing those who need to be controlled or policed.

The same theory of social reproduction for initial formal education can be applied to inequalities in participation in adult education. In this thesis, the theory of social reproduction is applied to participation in adult education and work-related informal learning. Those with high levels of economic capital are able to afford the costs of adult education. In many cases, by the time adults participate in adult education, they have inherited a certain amount of cultural capital and/or increased their cultural capital through education. Adult education courses generally are geared towards those that have middle and upper class cultural capital. Of course there are exceptions
such as courses given through unions geared towards working class/manual labour. We have seen that the best predictor of participation in adult education is current education level which seems to indicate that in adult education those with high cultural capital are trying to obtain more.

A certain amount of valued cultural capital is necessary for people to engage in the more mainstream ways of learning informally such as through mentors, books, etc. However, people can certainly read, practice and learn from each other even though they may possess very little of the ‘valued’ cultural capital. So we should see much less of a social class divide when we look at participation in informal learning. As well, those that self eliminate out of formal education, would not have a need to self eliminate out of informal learning. It is not that these individuals cannot learn; rather with work-related informal learning, it would make sense that social reproduction is not as pronounced. The problem is more that formal ways of learning are not geared to the lower classes.

**Initial Formal Education**

Much of the research that has been done that looks at accessibility to education has found that there is a relationship between social background and participation in higher education. More specifically, those whose parents are in lower income brackets (Christofides, Cirello et al. 2001; Zhao and de Broucker 2001; Corak, Lipps et al. 2003) and whose parents have attained low levels of education and those from low occupational status (de Broucker and Lavallee 1998; de Broucker and Underwood 1998; Finnie, Lascelles et al. 2005) are generally less likely to participate in post-secondary education. The findings from previous research are consistent with Bourdieu’s theory that in order to succeed in education, one must possess the valued economic capital (such high incomes) and cultural capital (such as high education).

This section outlines the results of previous research showing the relationship between parent’s social background and inequities in education. The focus is on these variables because they are consistent with Bourdieu’s (1986) notion of both economic capital (parents’ income) and cultural capital (parent’s education and parent’s occupation). The thesis focuses on social class rather than on issues related to gender, ethno-racial origin. Despite the lack of focus on literature pertaining to these issues, it is important to keep in mind that social class interacts with both gender and ethno-racial origin.
Economic Capital and Education

Based on Bourdieu’s social reproduction theory, those from lower incomes should be underrepresented in the Canadian education system because of their lack of economic capital to attend post-secondary education. The following review of literature pertaining to participation in post-secondary education by parents’ income levels confirms this pattern. However, the degree of association between parents’ income level and participation or level of education attained is not clear cut. Some researchers claim that tuition has no effect while others argue that it has a large effect. As seen below, looking cumulatively at all the research, one can safely conclude that tuition in fact plays a role in accessibility, but it is not the only barrier.

Overview of increases in tuition in Canada

Much of the research on equity in education has focused on issues of affordability. However, family income has been found to be a more powerful determinant of participation in university than it is in community college (Corak 2003). This is not surprising seeing that tuition fees are higher for university than they are for colleges (Corak, 2003). As well, many university programs are longer in duration than college programs.

Canada has ranked fifth in terms of having the highest tuition fees among public education institutions in 23 OECD countries in 2006 (Council of Ministers of Education 2006). We have experienced significant increases since the early 1990s beginning with a large increase of 30.9% between 1995/1996 to 1999/2000, followed by a smaller increase of 8.3% between 2000/2001 and 2005/2006, and an increase of 3.2% increase between 2005/2006 and 2006/2007 (Statistics Canada 2006a). We have also experienced variation in increases in tuition by province. In some provinces, such as New Brunswick, fees have increased by as much as 226% between 1995 and 2004 (Rivard and Raymond, 2004). Moreover, in Canada, the cost of attending university is still two to three times more expensive than community colleges (Rivard and Raymond 2004) Overall, from 1977 to 2003, tuition fees have doubled in most provinces with the exception of Newfoundland, New Brunswick and Quebec (Christofides, Hoy et al. 2009).

We do not know the extent to which these increases in tuition have had an effect on affordability. There continues to be a debate about the extent to which tuition fees is a barrier to participation in post-secondary education. Rivard and Raymond (2004) found no evidence of tuition creating a
barrier to accessibility in all provinces with the exception of Quebec and Ontario. Christophides, Cirello, and Hoy (2001) also found no effect in the price of tuition on participation up to 1993. It is important to note here that both of these pieces of research were carried out prior to the period in which tuition fee increases were extensive. More recent research that examined tuition fee increases found that the surge in tuition fees that occurred in the mid 1990s and 2000s has affected the ability of those from lower income backgrounds to participate in a university post-secondary education (Fortin 2004; Coelli 2005; Johnson and Rahman 2005; Neill 2005). More specifically, the same researchers found that increases in tuition negatively affected participation by those in lower income groups.

The problem of increased tuition creating a barrier to participation is not exclusive to Canada. Similar results have been found in the United Kingdom (UK) where there is a widening gap between the rich and the poor with regard to participation in university (Machin and Vignole 2005). Moreover, in 2010 the Cameron government has allowed universities to increase tuition between $9,600 and $14,400 from the previously capped tuition fees of $5,264. This increase prompted massive riots in the UK. In a short period of 15 years, students in the UK will have gone from paying no tuition in 1997 to paying over $60,000 pounds in 2012 for a four year university degree (Gulf Stream Blues 2010). Similarly, in the United States (US), increases in tuition have negatively affected participation (Leslie and Brinkman 1987; Heller 1997; Honawar 2005).

Research carried out in Canada by Christofides, Hoy, and Yang (2009) confirms the importance of economic capital regarding participation in education. They note that the gap in participation in post-secondary education between those in low and high income has closed between 1977 and 2003. More specifically, in 1977 those in the fifth income quintile were four times more likely to attend university than those in the lowest income quintile. In 2003, those in the fifth income quartile were twice as likely and those in the lowest income quintile to participate in post-secondary education. In sum, we see that those from high incomes are more likely to participate; however, despite increases in tuition fees, the gap in participation between those with higher incomes and those with lower incomes has closed.

In Canada, particularly, tuition fees for professional programs have increased tremendously. In Ontario in 1988, the provincial government deregulated fees for professional programs such as
medicine, dentistry, business, engineering, and law (Statistics Canada 1999). This resulted in a doubling to quadrupling of fees for various professional programs such as dentistry, medicine, and law (Statistics Canada 1999; Quirke and Davies 2002; Statistics Canada 2006). As a consequence, the proportion of students in professional programs that came from incomes of less than $60,000 dropped from 36% in 1998 to only 15% in 2000 (Finnie, Lascelles et al. 2005). This is evidence that high cost programs, are not accessible to students from low income families. Primarily those from high income families are attending high priced tuition programs.

Although tuition fees have risen exponentially, family incomes have not been increasing at the same rate. Between 1980 and 1998, tuition rose by 125% while the average family income rose by only 1% (Statistics Canada 2001). Quirke and Davies (2002) found that the average middle income earner in 1990 had to work 102 hours to pay for tuition compared to 197 hours in 2002.

Tuition fees are not the only fees that have risen. The costs of attending postsecondary that are not tuition related have also been increasing. This has created even more of a barrier for participation in post-secondary education. Such fees include an increase of 44% on ancillary fees for an undergraduate degree between 1990 and 2002. In, 2001 there have also been significant increases in non-educational costs (such as housing, utilities, food, furniture) which are estimated to be 55% of the total cost of schooling (approximately $9,740 for one academic year) (Barr-Telford, Cartwright et al. 2003). With increased fees and living accommodations, those who are not situated in a university town face large fees.

Those from low income families who do not live near a university are not likely to be able to afford the cost of post secondary education. Not surprisingly, those from such families are more likely to attend community colleges than university so that they can save money by living at home or not attend at all depending on the location of their residence (Ouellette 2006).

Gaps in participation in Canadian postsecondary education exist even when controlling for scores on tests, high school grades, and parental education (Statistics Canada 2001; Drolet 2005; Lavallée, Pereboom et al. 2001). Researchers from the United States found a similar relationship between family income and participation even when controlling for test scores, enrolment in rigorous academic programs, advanced level course work, and academic preparation (Akerhielm, Berger et
al. 1998; Bedsworth, Colby et al. 2002). Consistently, researchers have found that financial issues are one of the reasons for the lack of representation of low income students in post-secondary education (Akerhielm, Berger et al. 1998; Bedsworth, Colby et al. 2002; Desjardins, Ahlburg et al. 2006; Paulsen and St. John 2002). Researchers who focused on accessibility to financial aid and rising tuition fees have found that financial constraints do affect participation in postsecondary education (Heller 1997; Dynarski 2002).

Despite the fact that tuition fees can be a barrier to accessibility to post-secondary education, there remains much debate about the magnitude of the impact. The thinking is that if tuition is a barrier to education, then participation rates should decrease as tuition increases. The dilemma is that overall, participation in higher education in Canada has increased over the last three decades (Christofides, Cirello et al. 2001; Carneiron and Heckman 2002; Cameron and Taber 2004). More specifically, between 1987 and 1999, participation in higher education enrollment has grown in each province between 13% and 25% (Junor and Usher 2002). Moreover, participation rates for high tuition and low tuition programs are the same despite the increase in tuition (Kozhaya 2004), which leads some researchers to conclude that tuition is not the only barrier. There is something else going on in our education system that is creating a barrier beyond costs. Low income families have fewer economic resources, valued cultural capital, and potential income supports to even contemplate attending post-secondary education.

There is further evidence, in both Canada and the United States, that parental income has an effect on the level of education attained in post-secondary education (Leslie and Brinkman 1987; Heller 1997; Akerhielm, Berger et al. 1998; Kane 2001; Knighton and Mirza 2002; Long 2003). Moreover, the gap in participation in post-secondary education between high income and low income students is greater for university than for community college (Zhao and de Broucker 2001; Johnson and Rahman 2005). Bouchard and Zhao (2000) found that participation rates increased by 7.3% for those whose parents are from the highest socioeconomic backgrounds compared to an increase of only 4.6% for those in the lowest socioeconomic status (SES). In the U.S., Austin and Oseguera (2004) found that the gap in participation in post-secondary education grew between those from low income and high income backgrounds. Inequities due to affordability (college is more affordable than university) continue to exist (Astin and Oseguera 2004).
Not only is overall tuition a problem for low income families, but also the high cost of professional programs poses greater barriers. There is evidence that those from high income backgrounds are more likely to be participating in expensive programs, such as medicine and law, than those from low income backgrounds (Corak, Lipps et al. 2003). Research findings from Kwong et al. (2002) showed that nearly half (43.5%) of those in medical school (tuition is significantly higher than other programs) came from neighbourhoods that have median incomes in the top quintile (Kwong, Dhalla et al. 2002; Frenette 2005). This evidence supports Bourdieu’s theory that those with lots of economic capital will afford better educational opportunities for their offspring than those with little economic capital.

Some researchers found that the gap in participation between low and high income families has increased overtime. More specifically, Corak et al. (2003) found that there is a positive relationship between parental income and university attendance which was strongest in the 1990s when tuition began to substantially increase. The declines in participation were mainly from those in middle incomes ranging from $25,000 to $100,000. The relationship between family income and participation declined in the late 1990s when increases in the amount of money to be borrowed were introduced in the Canada Student Loans Program.

The evidence presented thus far leans towards the conclusion that there is a relationship between parental income and participation. The research review provides contradicting views regarding the extent to which the cost of tuition poses a barrier to participation in post-secondary education for those from low incomes.

Student loans are one method by which low income students overcome financial barriers. Students from various income levels in Canada are finding ways to finance their education through various funding programs offered by governments and in some cases through the private sector (Corak, Lipps et al. 2003). The Canadian government has implemented various funding programs (such as loans) aimed at decreasing financial barriers for those who come from low income backgrounds. The problem that remains is that students from low income backgrounds are strapped with larger debt loads upon graduation than those from high income backgrounds who do not rely on these

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2 Unfortunately, the most recent dataset that included longitudinal information containing both parental income and attendance is from the 1990s.
programs. Moreover, those who are from low income backgrounds may not consider post-secondary education due to lack of access to economic resources or fear of having to deal with large debt loads upon graduation.

Overall, the percentage of student who accumulated debt and the dollar amount borrowed has increased substantially over the last few decades. More specifically, in 1999 fewer than half (45%) of students borrowed money to fund their education (Council of Ontario Universities 2001; Hemingway and Canada 2004) compared to 59% in 2006 (Anisef, Kilbride et al. 2001; Berger, Motte et al. 2009) and 60% in 2009 (Berger, Motte et al. 2009). Moreover, the amount of debt accumulated rose from approximately $11,636 in 1999 to $24,047 in 2006 (Anisef, Kilbride et al. 2001; Berger, Motte et al. 2009). In 2009, Berger (2009) found that university graduates borrow on average $26,680 and college graduates borrow $13,600. The increases in debt loads have been attributed to the elimination of student grants for postsecondary education in the late 1990s and the ongoing rising tuition fees (Corak 2003). Students began depending more on loans in the late 1990s (Plager and Chen 1999) while the dependency continues into the first decade of the years 2000, it has slowed due to increases in government funded debt reduction programs such as the Canadian Millennium Scholarship Foundation (Berger, Motte et al. 2009). In 2004, on average in Canada, the total aid packages available from governments for students cover only 48% of the cost of university (Mueller and Rockerbie 2005).

One of the large issues facing low income students is their aversion to take on debt that they do not believe they will be able to repay. Those from low income families are more likely to be debt averse and not willing to take large amounts of debt because of their lack of confidence in their ability to pay it back (Anisef, Kilbride et al. 2001; Callender and Jackson 2005; Bell, Grayson et al. 2006; Foskett, Roberts et al. 2006). This evidence further reinforces the fact that the high cost of post-secondary creates a barrier for those with low levels of economic capital.

We have seen that even though tuition has risen due to either loans, student jobs, or family savings some children from low income backgrounds are able to participate in post-secondary education.

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3 The Canada Millennium Scholarship Foundation was cancelled in 2008 by the Conservative government and replaced with the Canada Student Grants Program (CSGP). The CSGP awards less money per student to higher numbers of students.
None the less, there still continues to exist an under-representation of students from low socio-economic status (SES) in the Canadian postsecondary education system (Stowe 2001).

In conclusion, it seems that the evidence from previous research points towards the fact that at some level the cost of attending postsecondary education is a barrier. The fact that low income students are less likely to attend post-secondary and especially the more expensive programs supports the notion that a lack of economic capital is a barrier.

Cultural Capital

Researchers have suggested that the cost of PSE is a barrier for those from lower income families, but that it is not the only barrier. The following section examines the literature that pertains to Bourdieu’s (1986) concept of cultural capital. The focus is on the relationship between parents’ education level and level of education attained by their offspring.

Studies in both Canada and the United States have found that family background affects children’s educational experiences and achievement before reaching post-secondary levels of education. More specifically, those from low socioeconomic backgrounds (based on parents' education level, occupation level, and income level) are likely to have relatively low high school achievements (Haveman and Wolfe 1995; Williams 1999; Ma and Klinger 2000).

Repeatedly, researchers have found that in Canada people whose parents are university educated are much more likely to continue their education after high school than students whose parents did not attend post-secondary education (Guppy and Pendakur 1989; Fournier, Butlin et al. 1995; de Broucker and Underwood 1998; Andres and Krahn 1999). Furthermore, the relationship between participation in higher education and parental education became even stronger during the 1990s (Finnie, Laporte et al. 2004). In the following review, we will see that there is a lot of evidence that parental education is a strong determinant of the level attained by their offspring.

One consistent finding that emerges from the literature is that there is a stronger relationship between parents' education and offspring's education than parents' income and offspring's education (Knighton and Mirza 2002; Rivard and Raymond 2004; Drolet 2005; Frenette 2005). Knighton (2002) found that a larger percentage of youth (68%) in the lowest income quartile...
whose parents obtained post-secondary education themselves attended post-secondary schooling than youth from the same income level whose parents did not have post-secondary education (56%). These findings support the notion that education has a stronger effect on participation in post-secondary education than income.

We have seen so far that at a general level, parents' education and parents' income independently affect offspring's education level. Drolet (2005) examined the interaction between parents' education level and parents' income in detail in order to determine the extent to which the two are linked to offspring's education level. He found that parents who were in the highest income quartile were two and a half times more likely to have an undergraduate degree than parents in the lowest income quartile. In other words, those whose parents are in the highest socioeconomic categories have a double benefit of high economic capital and cultural capital compared to those in the lowest socioeconomic categories. This translates into the notion that not only can parents afford to pay the cost of tuition but also they provide an advantage to their offspring in terms of passing on to their offspring a set of skills that are beneficial in our education system.

Drolet (2005) further found that those whose parents had a university degree had a 23 to 31 percentage point higher probability of attending university than those whose parents only completed high school. These figures were compared to a probability of 12 to 21 percentage points that those from highest income categories were more likely to attend university than those in the lowest income categories. In other words, students from low income backgrounds face barriers due to parents’ lack of education and to a lesser extent financial barrier.

Several explanations for the interaction between parents' education and offspring's education have been put forward. One of them is that parents with more education tend be more involved in their children's education and tend to pass down skills (i.e. language and study skills) and beliefs that promote continued participation (de Broucker and Underwood 1998; Knighton and Mirza 2002). Based on Junor and Usher's (2002) research, it is more likely that skills (which are part of cultural capital) that are passed down from parent to child have more influence than inherited beliefs.

In their research, Junor and Usher (2002) found that there was very little difference in levels of aspiration based on parents' education level (Junor and Usher 2002). Shipley, Ouellette and
Cartwright’s (2003) research shows that overall, the large majority of Canadian parents (80%) report that their aspiration is for their children to attend post-secondary education (Shipley, Ouelette et al. 2003). Another study found that parents with low incomes were only slightly less likely to expect their children to attend post-secondary schooling than high income parents (80% versus 95%, respectively) (Statistics Canada 2001). In general, several studies support the idea that a large majority of parents have aspirations that their children will attend post-secondary education. In other words, there is something more going on than simply a lack of aspirations on the part of parents from less privileged backgrounds. Specifically, parents’ with high education levels pass along certain skills and knowledge to their children that helps them succeed in education and that it is not about lack of aspirations.

Researchers have also linked parents’ social class background to performance in school. Those from high social class backgrounds tend to outperform those from low social class backgrounds at the primary and secondary levels (Barr-Telford, Cartwright et al. 2003). Performance in initial stages of schooling is of a twofold importance in accessibility to post-secondary education: first, students do not have good grades; they will not be accepted in post-secondary education levels. Second, students with low grades will not have access to scholarships (which are often based on grades) (Ouellette 2006). The implications of these findings on performance and social class confirm Bourdieu’s notion of social reproduction. The effects begin at a very early stage in education.

We have seen that parents’ education and income influence participation in post-secondary education. Frenette’s (2007) research takes the analysis one step further by examining the factors that influence participation. His research findings indicate that 30% by parents' education level; 20% by reading ability; 12% by financial constraints; and 12% by parental expectations. This finding suggests that cultural capital defined by parents’ education continues to have an influence on level of education attained.

Another variable that is closely linked to both economic and cultural capital is parental occupation. There is definitely a relationship among parents’ education and parents’ income and respondents’ education. However, the effects of parents’ occupation have not been researched. This said, intuitively, one should expect that the nature of parents’ occupation plays a role in education level
attained by offspring. Previous research has shown that children of doctors and lawyers tend to also enter into professional fields whereas children of manufacturing workers and construction workers tend to follow in their father’s footsteps by entering manual labour jobs.

In 1985, Canadians over the age of 25 whose parents were professionals and managers were five times more likely to complete university than those from working class families (Nakhaie 2000). Inequity was still evident in 1994; however, the ratio was reduced. Those from professional and managerial backgrounds were to four times more likely to complete university than working class students. A study by Bourchard & Zhao, (2000), that also looked at university participation by parental occupation, found similar patterns of inequity. Those in the lowest quartile of occupation status (based on the Blishen Occupation Scale) were less likely to obtain a university degree than those in the highest quartile. Andres and Grayson (2003) also found that parents’ level of education and occupation affected the level of education their children pursued (Andres and Grayson 2003). Those from high occupational status backgrounds have been found to be more likely to attain high levels of education than those from low occupational status. This further confirms that cultural capital is passed onto to offspring which in turn attests the level of education obtained by their children.

**Adult Education**

So far we have seen that relationships exist between, on the one hand, parental incomes, parental education and parent occupation, and, on the other, the level of children’s education attainment. We have also seen evidence that those from privileged backgrounds are more likely to obtain high levels of education than those from less privileged backgrounds. This information is not new. Researchers have been finding these gaps since the inception of public education. Moreover, these gaps may have narrowed but they have also persisted.

The main concern investigated in this thesis is the extent to which parents’ background continues to influence offspring in their adulthood regarding participation in adult education. There is a lack of evidence about the persistence of parents’ and one’s social class on participation in both adult education and informal learning. Based on Bourdieu’s theory of social reproduction, those who self eliminate from formal education are not likely to return if they feel there is nothing to be gained. Moreover, Bourdieu explains that those who do not see the benefit of competing in a field
(in this case education), will not do so. We saw from the review of literature that those whose parents’ have low levels of education or low cultural (education) and economic capital (income) obtain low levels of education. It seems intuitive that they would also be less likely to pursue adult education themselves. The focus of the following review of literature is to determine who pursues adult education based on social class.

Adult education can be seen as the second chance for many to upgrade their skills. It is, therefore, imperative that all social classes have access to courses. Bourdieu’s theory of social reproduction pertains to initial levels of education. In this thesis, an attempt to extend Bourdieu’s theory to participation in adult education is carried out. By extending Bourdieu’s theory of social reproduction, we are likely to find a similar trend where those from privileged backgrounds are more likely to participate in adult education than those from less privileged backgrounds. Those who stopped their education at an early grade likely may be alienated by the education system and less likely to return for upgrading. This section of the review of literature looks at participation levels by various demographic groups with a focus on social class, barriers and motivators to participation.

During the review of literature, it became apparent that very little research has been done on the topic of access to adult education since the 1970s and 1980s. Early research focused mainly on barriers and motivators to participation rather than on explaining inequities. The focus of such research is mainly on whether one's social class background (cultural capital and economic capital) and participation in adult education are linked.

This section will begin by discussing definitions of adult education that have been used by researchers, followed by an outline of the trends in participation in adult education over the last few decades and by a review of the motivations and barriers to participation in adult education.

**Definitions**

Over the years, definitions of adult education have evolved as the field has progressed and as the types of adult education available have expanded. It is important to note that changes in the definition of adult education from study to study make it difficult to compare participation from year to year.
One of the early researchers of adult education, Verner (1962) defined adult education as a fairly formal process that takes place in a supervised directed setting (Verner 1962).

Adult education is the action of an external educational agent in purposefully ordering behavior into planned systematic experiences that can result in learning for those for whom such an activity is supplemental to their primary role in society, and which involves some continuity in an exchange relationship between the agent and the learner so that the educational process is under constant supervision and direction. (Verner, 1962, p.2-3)

In comparison, Johnston and Rivera (1965) explored adult education by looking at any activity that would have as its main purpose the desire to acquire some type of knowledge, information, or skill which includes some form of instruction (including self instruction) (Johnstone and Rivera 1965).

One problem contributing to the confusion is that the term 'adult education' is used with at least three different meanings. In its broadest sense, the term describes a process--the process of adults learning...In its more technical meaning, 'adult education' describes a set of organized activities carried on by a wide variety of institutions for the accomplishment of specific educational objectives...A third meaning combines all of these processes and activities into the idea of a movement or field of social practice. In this sense, 'adult education brings together into a discrete social system all the individuals, institutions, and associations concerned with the education of adults and perceives them as working toward common goals of improving the methods and materials of adult learning, extending the opportunities for adults to learn, and advancing the general level of our culture. (Johnston and Rivera, 1965, 25)

Courtney, (1989) defined adult education less broadly than Johnston and Rivera by recognizing the formality of learning through an adult educator (Courtney 1989).

Adult education is an intervention into the ordinary business of life--an intervention whose immediate goal is change, in knowledge or in competence. An adult educator is one, essentially, who is skilled at making such interventions. (Courtney, 1989, p.24)

A more recent definition is that of Houle (1996). In his definition, the structure of learning is a somewhat formal process, the intention of improvement either for the individual or for society (Houle 1996).

Adult education is the process by which men and women (alone, in groups, or in institutional settings) seek to improve themselves or their society by increasing their skill, knowledge, or sensitiveness; or it is any process by which individuals, groups, or
institutions try to help men and women improve in these ways. The fundamental system of practice of the field, if it has one, must be discerned by probing beneath many different surface realities to identify a basic unity of process. (Houle, 1996, p.41)

Livingstone (2001) focuses on the concept of formal education and informal learning in terms of the degree of control one has over learning and the amount of authority the teacher has over what is to be taught (Livingstone 2001).

While no form of human learning is devoid of the influence of other people, the distinctions drawn from the adult education literature...focus on the degree of directive control of learning; they range from dominant teacher control, through other forms that involve teachers/trainers/mentors, to dominant learner control... When learners opt to acquire further knowledge or skill by studying voluntarily with a teacher who assists their self-determined interests by using an organized curriculum, as is the case in many adult education courses and workshops, the form of learning is non-formal education or further education. (Livingstone, 2001, p.2)

Differences in the definition or interpretation of adult education lead researchers to pose different questions when looking at the phenomenon. These differences have led to a situation in which different levels of formality are included in the definition. This translates into inconsistent measures of participation in adult education and in incompatible ways of defining and measuring motivators and barriers to participation. The effects of the differences outlined above are that there will be inconsistencies in the findings of previous research that result from different definitions. Because of different definitions, in some cases different conclusions will be drawn regarding inequities in participation.

*Trends in participation*

Overall, there has been an increase in participation in adult education courses. In the United States, consecutive studies were carried out by the National Centre for Education Statistics (NCES) in order to track trends in participation in adult education (Collins, Brick et al. 1997). It is important to note that due to changes in methodology, the findings are not directly comparable from year to year. However, the trend does show that there has been a large increase in participation over the years. Participation in adult education for those 17 years of age or more grew from 10% in 1969 to 14% in 1984, 38% in 1991, 40% in 1995, and 46% in 2001. There was a slight decline to 44% in participation in 2005 (Kim and Creighton 2000).
The rapid increase in participation in adult education in the United States is not much different from the rate in Canada. The earliest report of participation in adult education in Canada was from the early 1960s when the Dominion Bureau of Statistics Canada found that only 4% of Canadians over the age of 17 were participating in courses (Livingstone 2001). This figure rose to 20% in the early 1980s (Deveraux 1985), to 28% in 1991 and to over one third (38%) of Canadians in 1995 (Statistics Canada 1997). Based on the WALL survey, in Canada, there has been a continual incline in participation from 43% in 1998 to 45% in 2004 (Livingstone and Stowe 2007).

Rubenson and Desjardins (2009) carried out a study that outlined participation rates for several OECD countries that reported participation in the Internal Adult Literacy Survey (IALS). Participation in adult education in Nordic countries (Nordic Countries include Denmark, Finland, Iceland, Norway, and Sweden) was close to, or above, 50% compared to a rate of 35% to 50% for countries of Anglo-Saxon origin (Australia, Canada, New Zealand, the United Kingdom, and the United States); 20% to 35% for countries in Northern Europe (Austria, Belgium, and Germany); and below 20% for countries in Greece, Portugal, Hungary, and Poland. As we can see, Canada's participation is quite high in comparison to other countries.

Although we have seen an increase in the percentage of Canadians that participate in adult education courses (Livingstone, 1992; Creighton & Hudson, 2002), inequities in participation based on social class persist. There has been a consensus among researchers that not all demographic groups have been participating in adult education equally from the 1960s to the present (Johnstone and Rivera 1965; Cross 1981; Darkenwald and Merriam 1982; Doray and Arrowsmith 1997; Rubenson and Schuetze 1999; Baran, Berube et al. 2000). In general, people who come from high socioeconomic (SES) backgrounds (income, education, and occupation), who are working full-time and who are young, are most likely to participate in adult education (Johnstone and Rivera 1965; Valentine 1997; Livingstone, Raykov et al. 2001). Based on data from the 1998 Adult Education and Training Survey (AETS), groups least likely to participate in adult education training are those who are self-employed, employees from small firms, blue-collar workers, sales and clerical staff, those with only high school diplomas, and older employees (Rubenson and Schuetze 1999; Berube, Salmon et al. 2001).
**Age**

One of the factors that is related to participation in adult education is age. Some researchers would go as far as claiming that age is the second best predictor of participation (Belanger and Valdiviselo 1997). Age has been a predictor of participation since the early 1960s (Johnstone and Rivera 1965) and continued to be a strong predictor throughout the 1990s (Valentine 1997) and early 2000s (NCES, 2001).

On average, approximately one quarter (25%) of adults between 24 and 56 years old participated in some form of adult education (Rubenson 2007). In Livingstone’s study of participation in adult education, he found that declines in participation in further education occurs only after the age of 55, with few differences in participation found for those between 24 and 55 year old (Livingstone, 2001). This is a change from the last few decades where the decline occurred much earlier.

There are several explanations for the increase in the age of Canadians who are participating in adult education courses: It is important to note that those with at least some college are more likely to continue to work past traditional retirement age than those who have a high school diploma (Butrica, Schaner et al. 2006). Moreover, adults with high levels of education are more likely to take formal work-related courses than those with low levels of education (Kleiner, Carver et al. 2005). This means that the increase in participation of older adults may be a factor that is associated with the fact that more people are becoming more highly schooled and motivated to continue with further education courses and the fact that educated people are staying in the workplace longer. Moreover, Canada has experienced inter-generational mobility effects where there has been an increase in those who are in professional-managerial positions and fewer who are in self-employed positions where those in the professional-managerial positions are more likely to participate in formal education (Livingstone and Stowe 2001).

Explanations for the increase in participation in adult education for older adults are: Those who are in the older age cohorts are less likely to have high levels of education (McGivney 2003) (education is the best predictor of participation in adult education) and they are less likely to benefit from additional education than those who have many more years left in the workplace where he or she can benefit from the skills gained through adult education (OECD 2005). Also,
many of the adult education courses offered are job related and those over 55 are likely increasingly oriented to retirement pursuits rather than job related ones.

Researchers have also found that employers tend to provide support to middle age employees more than to younger and older workers (Johnstone and Rivera 1965; Sargeant 1997; Field 1999; Keep 1999; Williamson 2000; Berube, Salmon et al. 2001; Desjardins 2004). However, the findings show that employer support for participation in adult education is not about age alone but about an individual’s level of performance, skill level, and the perceived need to have an individual's skill upgraded (McGivney 2003; Rubenson 2007).

Despite the fact that Bourdieu studied school aged children rather than adults, overall, the findings regarding age and participation in adult education are consistent with Bourdieu's theory of social reproduction. Those who feel that they will benefit the most from increasing their education level are most likely to be upgrading their skills. Similarly, employers are more likely to support high level employees who have high education levels, high occupations, and who are older.

_Education level attained_

The relationship between initial schooling and continued schooling has been widely documented from early studies to present (Cross 1981; Deveraux 1985; Courtney 1992; Livingstone, Hart et al. 1999). The consensus to date is that the best predictor of participation in adult education courses is level of education attained (Johnstone and Rivera 1965; Sargeant 1997; Field 1999; Keep 1999; Williamson 2000; Berube, Salmon et al. 2001; Boudard 2001; Desjardins 2004; Rubenson 2007). The biggest gap in participation in adult education courses or workshops is between those who have not obtained a high school diploma and all other levels of education. In Canada in 1997, 18% of those who did not have a diploma participated in adult education courses compared to 52% of those with a high school diploma, 58% of those with a community college education, and 67% of those with a university degree. A similar pattern was found using data from the 1998 Adult Education and Training Survey for those who planned to take a course or workshop (Livingstone, Raykov et al. 2001). Level of education attained has been consistently found to be the best predictor of participation in adult education. Bourdieu explains that those who do not see the benefit of competing in a field (in this case education), will not do so. He or she will remove
him/herself from that field. Evidence has been provided to show that those who have low levels education are less likely to participate even when a second chance is available.

**Income and occupation**

In conjunction with education level, two other factors that influence participation in adult education courses are income and occupation level. People with low education, who are in low social class positions, who earn low incomes and who do not work full-time are typically the least likely to participate (Tuijnman and Boudard 2001). In a study carried out by Livingstone (2005) managers and professionals are more likely to participate in adult education (67% and 65% respectively) than service workers and industrial workers (49% and 39% respectively) (Livingstone 2005). As well, those who earn high incomes are twice as likely to participate in adult education courses as those in the lowest income groups (Statistics Canada 1997).

The cost of the course is likely a barrier to many who are in low incomes. Moreover, employers are more likely to provide support for adult education for employees in high occupations who likely earn a relatively high income (McGivney 2003; Rubenson 2007). The cost of taking courses in some cases is more than simply tuition; it may include transportation, child care, and supplies. Those who earn low incomes may not see the benefits that will be gained from the expenses of the courses and child care.

Those in low level occupations may perceive that not much will be gained by participating in formal education because of the presumed simplicity of their job tasks. This said, there will be some cases in which some will participate in order to increase their skills in case an employment opportunity is presented. Moreover, employers are more likely to support those in high occupations. This may be a motivator for many to participate in adult education (McGivney 2003).

The key factor to remember is that it is not just one factor that influences participation in adult education, but a combination of factors. For example, it is highly likely that those who are in professional occupations are also earning high incomes, reflective of both high cultural and economic capital. This gives a double advantage.
**Gender**

Though several studies have found that gender is not a factor that can predict participation in adult education (Johnstone and Rivera 1965; Valentine 1997; Palameta and Shang 2006), others (Livingstone, Raykov et al. 2001; Rubenson 2007) have found that women are more likely to participate in adult education than men. In the United States in the early 1960s, Johnston and Rivera (1965) found that despite finding gender differences in participation, more significant differences were found for those who were married, with children, and who live in the suburbs where they were more likely to participate in adult education courses than those who were not in these categories. Though the main focus of this thesis is accessibility due to cultural and economic capital, it is essential to control for gender differences. Explanations for gender differences will not be addressed but are recognized.

**Motivations**

Although the main focus of this thesis is to determine the best predictors of participation in adult education based on social class, it is important to understand the motivations of people who participate in order to better understand why some groups are under or over represented. Based on Bourdieu’s theory of social reproduction theory, people who do not feel that anything can be gained by competing in the field of education are not likely to continue to participate. It is essential to understand the reasons for participation in order to best apply Bourdieu’s theory. In this section we examine various motivators for participation in order to determine whether economic and cultural capital play a role in participation in adult education.

Several researchers have tried to create a typology of reasons for learning; however, not much consensus has been reached because learning tends to be fluid. Motivations for learning change as individuals go through various cycles in their lives and through various transitions (Boshier and Collins 1983; Boshier 1991; Courtney 1992; Fujita-Starck 1996; Houle 1996). The only constant in learning is that the majority of people rely on formal learning to upgrade their skills related to work. Likely this is a consequence of the recognition of these skills by employers.

Generally, surveys that look at reasons for participating in adult education courses offer a list of reasons that respondents can choose from when prompted for potential motivations. Overall,
respondents have a tendency to choose more than one reason; however, when pressed to choose only one reason, work-related motivation is the one chosen most frequently (Merriam and Brockett 2007). This finding dates back to the late 1960s and has been consistent since. A study done in the 1960s in the United States found that 36% of those taking courses reported their motivation to be “preparing for a new job or occupation” while 32% reported taking courses for the job the respondent held at the time of taking the course (Johnstone and Rivera 1965). During the 1990s, in the United States, studies found that 90.6% of those who were taking courses stated work-related reasons as their motivations while only 9.4% took them for interest sake (Valentine 1997). The same study found that the majority (58%) were taking courses for professional or career upgrading.

In the late 1970s, researchers Aslanian and Brickell (1980) examined the extent to which engagement in learning was prompted by life transitions. Their study included both formal and informal learning for those who were 21 years of age or more (Aslanian and Brickell 1980). Their findings indicated that half (49%) of the respondents learned something in the prior year. Moreover, of the 49%, a large majority (83%) also described a change in life that prompted learning. The transitions included marriage, retirement, job change, birthday of a child, getting fired or getting a promotion. A similar study carried out by Aslanian (2001) found that 85% of the learning due to transitions was related to career changes. Once informal learning is included in the research, it seems that the number of motivating factors for learning increases (Aslanian 2001).

Despite the fairly large number of studies that examined motivations for engaging in adult education courses, the main motivator has been to increase skills for the workplace. This reality puts more emphasis on the issue of accessibility. The follow section looks at barriers that people face regarding adult education.

**Barriers**

Once people have completed their initial education, a new set of barriers affect the ability for some to participate in adult education courses which in essence is their second chance to upgrade their skills formally. The main barriers found in previous research have been lack of time, inconvenient time and location of courses, lack of money, and family responsibilities (Baran, Berube et al. 2000; Livingstone, Raykov et al. 2001).
Most large scale surveys that have asked respondents about participation in adult education have focused on either those who have not participated but who wanted to take courses or on people who did not participate (Canadian Adult Education and Training Survey, the International Adult and literacy Survey, and the National Approaches to Lifelong Learning Survey). Little focus was put on looking at those who participated to find out if in fact they are taking the course that he or she intended on taking or whether they settled for what was available (for example a college level course rather than a workshop). The importance of looking at barriers for those who do take courses is that they may be settling for second best because of barriers. The following review of literature is not exhaustive; however, it outlines the majority of findings on barriers to participation from these large scale surveys.

The majority of previous surveys have focused on three types of barriers: situational (such as lack of time, family responsibilities, lack of money, etc.); dispositional (attitude towards the perceived cost benefits of education, previous experience in school, etc.); and, institutional (tuition costs, time and location of courses, lack of courses, etc.). Looking at only one type of barrier limits the ability to truly understand the reason for a lack of participation. Moreover, people tend to not recognize for themselves that the reason for not participating is due to dispositional barriers. Therefore it is possible that dispositional barriers will be understated. The lack of interests or previous experience may be interpreted as not having the appropriate skills, or the lack of benefit to participating.

Based on Bourdieu’s theory, people who had a negative experience with formal education were likely to self-eliminate. It would be expected then that those who self eliminated would not be very likely to participate in formal education unless something was to intervene that would encourage them to participate (e.g. a union that offers workshops rather than an institution that offers courses).

The consensus from previous research is that not all barriers are present for everyone. Those who mention financial issues as a barrier are more likely to be young, women, low education, low income, low level occupations, and to be unemployed. Lack of time is mentioned more often by young people, males, high income earners, and those who work full-time. Family responsibilities are mentioned more frequently by younger people especially women (Johnstone and Rivera 1965; Cross 1981; Darkenwald and Merriam 1982; Cookson 1986; Courtney 1992; Rubenson and Xu
As well, those from visible minority backgrounds are likely to identify lack of qualifications and inconvenient course scheduling or location as barriers than any other demographic group (Rubenson and Xu 1997). A more recent study that looked at international comparisons in participation in adult education has found that in many countries, the most often cited reason for not participating is lack of time (Desjardins, Rubenson et al. 2006).

Rubenson and Desjardins (2009) looked at types of barriers people face regarding participation in adult education. Based on calculations done using one of their tables, it appears that the two most often cited reason for not participating were either situational or dispositional barriers (on average 40% each barrier) with institutional barriers named least often (20%). Of the situational barriers, job-related commitments (22%), family or household related barriers (26%) and family commitments (20%) were mentioned most. Overall, barriers related to the family commitments rated higher than those related to employment (Chisholm, Larson et al. 2004). Dispositional barriers seemed to be mentioned most by low-educated, low skilled, blue collar, and older adults (Rubenson and Desjardins 2009). This finding is consistent with Bourdieu’s notion that people will self eliminate from formal education based on their experience.

Institutional barriers have been found to be mentioned less often than situational or dispositional barriers (Desjardins, Ahlburg et al. 2006). In Rubenson and Desjardins’ (2009) study, they found that the most often cited institutional barrier mentioned was related to finance. This finding supports Bourdieu’s notion that those with economic capital are more likely to obtain cultural and economic capital in a society where social reproduction exists (Rubenson and Desjardins 2009).

Rubenson and Desjardins’ (2009) study of international comparisons in barriers to adult education found that overall there was little variation in reported barriers by country. However, as they delved deeper, they found that the actual participation rate for various groups did not match the barrier that respondents reported. For example, overall for all countries, between 22% and 27% of respondents named family responsibilities as a barrier to participation; however, in Nordic countries as many as 47% to 65% of those with family responsibilities participated in the preceding 12 months compared to 8% to 40% for the other countries. The main difference is that there is

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4 The data in the table on page 2004 of Rubenson and Desjardins (2009) was used to calculate the average percentage of respondents who reported a specific barrier for all the countries that participated in the study. The data is from the Eurobarometer survey in 2003.
much more support for early childhood education in the Nordic countries (Rubenson and Desjardins 2009). Despite family responsibilities being a barrier, it is more easily overcome in a country where there are supports that help overcome these barriers than in countries that do not have those supports. This finding is consistent with Bourdieu’s emphasis on structural barriers in our societies that allow the dominant cultures to succeed. Those who can afford the support due to high economic capital have more opportunities to upgrade their skills than those who cannot afford it.

A qualitative study examining barriers to participation that looked at type of employment and participation found that the type of employment has an effect on participation. Respondents explained that the lack of stimulating employment opportunities or monotonous jobs discouraged participation (Paldanius 2007). This is not surprising if we think of people who work in retail who may already be over qualified for their jobs and therefore unmotivated to engage in skill upgrading.

We have seen that those with low income, low education levels, and low levels of occupation are least likely to participate in adult education. Once adults complete their initial formal education and enter into a different life stage, they face additional barriers to participation by the mere fact that they have taken on additional responsibilities such as getting their first full-time job, moving away from home, getting married, having children and so on. However, the research has not addressed the extent to which cultural capital that is passed on from parents continues to have an effect on participation. In other words, we do not know the extent to which parents’ education level, income level, and occupation level persist in influencing an individual’s decisions about participating in adult education. This thesis looks at the extent to which barriers go beyond those mentioned above and include parental education and occupational class background.

**Work-Related Informal Learning**

It is important to note that people participate in informal learning to meet learning needs other than simply for employment. For example, people may learn about finances and budget based on their own household finances or in volunteer work. However, the focus for this thesis will be on informal learning that is specifically related to an individual’s employment.
There have been long standing debates about whether formal learning is better than informal learning. In the past, much of the focus on learning by researchers was on formal learning. It was thought that formal learning had advantages over informal learning. Formal learning was thought of as an accumulation of knowledge by those who carried out research and taught in schools such as universities. The knowledge was accumulated from year to year which allowed each generation to know more than the previous generation (Scribner and Cole 1973). Moreover, the knowledge that was gained in formal educational institutions could be used in a wide range of contexts and circumstances (Scribner and Cole 1973). The attitude was that formal learning was of a higher status than informal learning (Bernstein 1971). The learning that was available in public schools and universities was seen as surpassing apprenticeship training such as, non-institutional learning which was regarded as low status (Scribner and Cole 1973) which was often dismissed. Informal learning was not thought of as learning that had much importance.

Those who regarded formal learning as superior argued that formal learning that was based on ability would allow those from disadvantaged groups to obtain the credentials necessary to improve their employment opportunities (Turner 1960). From the perspective of Bourdieu and Passeron (1990) however, the curriculum in the formal education is fraught with middle class and elite value bias. The end goal of this type of education was to create social reproduction - those from low social classes will not be able to succeed. In other words, rather than formal education being based on merit, it would be seen as based on whether a student could acquire the cultural capital necessary to succeed.

A viewpoint that is not related to educational institutions includes that of Ellström’s (2001) who feels that though informal learning is part of our daily lives, it is not sufficient in developing the skills necessary for today's production systems. Informal learning should build upon knowledge that is learned through formal education (Ellstrom 2001). In today's workplace, there have been increased demands for skills such as the ability to identify and solve problems which require a high level of theoretical knowledge and intellect (Ellstrom 1998). In other words, it is essential to integrate general knowledge and knowledge gained in the work context. The thought is that informal learning and formal learning complement each other; some believe this to the extent that in order for formal learning to be effective, informal learning must also take place (Barnett 1999).
The intention of this thesis is to treat formal and informal as equally important. Not everyone has access to formal learning in our society despite ability; therefore, it is important to explore which groups do not have access and to determine whether these individuals are predisposed to informal learning in general due to circumstances.

Definitions of Informal Learning

Informal learning has many dimensions and complex features that make it difficult to conceptualize. Various definitions include the view that informal learning is unstructured, experiential in nature, and non-institutional (Marsick and Volpe 1999). It can be initiated because of a reaction to something in the workplace that is unplanned yet it is a learning experience. In other words it can be incidental in nature and part of a daily activity (Simpson 2006). There is also disagreement regarding whether to include only learning that occurs outside the classroom or inside as well. Some researchers view informal learning as anything that is done outside a classroom setting (Livingstone 2000; Livingstone 2001; Hodkinson, Colley et al. 2003; Reardon 2004; Slater 2004; Kremer 2005) while others build parameters to differentiate informal learning from tacit learning.

Another distinction involves intentional versus unintentional learning. Intentional informal learning is much easier to measure than unintentional (also known as tacit) learning. Non-formal education or continuing education can be referred to as learning that is done on a voluntary basis with a teacher present to facilitate the learning through courses or workshops (Livingstone 2001; Marsick and Watkins 2001), mentoring (Colon 2004), simply involving asking coworkers questions (Eraut 2004; Reardon 2004), or receiving feedback on work activities (Marsick and Watkins 2001; Eraut 2004). In some cases, employees report a preference for coworkers to give feedback rather than supervisors, often depending on the extent to which the organization is hierarchical in nature (Boud and Middleton 2003). Learning is embedded in the workplace through relationships that are built among employees which either compliment or substitute for formal learning (Wenger 1999).

It is not only difficult to untangle intentional learning from unintentional learning; it is also difficult to untangle work activities from learning activities (Tikkanen 2002). In fact, workplace learning is often seen as being part of the job or doing a job well (Boud and Middleton 2003). Work related
informal learning takes place on a daily basis through interactions with coworkers, during meetings, working with clients, and while working with others performing the same work (Eraut 2004). It is important to keep in mind that the different dimensions used to define informal learning cause problems with operationalizing and measuring it. As will be seen below, there are many inconsistencies in the findings from research that outline the amount of work-related informal learning that takes place.

The definition of work-related informal learning that is used for this thesis is based on Livingstone's (2001) description that includes many of the dimensions outlined above. More specifically, he outlines four dimensions to learning that range from fully structured to completely unstructured. The most structured is formal education where a pre-established curriculum is established and the learner is expected to gain specifically delineated knowledge from a teacher. Informal education occurs when the learning is not structured in the sense of not having a set curriculum or body of knowledge to learn. Instead, the learning is customized to the learner in a more spontaneous learning situation. Self-directed learning or informal learning is the least structured of all. It is intentional in the sense that individuals undertake learning by themselves or with others without a specific teacher or curriculum (Livingstone 2001).

Previous research that looks at work-related informal learning has found that informal learning through interactions with peers is one of the predominant ways of learning at work; moreover, the impact of formal training to on the job skills has been found to be minimal compared to informal learning (Garrick 1998; Boud 1999). These findings support the importance of informal learning.

The incidence of informal learning or self-directed learning was not studied quantitatively until 1960s. There were two studies carried out, one by Johnson and Rivera in 1965 in the U.S. and one by Tough (1978) in Canada that asked questions in a survey of self-directed learning and adult learning activities in order to determine the extent to which people engaged in independent learning on their own. It was not until approximately one decade later that studies on informal learning or self-directed learning started to gather some momentum (Hiemstra 1976; Penland 1977; Leean and Sisco 1981). In all of the research findings the large majority of people reported participating in informal learning.
The two most common ways of looking at informal learning have been from either a macro or micro perspective. The macro perspective is often viewed from an organizational perspective where the learning is done in a group by several employees and is often the result of a need to learn because of an organization’s environment (Wenger 1998; Marsick and Watkins 2001).

Learning can occur in groups or on an individual basis through inquiry or dialogue, which is often encouraged by organizations (Marsick and Watkins 2001; O’Neil 2003). In such cases, learning opportunities are seen to be greater within organizations that promote learning (O’Neil 2003). However, Berg and Chyung, (2008) have found that whether an organization promotes learning or not, there is no effect of the work environment on informal learning (Berg and Chyung 2008).

Looking at informal learning as a community of practice (macro perspective) limits the research from the complexities of the learning activities that are undertaken and the extent to which the learning activities are formed naturally (Boud and Middleton 2003). Boud and Middleton, (2003) found that in organizations where the hierarchy is more relaxed, employees depended on supervisors as much as coworkers; however, in more hierarchical organizations, coworkers were the first line of inquiry followed by supervisors.

The definition for informal learning or self-directed learning has wavered between a very narrow focus to very broad. The incidence of informal learning recorded fluctuated between 22% (Blomqvist, Niemi et al. 1998) to as many as 95% (NALL, 1998). Cross (2007) found that while 80% of workplace learning occurs through informal methods, yet only 20% of the funds invested in learning by organizations are in informal learning.

Despite differences in definition and the difficulties in measuring informal learning, it is an important issue to study because of the large number of Canadians who engage in informal learning for the workplace. For example, in the 1998 NALL survey, Livingstone (1999) found that very few respondents indicated that they did not do any informal learning at all. In a follow up survey in 2004, a large majority (82%) of employed respondents reported participating in employment related informal learning (Livingstone 2005). Moreover, the majority of the population engages in informal learning to keep or improve in their jobs. In fact, 96.6% of

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5 A descriptive table of the findings from each survey is available in Livingstone, 2001
Canadians were involved in some form of informal learning. Nearly everyone, regardless of their social position, engages in informal learning (Rubenson 2007).

Previous research on employment related informal learning found that on average Canadians who are currently in the labour force, or who are expected to be soon, spend on average six hours a week in informal learning (Livingstone, Hart et al. 1999). More recent research based on the results from the Adult Education and Training Survey (AETS) 2004 survey, Canadians over the age of 25 spend on average 1 hour per week in formal education compared to 15 hours per week in informal learning (Rubenson 2007).

Based on Weintraub’s (1995) research, many workers assert that they do not have time to leave their work and take structured courses. They also argue that much of the formally taught material is information that they already know or that is not relevant to their on-the-job needs (Weintraub 1995). Moreover, people face barriers to accessibility to formal learning, such as time constraints, family responsibilities, and finances (Forrester, Payne et al. 1995) that are not present for informal learning. As seen earlier, much of the research shows that the structures of formal education perpetuate inequalities based on socioeconomic status, gender, and ethnicity (Curtis, Livingstone et al. 1992; Livingstone and Sawchuk 2000).

Informal learning may be seen as more efficient for certain demographic groups or for people who are in certain situations. For example, informal learning may be more efficient for someone who is self employed or who is working long hours and cannot leave the business unattended. Someone who has had negative experiences with formal education might be more likely to learn informally because he or she is more comfortable doing so. As well, informal learning may be geared to skills that are more specific to certain industries or occupations. In the Workplace Training Survey that was conducted in 1995, 70% of organizations reported that they carried out training in the previous year through both formal training and by promoting informal training among employees (Betcherman 1999). The informal learning aspect of training accounted for almost 75% of the overall training effort (Betcherman 1999). For example, in Boud and Middleton’s (2003) research, they found that those in teaching positions engage in informal learning; however, it was not done to a higher extent than their coworkers who were not in teaching positions. The experience of learning was found to be influenced by the nature of the work rather than the occupation held
within the organization. Everyone seems to engage in informal learning. Differences mainly apply to how the informal learning is done and the topic that is learned.

Many studies have found that there is a negative correlation between age and adult education in the sense that as age increases, participation in adult education decreases (Livingstone, Raykov et al. 2001; Rubenson 2007; Berg and Chyung 2008). The situation is different for those who participate in self-directed employment-related informal learning. Older workers tend to spend only slightly less time in employment-related informal learning than younger workers (Rubenson 2007). Overall, there are fewer declines in participation in informal learning based on age than there are for formal training (Livingstone 2000). Interestingly, younger people rely more on others to learning informally while older employees tend more to work on their own (Livingstone 2001). Either way, substantial learning is taking place for both the young and older workers.

Although we see that informal learning has fewer barriers than formal education, it is important to determine the extent to which social background characteristics affect participation. Based on the results from the 2004 WALL survey, overall participation rates in informal learning are somewhat related to attainment levels of formal education. The results from the 2004 WALL survey show that only 68% of those who have not finished high school report engaging in informal learning in general compared to 83% of those with a high school diploma, 88% of those with college, and 98% of those with a university degree (Livingstone 2005). These differences are small in magnitude when considering that the large majority of people engage in informal learning for all education levels. Moreover, other research has found very little difference in informal learning based on level of education attained in the IT sector (Berg and Chyung 2008). Overall, it appears that education background has very little effect on participation in informal learning.

Inequity in participation in informal learning is also related to occupation. The results from the 2004 WALL survey indicate that those in professional and managerial positions are more likely to report informal learning (95%) than service workers (85%) and industrial workers (84%). This inequity in participation in informal learning may be linked to one’s habitus where for some the initial negative experiences in formal schooling lead to a negative attitude towards all forms of learning. However, it is essential to keep in mind that the vast majority engage in informal learning, these differences seem negligible.
Overall, informal learning for the workplace is more accessible than formal schooling. Workers explain that they cannot leave structured work to engage in formal courses. The barriers that we see for formal education, such as time constraints, family responsibilities, and costs are minimal or not present. Informal learning can be done anywhere, at any time (Rubenson 2007).

The inequalities in education level attained based on education, occupation and income levels continue to exist for informal learning in the workplace, but they exist to a much smaller extent. Those who have low levels of education are slightly less likely to participate in informal learning than those from higher levels of education. However, the difference is very slight (Rubenson 2007).

No previous research has been done to determine the extent to which parents’ social class affects participation in informal learning. Studies have looked at social status of the individual and its effect on participation but not at the social status of the individual’s parents. It is important to identify the relationship between an individual’s family background and participation in adult education because of the benefits of informal learning. Employees can acquire skills for the workplace through informal learning without facing all of the barriers of formal learning. People may be able to increase job opportunities either within the organization or outside of the organization by increasing their marketable skills. In cases where employees experience layoffs or unemployment, those who have gained skills through informal learning might find it easier to transfer their skills. However, the main problem is that these skills go unrecognized in most cases because they are not formal credentials; hence, the importance of programs such as Prior Learning Assessment and Recognition (PLAR).

We have seen overall that there continue to be inequalities in accessibility to formal education. The fact that we see inequities in formal education supports the theory of social reproduction in the sense that those with less cultural and economic capital are not participating in formal education to the same extent that those with more capital. The structures that exist in our formal education system do not allow for those from less privileged backgrounds to succeed. These inequities do not seem to exist for informal learning. Those with less formal education are participating extensively in work-related informal learning. The question is to what extent this participation continues to be influenced by parental economic and cultural capital.
Conceptual Model

Bourdieu’s theory of social reproduction argues that class background influences the level of education obtained by individuals. Also, persistent inequalities in our education system result in barriers for the less educated to secure stable employment. In this section, a conceptual model outlining the hypothetical relationship between social background and educational attainment based on the review of literature is proposed. In this thesis, I suggest proxies for cultural capital and economic capital. I use parents’ and respondents’ education as proxies for cultural capital. And I use parents’ occupational class and respondents’ occupational class and income as proxies for economic capital. The term social class refers to education, income, and occupation for both parents’ and respondents’.

The conceptual model is based on a combination of models that have been created to explain inequities in participation to adult education (Johnstone and Rivera 1965; Cross 1981; Darkenwald and Merriam 1982; Doray and Arrowsmith 1997; Rubenson and Schuetze 1999; Baran, Berube et al. 2000). Despite a lack of recent research on the effects of social background on participation in adult education courses apart from education and income, the conceptual model includes the assumption that the social background characteristics that influence participation in initial postsecondary education will influence participation in adult education. The review of the literature also indicates that social class influences participation in informal learning.

The Interdisciplinary, Sequential-Specificity, Time-Allocation, Lifetime (ISSTAL) model proposed by Cookson in 1986 (see figure 1) is the most comprehensive model yet developed applicable to education and participation in both adult education and in informal learning. In 1987, Smith and Theberge added to the model variables related to the assumptions that greater participation occurs for those with higher social status; those who know people who are participants in adult education; those who are members of voluntary groups; those who have the resources necessary to participate; those who are healthy; and those who have considerable intellectual capacity (Smith and Theberge 1987). Figure 1 is followed by an explanation of the variables and their relationships to participation in both formal and informal learning.
(a) Parental Economic Capital

In the conceptual model, economic capital refers to parental income. The assumption is that parents with high incomes are more likely to be able to pay for their children’s education than those whose parents with low incomes, and that this will directly impact the level of education attained. We have seen in Bourdieu’s theory that economic capital is exchanged for cultural capital which in this case is an educational credential.

(b) Parental Cultural Capital

Cultural Capital includes both parental education level and occupation level but is not limited to these two factors. The assumption here is that individuals whose parents have high education and high occupations have access to the cultural capital that is valued in the formal educational system.
and which puts students from backgrounds with high cultural capital at an advantage. These individuals are more likely to reach high levels of education themselves.

(c) Education Level Attained; (d) Individual’s Income; and (e) Individual’s Occupation

All of these variables are represented in one box for two reasons: the first reason is that each of these variables interacts with the other. Parents’ and individuals’ education level (cultural capital) will affect one’s income level and one’s occupation (economic capital). The second reason is that both parents’ economic capital and cultural capital will influence the education and occupation level of their offspring and indirectly will influence income level. Each of these interacts with both participation in adult education and work-related informal learning.

(f) Situational Variables

In this conceptual model, situational variables are included that comprise life circumstances that may interfere with participation in both adult education and informal learning. We have seen from the brief review of literature for both participation in adult education and work-related informal learning that people in different life circumstances face various barriers to participation, such as lack of time, family responsibilities, lack of money to pay for courses, or lack of courses. Research shows that these have a direct impact on participation.

Based on Bourdieu’s theory, a person’s habitus directly influences practice. In this case, a conscious or unconscious decision will be made with regard to participation in adult education courses and informal learning based on whether participation in adult education or informal learning is going to be beneficial.

(g) Participation in Adult Education and (f) Participation in Informal Learning

These variables are the dependent variables that are directly affected by an individual’s own economic capital, cultural capital, and situational variables. As well, they are both indirectly affected by parents’ economic and cultural capital.

The conceptual model presented above outlines the posited relationships among various social background variables, level of education and participation in adult education and informal learning.
This model will be used as a guide for the overall analysis following a detailed description of the methods that will be used to determine the extent to which each of these variables influence accessibility to formal schooling, adult education and informal learning for the workplace.
Chapter 3

METHODS

Introduction
This chapter discusses the methodology of the thesis, including the research questions, the hypotheses, the research design, the ethical review, the source of the data, the population sampled, the operationalization of variables, and the data analysis.

In this chapter, references to cultural capital are defined by parents’ level of education and references to economic capital are defined by parents’ occupational class. The way these variables were operationalized is discussed below. Similarly one’s own cultural capital refers to education level attained while economic capital refers to both respondents’ income level and occupational class.

Research Questions
The aim of the thesis is twofold: first, to explore the extent to which in Canada, where there exists discriminatory influences of parental class, a gap continues to exist between formal education and social class (cultural and economic capital); and second, to determine whether a similar gap exists for participation in adult education and workplace based informal learning. This research focuses on three main questions:

1. To what extent does parents’ cultural and economic capital continue to influence formal educational attainment levels for Canadians from different generations?

2. To what extent does parents’ cultural and economic capital and an individual’s own level of education (proxy for cultural capital), income (proxy for economic capital), and occupation (proxy for economic capital) have an effect on participation in adult education?

3. To what extent does parents’ cultural and economic capital and an individual’s own education, income and occupational class have an effect on participation in work-related informal learning?
Hypotheses

Based on the social reproduction theory and the review of the literature, I propose three hypotheses:

1. In the review of literature we see that parents’ cultural and economic capital has a direct effect on the level of education pursued by their offspring. My focus is on inter-generational effects. I anticipate that parents’ capital continues to influence the level of formal education pursued by their offspring, with a slight decrease in the strength of the relationship for those in the youngest generation.

2. The review of literature shows that parents’ cultural and economic capital has a direct effect on offspring’s formal education, on income, and on occupation. As a result, I hypothesize that parents’ capital will have an enduring effect on participation in adult education by offspring. Further, I anticipate that an individual’s own cultural and economic capital have a direct effect on participation in adult education while the relationship between parents’ capital and participation in adult education is indirect. The hypothesis that the relationship is indirect is based on the assumptions that parents’ capital affects offspring’s capital and that one’s capital affects participation in adult education.

3. As we saw in the review of literature, work-related informal learning is carried out by the majority of the population in the relative absence of barriers. Therefore, I anticipate that the relationship between one’s own cultural and economic capital (education, income, occupation) and parents’ cultural and economic capital to work-related informal learning is less pronounced than the relationship between cultural and economic capital and formal education.

Research Design

Quantitative analysis on secondary data are used to answer the research questions for this thesis. One definition of quantitative methodologies is the use of numbers collected from either a population (census data) or a subsample of the population in order to examine possible trends, attitudes, or opinions, enabling the researcher to draw conclusions about a specific population (Fowler 2002; Crewswell 2003; Lewis-Beck, Bryamn et al. 2004; Jupp 2006). The analysis portion
of this thesis uses data collected from a random sample of Canadians to draw inferences about participation in formal education (schooling and adult education) and informal learning for the workplace.

The advantage of using a random sample is that inferences can be made from a smaller sample to the larger population. The quantitative analysis used to answer the research question based on the sample provides an understanding of the relationship between various social class variables and formal and informal learning (Fraenkel and Wallen 2006).

**Ethical Review**

The original Changing Nature of Work and Lifelong Learning Project (WALL), in which the current study is embedded, underwent an extensive review in 2003 from the Ethical Review Board at the University of Toronto. The study included both a national survey and 12 case studies that looked at the nature of work and learning (including formal education and informal learning). The principal investigator supervised the data collection with the intention of producing a dataset that would be made available to the general public. As a consequence, respondents were made aware that their responses would be available in aggregate form for future research projects. A secondary expedited ethical review was conducted regarding the specific use of the dataset for the analysis in this thesis. The Education Research Board at the University of Toronto approved the research.

**Data Sources**

The main data source for the analysis is a national survey from the SSHRC-funded Changing Nature of Work and Lifelong Learning Project. The Work and Lifelong Learning (WALL) Survey was conducted in 2004 on a large representative sample of 9,663 Canadians, which included 600 respondents from the longitudinal portion. The longitudinal group were respondents originally interviewed in 1998 through the New Approaches to Lifelong Learning (NALL) and who were re-interviewed in 2004 for the WALL Survey. The data were collected by the Institute for Social Research (ISR) at York University between October 2003 and July 2004 using the telephone interview method. Households were selected using Random Digit Dialing (RDD) procedures;
within the household, the birthday method was used to select respondents. These sampling methods ensured that respondents were chosen on a random basis.

The data source is particularly useful for this thesis because Dr. W. D. Livingstone, the principal investigator for the project, invited me to participate on the survey design team to collaborate in the design of questions to inform my own research. The questions from the survey that are pertinent to my analysis include information on parents’ social class (parent education and parent occupation class), which also are treated as proxies for parents’ cultural and economic capital. As well, questions that pertain to respondents’ social class include respondents’ educational attainment, respondents’ income, and respondents’ occupation class. These will be treated as are proxies for respondents’ economic (income and occupation class) and cultural capital (education).

The survey questions were carefully designed to ensure that the measures of the concepts being studied were both valid and reliable. Validity refers to ensuring that the instrument is in fact measuring the concept that the researcher is trying to evaluate (Jackson and Verberg 2007). Reliability refers to the extent to which the instrument used in measuring a concept yields similar findings when applied on a repeated basis (Jackson and Verberg 2007). A careful review of the literature was carried out in order to establish that valid measures of the concepts were employed. Reliability was ensured in two different ways. The first was by using in the survey a number of questions from other surveys on various topics of learning and work. As a result, it was possible to determine the extent to which the results of the current study were comparable to the other surveys that were carried out in the same time period. As the results from both the WALL Survey and other surveys were similar, reliability was assumed. The second method used to ensure reliability was to pretest the survey instrument. During the pretest, respondents were asked to explain how the questions were interpreted and whether any of the questions were difficult to understand. The pretest sample consisted of 8 respondents who were interviewed by telephone. Researchers from the Institute for Social Research (ISR) and the Ontario Institute for Studies in

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6 The birthday method refers to selecting of those who are 18 or more in the household who will have the next birthday. This is done to ensure that people within the household are selected at random.

7 Some examples include: The Adult and Education Training Survey (AETS); Labour Force Survey (LFS); and the Youth in Transition Survey (YITS).
Education (OISE) made improvements to the survey instrument after interviewing by telephone an initial pilot sample of approximately 200 people.

The main goal of the survey was to obtain information about activities in which Canadians partake pertaining to work and learning. More specifically, the survey was divided into twenty-seven sections8. The analysis for this thesis focuses on questions about educational attainment, participation in adult education courses, participation in workplace based informal learning, and demographic questions pertaining to social class (such as education, occupation, income, gender, and age). I outline the specific questions for the analysis in the operationalization of variables section.

**Population and Sample**

As noted above, the data for this thesis are derived from a sample of 9,6639 Canadians interviewed for the WALL Survey. My sample includes a Canada-wide representation of adults who were 18 years of age or more at the time of the interview. Those who lived in the Territories and those who did not have a telephone in their home at the time of the interview were excluded from the sample. The response rate for the sample was 51%10.

The analysis for this thesis is for the most part based on a weighted sub sample of 5,484 respondents consisting of 3,028 male and 2,456 female respondents. For the thesis, this sub sample has been filtered to only include those who were not attending a formal educational institution on a full-time basis11; those who were working at the time of the interview12; and those who were

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8 Information about each of the sections or the survey can be accessed at:
http://www.wallnetwork.ca/resources/WALL_Survey_Questionnaire04.pdf

9 The 600 NALL survey follow-up interviews are not included in this analysis.

10 The calculation of the 51% response rate is based on all calls dialled through Random Digit Dialling including the numbers that are ineligible for the sample (i.e. businesses or cell phones). If ineligible responses are not counting, the response rate is 58%. The response rate was calculated using the most conservative formula possible. The formula includes the number of completed interviews divided by the estimated eligible households times 100 (Northrup, 2004).

11 In addition, full-time students have been eliminated from the sample because we are looking at the level of education respondents have attained. Full-time students are in the process of obtaining their education; therefore, the level attained would not be accurate.

12 The reason for using currently employed is to ensure that those who are unemployed or chronically unemployed are excluded from the sample. Previous research carried out on participation in learning activities differs based on employment status. More specifically, Rubenson (2007) found that those not in the labour force were three times more likely to engage in self-directed informal learning than those in the labour force. Similarly, those who are in the workforce are more likely to participate in formal
randomly chosen to answer questions about their parents’ demographics. A more detailed explanation of the sub samples used for the analysis is explained in the findings section.

The sample was weighted to compensate for an over sampling of new Canadians (those who moved to Canada in the last 10 years) and for size of household. In order to obtain a higher percentage of new Canadians, over sampling was done in the urban areas. The cities that were over sampled were Montreal (by 2%); Toronto (by 5%); Calgary (by 5%); and Edmonton by (5.5%). It was also necessary to weight for size of household to ensure that there was not an over representation of those who lived in one member households (which would create a 100% chance of being chosen for the interview within the household) (Northrup 2004). In summary, the weighting was done for both new Canadians and size of household.

**Operationalization of Variables**

In this section, I outline how I operationalized each of the independent, intervening, dependent, and control variables that I use in my analysis. The analysis is based on the conceptual model that outlines the relation of the variables that is shown in the previous chapter.

**Independent Variables**

The operationalizing of the independent variables is as follows. The main independent variables that are measured in this thesis are based on the notions of cultural and economic capital put forth by Bourdieu (1984). Two different variables, parents’ education level and parents’ occupational class, are used in this thesis to represent cultural capital and economic capital, respectively. Unfortunately, the survey does not include questions that measure some of the cultural capital features that Bourdieu includes in his definition (for example, number of books in the household library, attendance at museums, etc.). Rather, the cultural capital measures for this survey are restricted to the highest level of education attained by the respondents’ parents and economic capital is measured by the occupation of the main income earner in the respondents’ household.

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13 For the survey interviews a sub sample of respondents was randomly chosen to answer questions about their parents’ background. See the Survey Technical Documentation for further information. Not all respondents were asked questions of their parents’ demographics.

14 The exact wording of the question for these two variables are discussed below.
while growing up. Questions asking about parental income while growing up were not asked in the survey; therefore, the proxy for economic capital is occupational class and the proxy for cultural capital is education level. Below is a detailed description of the exact wording of the questions in the survey that constitute the cultural capital variables for my thesis.

Parents’ Education Level: Respondents were asked: “What is the highest level of formal education your mother obtained?” followed by “And what about your father? What is the highest level of formal education he obtained?” Interviewers were instructed to read a list of 13 levels of education but to stop when the respondent gave an answer. For purposes of this thesis, the variable is recoded into a categorical variable using only five categories: 1 – Less than high school; 2 – High school; 3 – Some post-secondary schooling; 4 – Completed non-university post-secondary education; and 5 – Completed university education. The variable was recoded in this way to ensure that there is enough representation in each category for analysis purposes. For the structural equation modeling portion of the analysis, the variable is treated as a continuous variable using all 13 levels of education.

In order to simplify the analysis, the highest level of education obtained by either the mother or the father was used to represent parent education. It is important to note that some researchers claim that using the highest level of education of either parent confounds the analysis because the father’s education level has more influence on sons and the mother’s education has more influence on daughters (Nakhaie 2000). In this thesis, I simply look at the highest level of education attained by either parent.

Parents’ Occupational Class: It is important at this point for me to outline three theories of social class proposed by Wright (as a representative of Neo-Marxist), Bourdieu, and Livingstone that I use to operationalize social class. I begin by defining the conceptual elements pertinent to the three theories and demarcate where each concept relates to the operationalization of variables for the analysis.

Measuring social class is a long debated issue in sociology. Grabb (2007) outlines three main problems encountered in trying to categorize social classes. The first is the difficulty that arises in trying to decide where to divide classes because, in reality, classes are of a continuous nature.
Despite varying conditions within a class, there are overlaps among each of the conditions. The second problem is that the measurement of social class is often based on education, occupation and income, which are variables that are related to each other. This inter-connection creates an imperfect measure because, for example, someone could be earning a high income but have a low occupation and a low education. Conversely, someone with high education could earn low income yet have a high level occupation. The third problem is that researchers cannot agree about the weight that is given to each of these variables. For example, there is no agreement in the research community as to whether income is more important than education or occupation when measuring social class (Grabb 2007).

Neo-Marxist Concepts of Social Class

I begin with the Neo-Marxists’ analysis of social class, which is tied to the mode of production. A central idea behind the Neo-Marxists’ theories of class is the concept of exploitation as the basis for studying social problems in capitalist society. Neo-Marxists’ theories of social class are connected with the concept of social relations, associated with the production of material goods. Social relations refer to how individuals are differentiated from one another based on the amount of control each has over the production process. More specifically, the owners of production own the machines that are used in the production process; therefore, they have power over how the machines are used. They hire people who own the labour power to run the machines, and they keep the profits from the production process (Wright 2005).

Variation in the amount of power one has within the mode of production is central to the argument of differentiating social classes. Categorization of classes is further complicated because of two factors. The first factor is the difficulty in determining how various class relations co-exist in the workplace. Class struggles, which is referred to by Marx as conflict between social or economic classes, vary depending on the ways in which the rights and powers of those who sell their labour are distributed and controlled. The second factor is the complexity embedded in the notion of ownership. Owners of production exist under various forms of control. The delegation of power and rights of owners is not clear-cut. For example, owners of production often work within the restrictions of government regulations, unions, and stock holders (Wright 2005).
Despite these complexities, Neo-Marxists believe that it is important to determine people’s class location based on social relations in order to examine inequities in our society. Based on Wright (2005), there are five factors that Wright takes into consideration when locating an individual within a class. Each of these factors is taken into consideration when categorizing people into social classes for this thesis. The five factors include:

1. Rights and Power: The degree of rights and power that an individual holds over other individuals varies based on class relations. For example, a manager has more rights over the production process than a manual labourer. The manager may have the responsibility to hire workers and/or to change the production process; however, the manager is restricted in terms of not being able to sell the factory or the assets in order to increase personal profits. The manager then occupies both a working class position in which rights and powers are restricted but maintains control over the production process.

2. Overlapping Class Positions: The factor is that a person can be in two class positions at once, there is a need to recognize this when classifying them into a class category. For example, a person can be self-employed and at the same time can hold a job working as an employee of an organization. Another example of an individual holding two positions at once is a person working for an organization in which he or she owns stocks.

3. Class Trajectory: An individual might be in a transitionary class position. An example is someone who is embarking on a new career; he or she might hold an entry-level position to learn about the business. It is not possible to know how quickly this person will gain additional responsibilities in the workplace.

4. Variations within Class Positions: There exists variation within each class location. A person may own a large corporation versus another who owns a small organization. Both are considered owners of production but the degree of power and rights they possess differs greatly.
5. Intersectionality of Background and Class Position: A person’s class location might be based on how his or her family background intersects with class relations. For example, someone born into a capitalist family is located in a social class based on his or her family’s social class and not his or her own occupation or lack thereof.

The foregoing information over-simplifies the complexities involved in creating social class categories based on Neo-Marxist concepts. Despite the lack of detail given here, it is crucial to recognize that classes must be categorized in order to study the extent to which inequity persists in our education system. We saw from the review of literature that one’s chances of securing better employment opportunities increases when one can pursue higher levels of education; therefore, it is essential to understand the extent to which inequities in education continues to exist.

Based on Neo-Marxist analysis, there are five concepts which need to be considered when examining social class (Wright 2005). These five concepts are: class interests, class-consciousness, class practices, class formations, and class struggle. Each is explained as follows:

1. Class interest pertains to the opportunities that people have in pursuing their own interests. The most basic difference in class interest from a Marxist perspective is capitalists versus labour rights: capitalists’ interest is in profit maximization versus labourers’ interest in ensuring subsistence; such interests can include standard of living, working conditions, leisure activities, and security.

2. Class consciousness refers the extent to which people are aware of their own class position in the society in which they live, the conditions of their own class, and their interests in improving their class conditions.

3. Class practices refer to the activities in which people engage in pursuit of improving their class conditions.

4. Class formations refer to the extent to which people form groups in order to advance their class interests. For example, people might join a union in order to improve their working conditions.
5. Class struggle refers to the conflicts that arise among various social classes. The capitalists are interested in increasing profits by reducing the amount of money paid to those who sell their labour. Those who sell their labour want higher wages in order to ensure a subsistence, which becomes problematic because higher wages reduce the profit of the owners of production.

For this thesis, Neo-Marxist concepts of social class and as well as some of the concepts put forward by Pierre Bourdieu (Bourdieu 1984; Bourdieu 1987; Bourdieu 1990; Bourdieu 1990; Bourdieu 1991) and D. W. Livingstone (1996) are taken into consideration in the operationalization of social class. The following is a description of Bourdieu’s concepts of social class followed by a description of Livingstone’s.

Pierre Bourdieu’s Concepts of Social Class

It is important to note that Bourdieu’s concept of social class is not as straightforward as the concepts put forth by Neo-Marxists’ for several reasons. First, Bourdieu’s analysis of class is closely tied to the social context that he studies (mainly France) (Bourdieu 1987). This type of class analysis may not apply to all parts of the world and may not correlate with changes that occur in employment sectors outside of France. Thus, it is not possible to know with certainty that his concepts of class are applicable to Canada. Second, Bourdieu employs both quantitative and qualitative analysis in his operationalization of social class and he tends to work more from a continuum (Weininger 2005). Third, Bourdieu’s theories are heavily based on the environment or places (referred to by Bourdieu as field) in which an individual is situated rather than on an entire society. For example, his concept of agency, which refers to the act of making choices and imposing those choices on the world, is based on the context in which one is situated; habitus is based on what one inherits from his or her parents; and field is based on the arenas in which one participates. All of these concepts make it difficult to create social class categories that work for an entire society (Bourdieu 1990). And lastly, his notion of symbolic systems includes the view that what is valued differs greatly depending on the specific fields in which one participates. Therefore, a person may not hold the same amount of power in one field as the next. We can conclude from the above that the commonality among people in social class groupings that are present in the Neo-Marxist concepts are not present in Bourdieu’s concepts of social class (Bourdieu 1984).
Bourdieu bases most of his notion of social class on occupational categories, which is different from Neo-Marxists who base social class on social relations in the context of ownership of the means of production. The main difference in Bourdieu’s explanation from that of Neo-Marxists' explanations of social class is that he expands his basis of categorizing classes to consider those who are neither owners of production nor manual workers such as non-manual workers (managers, supervisors, professionals) as well as self-employed (petty bourgeoisie) and small employers. For example, he includes positions such as public administrators, professions, intellectuals, and artists and cultural producers in his categorizations (Weininger 2005). However, Wright might view these as members of the new petty bourgeoisie.

To Bourdieu, the most important aspects of social class are economic and cultural capital (Bourdieu 1986; Bourdieu and Wacquant 1992). Social capital is only secondary in importance and is more central to studying state socialist societies (Bourdieu 1998). Bourdieu’s class analysis is based on three seemingly unrelated factors which include total volume (whether it be tangible such as economic or intangible such as cultural) of capital, composition of capital, and amount of change or consistency in the volume and composition of capital. The first factor on which he bases his class categories, total volume of capital, relates to both economic and cultural capital. Bourdieu groups individuals into three categories based on volume of capital: a) the dominant class (or bourgeoisie) which consists of industrialists, private sector executives, and college professors who occupy positions at the upper end of the category; b) the working class (or manual labourers) which consists of manual workers and farm labourers who occupy positions at the bottom of the category; and c) the petty bourgeoisie who are small business owners, technicians, secretaries, and primary-school teachers who occupy positions in the middle category (Bourdieu 1984).

The second factor on which he bases his class categories, composition of capital, refers to differentiating among those within the above groups based on the type of capital (economic or cultural) they hold. For example, within the social class of “the petty bourgeoisie”, there are the small business owners who are tend to own economic capital compared to primary school teachers who tend to own cultural capital.

15 Definitions for cultural, economic, and social capital are found in the review of literature chapter in this thesis.
The third factor, the amount of change or constancy in both the volume and composition of the capital owned, refers to the amount of mobility among generations. Some individuals are likely to be born within a class and not likely to change classes. For example, professionals are more likely to be born into the professional class. In such instances, there is no movement or change in volume of capital on an individual basis.

Based on the above, we see Bourdieu’s definition or conceptualizing of social class works on a continuum. Movement occurs based on all three factors. Volume of capital occurs in a vertical way where an individual may increase or experience a decrease in economic or cultural capital. An individual may move in a horizontal direction with regard to the composition of capital. An individual may convert economic capital to cultural capital and vice versa (Bourdieu 1984).

Bourdieu also includes a further dimension to his categorizations of social class which is habitus. People behave differently based on where they are situated within social space, which Bourdieu refers to as 'field'. For example, a person will behave differently in the workplace than he or she would at the golf club. He refers to how the individual acts as 'practice'. Bourdieu explains that a person's social class differs from that of other individuals because of the indirect relationship between field and practice. As people manoeuvre through various fields their habitus is shaped. Because everyone is exposed to a unique set of fields, practice is unique to each person.

An individual’s actions are not generated on a conscious level; people do not act based on careful considerations of norms or rational calculations. Rather, people act based on their dispositions referred to as habitus. An individual’s initial upbringing plays a key role in the development and formation of the habitus.

The combination of both the volume and the composition of capital that corresponds to life conditions are referred to by Bourdieu as 'class condition' (Bourdieu 1977). The class condition into which we are born influences the development of the habitus. These dispositions influence a person’s thoughts, perceptions, and actions (Bourdieu 1990). People encounter certain situations and act upon them based on how they comprehend the situation and add meaning to the situation without reflection.
A further aspect of class is based on the meanings attributed to the ownership of material goods. For example, industrial or commercial employees are thought to purchase material goods based on luxury, whereas artistic producers purchase less expensive goods based on whether the goods are aesthetically attractive. Professional employees are in the middle; they will purchase goods based on a combination of both luxury and aesthetics. In all social classes, individuals compete for items that will define their lifestyles. The combination of the competition and taste for certain items adds another dimension to Bourdieu’s social class divisions (Bourdieu 1984).

In summary, we see that Bourdieu’s categorization of social class is multidimensional. His categories include notions of field, occupation, habitus, and the symbolic meanings of consumption of material goods. Although there are large differences between the Neo-Marxist concept of social class and Bourdieu’s, there are some similarities. Livingstone (2007) summarized similarities among various conceptions of social class, which can be applied when comparing Neo-Marxists’ and Bourdieusians’ concepts of social class.

1. Both theories agree that those who own businesses differ from those who are employees.

2. Those who own businesses with employees differ from those who are self-employed.

3. Those with the authority to manage others differ from those who are employees with no management authority.

4. Professional employees differ from managers and non-managers due to the level of education required for their jobs and the amount of autonomy that is given to them.

5. Workers who provide services differ from industrial workers who produce material goods.

Keeping in mind these similarities, Livingstone’s (1996) concepts of social class are the most appropriate for the analysis of class in this thesis. His concepts take into consideration many of the similarities outlined above by both Neo-Marxists and Bourdieu but in a Canadian context. Below is a description of his notion of social class.
Livingstone’s Concepts of Social Class

There are two main criteria that set Livingstone’s social class measure apart from both the Neo-Marxist and the Bourdieusian analysis. Livingstone’s concept pertains to the Canadian context and he takes into consideration the interaction between class structures and class practices. More specifically, Livingstone’s (Livingstone and Mangan 1996) social class measure takes into consideration class relations, personal class identity, and oppositional class interests. Although Neo-Marxist and Bourdieusian measures include some of these dimensions, they do not take into consideration all three.

More specifically, Livingstone’s concept (Livingstone 1983; Livingstone and Mangan 1996) distinguishes social class categories based on ownership of the means of production, the amount of control one can exercise over others in the workplace, and the extent of discretion one has over the design of the production process. Livingstone’s groupings include four main categories. The first group consists of three subgroups of owners: a) Large employers and corporate executives who own businesses with many employees and who oversee the purchase and sale of assets; b) small business owners who own businesses with a small number of employees who oversee the labour process; and c) “rentiers” who invest in properties in order to earn rental income where the owners do not participate in the daily operations. The second group consists of the self-employed who own their own business and who have no employees aside from themselves. The third group includes the working class that has no ownership, no authority, and little autonomy. This group includes two subgroups: a) industrial workers who produce material goods; and b) service workers who provide services to a client base. The fourth group, which Livingstone (1996) refers to as “mixed function employees”, includes the following subgroups: a) managers who have been delegated control over the labour process but who have no ownership; b) supervisors who have less power in the workplace than managers but who oversee production or service workers; and c)

16 A thorough explanation of the importance of using each of the three dimensions in class analysis is outlined in Livingstone, D. W. and J. M. Mangan (1996). Men’s employment classes and class consciousness: An empirical comparison of Marxist and Weberian class distinctions. Recast Dreams: Class and Gender Consciousness in Steeltown

professionals who are granted autonomy based on their specialized knowledge but who remain employees (Livingstone and Mangan 1996).

This thesis uses Livingstone’s social class measures from above which are referred to in this thesis as occupational class and a proxy for economic capital. Several survey questions are used to create the parental occupational class variable. Respondents were asked: first, “What was the main occupation of the primary income earner in your home when you were growing up. What did that person do, please be as specific as possible”; second, “Did he or she have an ownership or supervisory role at his/her place of work?”; third, “Was he or she self-employed in their own business?”; and last, “About how many employees did he or she have?”. The information gathered from the questions was coded using the four digit codes based on the Canadian Classification and Dictionary of Occupations (CCDO) which groups the descriptions of occupations by occupational title.

Based on the review of various ways in which social class categories are formed (Bourdieu 1987; Livingstone and Mangan 1996; Wright 2005), the following four social class categories were created for this thesis: owners, which is made up of both large and small business owners; professional and managerial employees (Prof/Mgr) which is made up of those employed as professionals and high level managers in organizations; service workers; and manual workers. The categories represent the range of social class from those with the most power (ownership and domination over both working conditions and other people) to those with the least power (no ownership and no control over working conditions). Each group represents categories that are based on Livingstone’s categories.

More specifically, the ownership category is made up of employers who have between one other employee to as many as 500 employees. Self employed individuals with no employees have been excluded for several reasons. Most importantly, the self-employed with no employees differ from those who have employees in that: they do not have power over other employees, so they tend to only exploit themselves rather than others; they may be in a transitionary position, such as between

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17 The assumption is that if the parent changes occupations, the respondent will give the occupation that he or she feels is most pertinent in answering the question.

18 More information can be found in the following reference: The Canadian Classification and Dictionary of Occupations (CCDO)- A National Classification and Counseling Instrument. Published by the Federal Government of Canada.
jobs but offering consulting services; or they may hold both a position as an employee and work at their own business. Because of these reasons inclusion of the self-employed might lead to a situation that would confound the analysis; as a result, they have been excluded.

The wide variation in the owners’ grouping in terms of number of employees can also be seen as problematic. Previous research has shown that business owners of large corporations are quite distinct in terms of social reproduction from those who are small business owners. Based on Bourdieu’s (1986) theories of social class, large business owners have more cultural, economic, and social capital than small business owners. Previous research has shown that corporate executives have a distinct view of education when compared to other occupational groups. They are less satisfied with the public education system and with teachers than the general public. Moreover, they are less likely to agree that there should be increased government spending on school and to pay higher taxes to fund the education system (Livingstone, Hart et al. 1999). Small business owners include a wide mix of occupations which represent a variety of cultural capital (proxy education levels). For example, it is possible to have the owner of a roofing company who requires that employees have only a high school degree. In the same occupational category, it is also possible to have general practitioners or dentists who require employees with university degrees (registered nurses) or college degrees (dental hygienist or dental assistants).

These caveats aside, for the purposes of this thesis, all business owners from large to small have been included in the ownership category. Ideally, only large business owners would have been included due to their anticipated high level of capital (cultural and economic); however, this was not possible because the sample size is too small to carry out any meaningful analysis. Though business owners range in levels of cultural and economic capital, owners differ in terms of power from the other categories analysed (professional/managerial; service workers; and, manual workers). The category is included in the analysis of social reproduction to determine the extent to which those who have the power to exploit others pass along some capital to their offspring which give them advantages in the education system.

A correlation analysis was carried out to ensure that blending large and small business owners is not associated with their offspring’s education level, their participation in adult education, and in work-related informal learning. The results, shown in Appendix B, indicate that there is no
statistically significant association among the variables which means that despite the different number of employees for owners, there is no difference in level of education attained, number of hours spent in adult education, and number of hours spent in work-related informal learning. This confirms that it is safe to include both large and small owners into one category for the analysis.

Intervening Variables

The intervening variables found in the model are as follows: respondent’s educational level, respondent’s occupational level, and respondent’s income. In the review of literature, those who have high levels of education, high occupation levels, and high incomes are more likely to participate in both adult education and, to a lesser extent, in work-related informal learning. For this reason, each of these variables is treated as an intervening variable as shown in the conceptual model outlined in the previous chapter.

**Respondent’s Education Level:** Respondents were asked: “What is the highest level of education you’ve obtained?”. Interviewers were instructed to read a list of 13 levels of education but to stop when the respondent gave the answer. The variable was recoded into a categorical variable with four categories that are the same as those used for parents’ education level: 1 – High school or less; 2 – Some post-secondary schooling; 3 – Non-university education; and 4 – University education. The variable was recoded to ensure that there was enough representation in each category for analysis purposes. Similar to parents’ level of education, this variable is treated as a categorical variable for the crosstab analysis section and as a continuous variable with 13 categories for the structural equation modeling portion of the analysis.

**Respondent’s Occupational Class:** The survey question that was used to create this variable was: “What is your occupation, what do you do, please be as specific as possible?” The same coding that was used for parents’ occupation was used for respondents’ occupations.

**Respondent’s Income:** Respondents were asked about their income in two parts. The first question was: “Could you please tell me how much income you personally received, from your employment only, for the year ending December 31, 2003, before taxes and other deductions?” or to the nearest thousand dollars, what was your personal (employment) income?”. The second part of the question was asked if respondents were not comfortable giving their income as a single figure.
Whatever option is used, income categories were recoded into four categories: 1 - $1.00 to $29,000; 2 - $30,000 to $49,999; 3 - $50,000 to $69,999; and 4 - $70,000.

Dependent Variables

The operationalizing of the dependent variables is as follows.

Participation in Adult Education: Two variables, one dichotomous and one continuous, were created for this variable. The first variable was a dichotomous variable indicating whether there was participation or there was no participation in adult education courses. Respondents were asked “At any time during the past year did you receive any formal training or education including courses, private lessons, correspondence courses (written or electronic), workshops, apprenticeship training, arts, crafts, recreation courses, or any other training or education no matter how long or short?” The other variable that was used in the analysis was the number of hours that respondents reported spending in courses. The question posed was: “Thinking about the formal credit courses you did in the last year, about how many hours did this amount to in a typical week, counting time in class, and doing homework and course assignments?” The second variable (number of hours) is a continuous variable that is used in the calculations of central tendencies and the structural equation modeling explained below.

Participation in workplace based informal learning: Two variables, one dichotomous and one continuous, were created for this variable. The first variable is a dichotomous variable indicating whether there is participation or there is no participation in workplace based informal learning. Respondents were asked a battery of questions that related to specific topics that respondents may or may not have learnt informally in the workplace. If the respondent replied yes to any of the items, the response was coded as having participated in workplace based informal learning. The introduction to the battery of questions was, “Now, please think about any informal learning you have done during the last year outside of formal or organized courses. You may spend a little time or a lot of time on it. This includes anything you do either by yourself or with other people to gain knowledge, skill or understanding. First, let's talk about any informal learning activities outside of courses that have some connection with your paid employment. This includes any informal learning you did by yourself or with others in the last year.” An example of questions that would
follow this introductory statement are, “Have you done any informal learning to keep up with new
general knowledge in your occupation during the last year?”; “Informal learning of new job
tasks?”; or “Learning about computers?”. All together, there were 11 questions19.

The second variable relates to workplace based informal learning is the number of hours that
respondents spent in informal learning. The exact question posed was, “Thinking about all the
informal learning you have been doing in the last year that is related to your employment, about
how many hours did this amount to in a typical week? (Just give us your best guess in hours
spent.)”. For my thesis, the variable is recoded as a continuous variable (including zero) that is used
to calculate measures of central tendency and for the structural equation modeling.

Control Variables

In the review of literature, we saw the impact that both sex and age have on the level of education
attained and on participation in both adult education courses and work-related informal learning. It
is imperative that the analysis for this thesis controls for both these variables. Below is an
explanation of how both of the variables were operationalized.

Gender: Respondents were not asked to identify their sex; instead, interviewers were asked to note
the respondent’s sex based on his or her voice. Sex was coded directly into the CATI system at the
time of interview as a nominal variable of 1= Male and 2=Female. The limitations to using this
method are that if a person’s voice is not easily recognized as male or female, it could be that the
gender of the respondent was recorded incorrectly.

Age: Respondents were asked, “In what year were you born?”. The variable was recoded into three
age. The groups were 25-34; 35-59; and 60 to 75. Those in the youngest cohort of 18-24 are
excluded from the analysis because some might still be attending initial formal education. The
other groups represent those of working age. A classification tree procedure was used to classify
cases into age groups of a participation in adult education. The procedure provided validation of

19 The other questions include: “Learning about new equipment?”; “Organizational or managerial skills?”; Budgeting or financial
management?; “Teamwork, problem solving, or communication skills?”; “Learning about employment conditions or workers’
rights?”; “Politics in the workplace?”; “Language and literacy?”; and “Health and safety?”.
the classification of the age groups from a statistical perspective. As well, previous research carried out on participation in adult education has used similar age groups.

The purpose of controlling for age for this thesis is to determine whether the gap in accessibility to education for those from low social class (cultural and economic capital) continues to exist for the youngest generation (25 to 34). With this objective in mind, there are three ways in which the appropriate age categories can be established. First, the conventional 10 year age categories can be used which is consistent with many Statistics Canada studies. In this case, the age categories would begin with 24 year olds in order to ensure that the large majority of students included in the study were finished with their initial levels of formal education. The first category would be 25 to 34 followed by 35 to 44, 45 to 54, 55 to 65; 65 to 74; 75 to 84; and 85 or older. The benefits of using these age categories would be that they are consistent with other studies in terms of using decades; there would be a total of four groups to compare which would allow for substantial age group comparisons. The limitations are that conventional demographic age grouping may be insensitive to actual historical period changes in conditions of accessibility such as in the 1960s when there was a mass expansion of universities; the creation and growth of community colleges in 1970s; the changes in student funding occurred in the 1990s; and, the changes in funding to universities that occurred in the late 1990s early 2000. Moreover, using arbitrary 10 year age groups does not guarantee that homogeneity exists within each age group. They are simply creations of statistical convenience. Second, groups could be created solely based on conceptual notions of generational cohorts. For example, using the notion that various generations (such as baby boomers, generation x, and millennial)-- based on birth rate, economic conditions, values, and attitudes towards society and religion-- experience different successes in education. There are several drawbacks to using such conceptual bases in determining age groups. One of the biggest drawbacks is that the age groups based on these general notions may not be suitable for the age group combinations reflected in this thesis such as focusing on differences in social class (cultural and economic capital) in Canadian society. The focus of this thesis is on whether those in the youngest generation that has completed its schooling have equal access to education based on cultural and economic capital compared with older generations. Studies that have focused on this have looked at the effects of cultural and economic capital without controlling for age or have used conventional 10 year age groups. Replicating previous studies is not always the best way to categorize age groups. Third, age intervals can be established by identifying statistically significant relationships between age and an
important study variable. In this method, intervals are not arbitrary. The boundaries of intervals are points that correspond to changes in a study variable. For this thesis, the important variables are the effects of social class (cultural or economic capital) on education level attained, participation in adult education and in work-related informal learning. An empirical method of determining which age groups should be used is decision tree analysis. The Chi-square Automatic Interaction Detector (CHAID) method of decision tree analysis works through an orderly, systematic and statistically valid way that considers simultaneously the various combinations of age groups based on the independent variable (fathers’ occupational class). The results show the most important associations among the variables to be investigated (NSERC).

In this study, all of the dependent variables pertinent to the research questions (respondents’ education, hours in adult education, hours in informal learning) were run using the CHAID decision tree analysis to determine the most suitable breakdown. The results, shown in Appendix A, are that no age categories were suggested for hours in adult education and hours in informal learning. Moreover, the categories suggested for age using respondents’ education as the independent variable resulted in a breakdown that gave too small an n for any meaningful analysis.

Seeing that fathers’ occupational class is a key independent variable for this thesis, a decision tree using age and fathers’ occupational class was run which resulted in the categories that I used in the thesis. In other words, statistically significant differences in occupational class of fathers were seen between the age groups: 25-34; 35-59; and 60 to 75. Though the focus here will be on those in the 25-34 age group, the analysis will compare accessibility for the other two age groups in order to determine whether there has been an increase in accessibility for the youngest generation. Had age groups been determined by demographic conventions or by conceptions of generations, without such empirical evidence of difference, the occupational class of fathers would be mixed, and the effects of cultural and economic capital would be muddled. This would make the analysis less precise and confound both class and age effects on accessibility.

Data Analysis
A combination of exploratory analysis using cross-tabs and structural equation modeling was used to examine the impact that parental social class on offspring’s level of formal education, participation in adult education and workplace based informal learning.
The analysis was carried in two phases: In the first phase, basic frequencies and crosstabs were calculated. This was an exploratory phase to determine the extent to which differences continue to exist for the youngest generation in level of education based on parental cultural and economic capital and to determine whether a similar gap exists regarding participation in adult education courses and in workplace based informal learning. In the second phase, structural equation modeling (SEM) was conducted to examine which of the background that represent cultural and economic capital affect educational attainment, participation in adult education and in work-related informal learning. More specifically, the relationships tested were: the relationship between parental education and occupational class and the level of education attained by children; the relationship between parents’ education and occupational class and participation in formal adult education and work-related informal learning; and the relationship between one’s own education, income, and occupation and participation in adult education and work-related informal learning. All of these relationships link to the hypotheses that were tested. The structural equation model allowed us to determine which of the background variables have the strongest effect on education level attained, participation in adult education, and in work related informal learning.

Descriptive statistics, such as crosstabs and measures of central tendency, were used to obtain an overview of initial educational attainment level and participation in adult education and work-related informal learning. Crosstabs allow for a quick examination of the data to determine whether a relationship exists (Sproull 1995). It is important to keep in mind that due to the rigid structure of quantitative, respondents do not have the opportunity to elaborate on their responses beyond fitting their answers into the categories of the survey and they must find the response category that is closest to their answer which may not be exactly what they are thinking. Despite these overall limitations with using quantitative research methods, there are advantages such as examining a large sample of Canadians which allow for inferences to be made about the population, as well as allowing researchers to draw conclusions about cause and effect relationships.

In this thesis, Chi-square tests were run on the cross-tabs to determine whether variation among the groups were statistically significant. The test is based on a comparison of the observed frequencies in the sample data collected and the expected frequencies that would be present if there were no differences among the groups in the population (Jackson and Verberg 2007).
Structural equation modeling (SEM) was used to test the hypotheses which were based on the conceptual model. It outlines the relationships among social class variables and the level of education attained, participation in adult education, and work-related informal learning. The model was based on Bourdieu’s Theory of Social Reproduction (Bourdieu 1984). Structural equation modeling is derived from two separate traditions which are factor analysis and simultaneous equation modeling known as path analysis in the social sciences (Kaplan 2000; Byrne 2001).

SEM was used in this thesis to test whether Bourdieu’s notions of social reproduction characterize our Canadian education system. More specifically, SEM was used to determine whether there exists a direct relationship between parents’ cultural and economic capital and their offspring’s participation in adult education and work-related informal learning. SEM allows us to test the possible linkages based on these specified variables.

The advantages of using SEM for this particular analysis are: the assumptions are more flexible than both simple regression analysis and path analysis; measurement errors are reduced because multiple indicators are used per latent variable\(^{20}\); several models can be tested simultaneously; several dependent variables can be tested in one model; inferential conclusions can be drawn because of the necessity for the researcher to specify the relationships to be tested prior to the analysis; and, model errors terms are relatively easy to determine (Byrne 2001; Kline 2005).

**Summary**

In this chapter, I outlined the research questions and hypotheses tested, described the research design, reviewed the data sources used for the analysis, operationalized the variables analysed, and gave a brief review of the analysis that was carried out. The following chapters present the results of analysis and the discussion that arose from the analysis.

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\(^{20}\) Latent variables are variables that are not directly observed but are rather inferred from other variables that are observed and directly measured. This is generally done through mathematical calculations/models.
EFFECTS OF CULTURAL AND ECONOMIC CAPITAL ON LEVEL OF EDUCATION ATTAINED

We have seen from the review of literature that issues of accessibility to formal education based on cultural (proxy - education) and economic capital (proxies - income and occupational class) persist in Canada. We have also seen that the barriers to access are more than simply financial barriers. Rather, there appear to be persistent issues of cultural capital, whereby parents who attain high formal education pass onto their children a similar cultural capital that allows them to have relatively more success in our educational system. Moreover, there is also evidence that economic capital is used in providing access to education.

The first analysis carried out below examines whether parents’ cultural capital (education as the proxy) continued to influence the level of education attained by offspring. This examination employed crosstab analysis to obtain an overall picture of the effects of social background on education controlling for gender. The analysis includes three generations in order to see whether the youngest generation continues to experience social reproduction.

**Overall Education Levels Attained**

An initial analysis of Canadians between the ages of 25 and 75 who were not attending full-time schooling was carried out to determine the extent to which accessibility to education continued to be a problem for the youngest generation and how the situation has improved from previous generations (N = 7,126). As seen in Table 1, in 2004, Canadians in the youngest generation (between 25 and 34 years of age) obtained higher levels of education than the previous two generations (middle generation between 35 and 59 and the oldest generation between 60 and 75), almost two thirds (64%) of those in the oldest generation had high school or less compared to approximately one quarter (27%) of those in the youngest generation. At the other end of the education spectrum, slightly fewer than one in ten (9%) Canadians in the oldest generation completed a university degree compared to one quarter (25%) of those in the youngest generation. Differences based on generation were statistically significant at the .001 level. These results support the findings that overall Canadians are now obtaining higher levels of education than in the past.
Table 1.1 – Respondents’ education by respondents’ generation

<table>
<thead>
<tr>
<th>Respondents' Education Level</th>
<th>Youngest 25-34</th>
<th>Middle 35-59</th>
<th>Oldest 60-75</th>
<th>Total 100%</th>
</tr>
</thead>
<tbody>
<tr>
<td>High school or less</td>
<td>27%</td>
<td>38%</td>
<td>64%</td>
<td>40%</td>
</tr>
<tr>
<td>Some post-secondary</td>
<td>12%</td>
<td>9%</td>
<td>6%</td>
<td>9%</td>
</tr>
<tr>
<td>Post-secondary (non university)</td>
<td>36%</td>
<td>35%</td>
<td>21%</td>
<td>32%</td>
</tr>
<tr>
<td>University degree</td>
<td>25%</td>
<td>19%</td>
<td>9%</td>
<td>18%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100%</strong></td>
<td><strong>100%</strong></td>
<td><strong>100%</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Notes:
1) Chi-square is statistically significant at the .001 level.
2) Data are weighted.

The remainder of the analysis for the crosstab section focused on a sub-sample of the data (n=4840). This sub-sample included only those who were employed at the time of the survey and not full-time students. It was necessary to filter the main sample to ensure that any confounding variables were eliminated from the sample for the analysis. More specifically, individuals who were in life situations where the conditions may have affected participation in learning activities, such as those who were unemployed who may have been more like to participate more in adult education than if employed (Rubenson 2007). Another example of a situation where learning activities may be higher is when a full-time student is taking night school courses to graduate more quickly. He or she may spend more hours in adult education than if employed full-time. These are examples of how participation and the average number of hours might be overstated or understated if full time students and unemployed respondents were included in the sample.

In order to better appreciate the characteristics of those in the subsample, an analysis that included only those in the subsample by education level is presented in Table 1.2. The only difference between the main sample and the sub sample is that those in the subsample who were in the oldest generation had higher levels of education than those in the main sample. More specifically, the differences between the main sample and the subsample for the oldest generation were that approximately half (47%) of those in the subsample obtained high school or less compared to 64% of those in the main sample.
The finding that those who continued to work past the age of 60 had higher levels of education is consistent with the literature; it states that those with at least some college are nearly twice as likely to work past traditional retirement age as those without a high school degree (Butrica, Schaner et al. 2006). Likely, those in the highest levels of education were employed in jobs that were conducive to working past retirement age, such as office work where they were less likely to be required to carry out manual work which could lead to early retirement because of the physical strains.

### Education Levels Attained by Gender

Overall, there has been an increase in education level attained. The following analysis controls for sexes in order to determine the extent to which both males and females have increased education levels. Table 1.3 shows that females experienced greater gains in attainment than males. Focusing firstly on males, we can see that fewer males in the youngest generation were stopping their education at the high school or less (29%) than those in the middle (34%) and the oldest generation (44%). Similarly, males in the youngest generation were more likely to obtain a university degree (24%) than males in the middle generation (21%) and in the oldest generation (17%). For males, the increase for university attainment was 3% between the youngest and the middle generation and 4% between the middle and the oldest generation for an overall increase of 7%. Results based on education level attained by generation were statically significant for males at the .05 level.
Females in the youngest generation were less likely to stop at the high school level (23%) than those in older generations (34% for middle generation and 52% for the oldest generation). Similar patterns to those for males were found for females. There was a slightly larger increase in education level for females than for males. Females in the youngest generation were more likely to obtain a university degree than those in the middle (19%) or oldest generation (9%). There was an increase of 10% for women who completed university between the oldest and the middle generation and an increase of 9% between the middle generation and the youngest generation for an overall increase of 19%. Results were statically significant for females at the .001 level.

The results confirmed that there was an overall increase in level of education attained. Overall, the increase in level of education was greater for females than for males. This is consistent with previous findings that state that females have made large gains in level of education (Rubenson 2007). A general explanation for this finding is twofold: first, women’s movements for greater rights has lead to an increase in the level of education obtained; and, second, the increase in the demand for education credentials by employers has forced women to obtain formal credentials in order to compete in the paid labour force. Therefore, as accessibility to education increased, women have been attending in much larger numbers. As well, several programs have been implemented which encourage high levels of education for females: all girl schools, scholarships for women, and increased credential levels for teachers and nurses are a couple of examples.

<table>
<thead>
<tr>
<th>Respondents' Education Level</th>
<th>Males**</th>
<th></th>
<th>Females***</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>25-34</td>
<td>35-59</td>
<td>60-75 Total</td>
<td>25-34</td>
</tr>
<tr>
<td>High school or less</td>
<td>29%</td>
<td>34%</td>
<td>44%</td>
<td>34%</td>
</tr>
<tr>
<td>Some post-secondary</td>
<td>11%</td>
<td>9%</td>
<td>7%</td>
<td>9%</td>
</tr>
<tr>
<td>Post-secondary (non university)</td>
<td>36%</td>
<td>36%</td>
<td>32%</td>
<td>36%</td>
</tr>
<tr>
<td>University degree</td>
<td>24%</td>
<td>21%</td>
<td>17%</td>
<td>21%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

In sum, based on the intergeneration analysis, we saw that overall the average level of education increased. Moreover, we saw that there was a bigger increase for females than for males. Despite
the larger increase in overall level of education, differences based on sex within the youngest generation were not large. For example, there was only a 6% difference between males and females in the youngest generation who stopped their education at high school and only a 4% difference between females and males in university attainment. We can conclude that overall women have made the most gains and have slightly surpassed males in level of education attained.

We can assume that the increase in education level is due to the fact that females have a lot to gain by improving their education. Formal credentials allow women to compete in the job market more so than in the past. The following analysis delves into the effects that parent’s education level has on offspring’s education level in order to test the extent to which Bourdieu’s theory of Social Reproduction and cultural capital applies in Canada.

**Education Level Attained by Parental Education Level**

As seen in Table 1.4, consistent with the findings from the review of literature, parents’ education level\(^{21}\) was found to be a strong predictor of offspring’s education. Based on a slightly smaller subset of respondents\(^{22}\), the analysis revealed that the offspring of those whose parents obtained university degrees were more likely to obtain a university degree themselves. Conversely, those whose parents dropped out of high school were more likely to drop out of high school themselves. Nearly half (44%) of respondents whose parents had less than high school also stopped their education at the high school level compared to less than one in ten (8%) whose parents had a university degree. Conversely, slightly more than one in ten (13%) of those whose parents had high school or less graduated from university compared to half (48%) of those whose parents had a university degree. Differences based on parents’ education were statistically significant at the .001 level.

These findings support many of the findings from the review of literature showing that parents’ education continued to be a good predictor of offspring’s education level. It is also consistent with Bourdieu’s theory of social reproduction. Cultural capital appears to be passed on to offspring. This inheritance results in the offspring having an advantage in our education system. The

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\(^{21}\) The highest level of education attained by one parent was used in this analysis to represent cultural capital.

\(^{22}\) The same sample as above, however, those who did not answer the parental social class background questions were excluded, N=3698
evidence that many children follow in their parents' educational footsteps indicates that the problem of social reproduction persists to this day in Canada.

### Table 1.4 – Respondents' education by parents' education

<table>
<thead>
<tr>
<th>Parents' Education Level</th>
<th>Less than high school</th>
<th>High school</th>
<th>Postsecondary (non university)</th>
<th>University degree</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>High school or less</td>
<td>44%</td>
<td>24%</td>
<td>15%</td>
<td>8%</td>
<td>27%</td>
</tr>
<tr>
<td>Some postsecondary</td>
<td>8%</td>
<td>10%</td>
<td>6%</td>
<td>8%</td>
<td>8%</td>
</tr>
<tr>
<td>Postsecondary (non university)</td>
<td>36%</td>
<td>40%</td>
<td>56%</td>
<td>36%</td>
<td>40%</td>
</tr>
<tr>
<td>University degree</td>
<td>13%</td>
<td>25%</td>
<td>23%</td>
<td>48%</td>
<td>25%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100%</strong></td>
<td><strong>100%</strong></td>
<td><strong>100%</strong></td>
<td><strong>100%</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

**N**

- High school or less: 1351
- Some postsecondary: 1053
- Postsecondary (non university): 582
- University degree: 712
- Total: 3698

**Notes:**

1) Chi-square is statistically significant at the .001 level.
2) Data are weighted and filtered to exclude unemployed; full-time students.

The question that remains from the analysis above is the extent to which this pattern exists for different generations. Prior to discussing the results from the analysis, it is essential to keep in mind that the level of education attained by those in the oldest generation does not hold the same value as the education attained by those in the youngest generation. For example, a high school diploma in 1944 may have been viewed as having the same value as a college degree in 1979, even if the cultural capital associated with the former was lower than that latter. As seen in Table 1.5, among the youngest generation, offspring of those whose parents have high school or less, over one third (37%) stopped their education at high school. Conversely, only one in ten (11%) obtained a university degree. At the other end of the education spectrum, half (49%) of those whose parents had a university degree obtained a university degree themselves whereas only one in ten (10%) whose parents had a university degree obtained high school or less. The patterns were very similar for those in the middle generation where 44% of those whose parents had less than high school stopped their education at high school and only 14% obtained a university degree. Conversely, only 6% of those whose parents had a university degree stopped their education at high school compared to more than half (47%) who obtained a university degree. The gap for the oldest
generation was even larger where half (50%) of those whose parents' had less than high school stopped their education at high school and only 6% obtained a university degree. The largest gap for the oldest generation was for those whose parents had a university degree. The large majority (72%) of those whose parents had a university degree also had a university degree compared to only 13% of their offspring obtained high school or less. Chi-square was statistically significant at the .05 level among the youngest and middle generation.

Overall, these figures show that despite increases in participation, there continues to be an under representation of those from low education backgrounds in high levels of education. This finding suggests that social reproduction based on cultural capital continues to exist for the youngest generation which is consistent with previous research outlined in the review of literature (Guppy and Pendakur 1989; de Broucker and Underwood 1998; Andres and Krahn 1999; Christofides, Hoy et al. 2009). The idea is not that everyone should obtain a university education. The goal should be to have those who have the aptitude and ability to pursue high levels of education to do so. If level of education attained is truly based on merit, we should see an equal distribution in all education levels by parents' education level.

Table 1.5 – Respondents’ education by generation by parents’ education

<table>
<thead>
<tr>
<th>Respondents’ Education Level</th>
<th>Less than high school</th>
<th>High school*</th>
<th>University</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yongest Generation</td>
<td>Middle</td>
<td>Oldest</td>
</tr>
<tr>
<td></td>
<td>25-34</td>
<td>35-59</td>
<td>60-75</td>
</tr>
<tr>
<td>High school or less</td>
<td>37%</td>
<td>44%</td>
<td>50%</td>
</tr>
<tr>
<td>University degree</td>
<td>11%</td>
<td>14%</td>
<td>6%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

N

81 620 66 143 351 29 155 232 11

Notes:
1) Chi-square is statistically significant at the *p<.05; **p<.01; and ***p<.001 level.
2) Data are weighted and filtered to exclude unemployed and full-time students.

We saw above that even for the youngest generation parental education is strongly related to offspring’s education. The finding is consistent with Bourdieu’s theory of social reproduction. What we do not know, is the extent to which parents occupational class influences the level of education attained by offspring. The analysis below was carried out specifically for this purpose.
Education Levels Attained by Parents’ Occupational Class

In the analysis above, we saw that completion of university degrees were mainly earned by those whose parents’ had a university degree. The following analysis determined the extent to which there continued to exist a relationship between respondents’ level of education and occupational class. Information relevant to this issue is found in Table 1.6.

Based on the data in Table 1.6, we can conclude that despite overall improvements in accessibility to education, there continued to be an under-representation of those from lower occupational class in the post-secondary education system. Overall, those whose parents were in professional/managerial occupation classes continued to be more likely to attain higher education levels than those from service worker and manual worker backgrounds. More specifically, focusing on the results from the youngest generation, we see that those from families whose fathers were from managerial or professional occupation classes were 2.5 times more likely to complete university than those whose fathers were from the manual worker occupation class. Similarly, those whose fathers’ were manual workers were twice as likely to stop their education at the high school level compared to those whose fathers’ were in the managerial or professionals group. Moreover, those from service worker families were more likely to obtain a non-university post-secondary education (45%) than to the offspring of professionals/managers (28%). The results for professional/managerial, service workers and manual workers were statistically significant at the .001 level for the first two generations. Chi-square could not be calculated for the oldest generation due to the small sample size.

Owners closely resembled service workers in terms of education level attained by their offspring. This finding is not consistent with Bourdieu's theory of social reproduction and previous research showing that offspring of owners of production were more likely to reach high levels of education than to non-owners who were not professionals or managers. The reason for the inconsistency was likely due to the fact that in this data the category of owners included few large and the majority were small business owners. Many different occupations were included in the small business owner category such as convenience store owners, roofers, small information technology business, etc. It is highly likely that small owners were in the service industry. Bourdieu separated

23 The sample of large business owners was too small for meaningful calculations; therefore, small business workers were included. The breakdown is 29 large business owners and 581 small business owners.
large business owners and small business owners. Small business owners are considered by Bourdieu as the petit bourgeoisie. Bourdieu explains that while they may have the economic capital that provides affordability to education, they lack the valued cultural capital that would allow them success in school. This explanation from Bourdieu supports the findings that the offspring of owners in this category are varied in terms of education level. The only reason for not separating large and small owners was because the sample size for large owners was too small to carry out meaningful analyses.

The findings suggest that accessibility for young Canadians is not strictly based on merit; rather, it is also based on occupational class characteristics. This is consistent with both pervious literature and Bourdieu's Social Reproduction theory. It appears that despite the efforts by government and institutions to create equity in participation, the relationship between economic capital (occupational class) of parents' and education of respondents' persists strongly even for the youngest generation.

**Respondent Education by Occupational Class by Sex**

Based on the review of literature, we saw that females were obtaining higher levels of education than males (Rubenson 2007). In order to determine the extent to which a gap in educational attainment based on occupation class differs for males and females, the following analysis focused on differences in level of education attained for those in the youngest generation controlling for sex.
As seen in Table 1.7, overall, for males there was a gap in education level based on class. Consistent with the findings from above, the majority of sons of manual workers (52%) stopped their education at the high school level compared to less than one quarter (24%) of those whose parents were service workers and less than one fifth (18%) of those whose parents were owners (18%) or professionals/managers (17%). Likewise, nearly half (45%) of those whose parents were professionals or managers obtained a university degree compared to one quarter (26%) of those whose parents were owners or service workers and only one tenth (11%) of those whose parents were manual workers.

Similar patterns were present for females. Daughters whose parents were in the manager professional class were most likely to obtain a university degree (41%) compared to 30% for owners, 27% for manual worker class, and 21% for service worker class. The gap among those who stopped at high school based on parents' occupational class was not as wide for daughters.

<table>
<thead>
<tr>
<th>Respondents' Education Level</th>
<th>Owners</th>
<th>Managers</th>
<th>Professionals</th>
<th>Service workers</th>
<th>Manual Workers</th>
<th>Owners</th>
<th>Managers</th>
<th>Professionals</th>
<th>Service workers</th>
<th>Manual Workers</th>
</tr>
</thead>
<tbody>
<tr>
<td>High school or less</td>
<td>18%</td>
<td>17%</td>
<td>24%</td>
<td>52%</td>
<td>20%</td>
<td>24%</td>
<td>18%</td>
<td>26%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Some postsecondary</td>
<td>9%</td>
<td>10%</td>
<td>10%</td>
<td>14%</td>
<td>14%</td>
<td>8%</td>
<td>10%</td>
<td>10%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Postsecondary (non university)</td>
<td>47%</td>
<td>29%</td>
<td>40%</td>
<td>23%</td>
<td>36%</td>
<td>27%</td>
<td>52%</td>
<td>36%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>University degree</td>
<td>26%</td>
<td>46%</td>
<td>26%</td>
<td>11%</td>
<td>30%</td>
<td>41%</td>
<td>21%</td>
<td>27%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>(130)</td>
<td>(113)</td>
<td>(113)</td>
<td>(202)</td>
<td>(100)</td>
<td>(114)</td>
<td>(85)</td>
<td>(138)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes:
1) Chi-square is statistically significant at the *.05; **.01; and ***.001 level.
2) Data are weighted and filtered to exclude unemployed and full-time students.

Sons of manual labourers are able to follow in their father's footsteps and obtain manual labour positions. Females, on the other hand, are relegated to service work because not many have access to manual labour positions. Therefore, it is not surprising that daughters of manual workers are found to obtain high levels of education in order to obtain credentials to help them get good jobs.

These findings are consistent with Bourdieu's theory of social reproduction and with previous research showing that parents’ class is a predictor of offspring’s education (Nakhaie 2000; Boudard 2001; Zhao and de Broucker 2001; Andres and Grayson 2003; Livingstone 2005).
In summary, those whose fathers were from professional backgrounds were more likely to attend university and less likely to attend college or to stop at high school than those whose parents were either service or manual workers. Moreover, those whose parents were in lower class occupations (service work or manual labour) were more likely to obtain college or high school than university. These findings are consistent with Bourdieu's theory of social reproduction theory.

**Occupational Class Mobility by Generation**

So far we have seen that Canadians are obtaining higher levels of education now than in the past. We have seen that parents’ education continues to be a strong predictor of offspring’s education. In order to determine whether social reproduction based on parents’ occupational class continues to exist with regards to offspring’s occupational class, an intergenerational occupational class mobility analysis was carried out. The results are shown in Table 1.8.

Consistent with social reproduction theory, the intergenerational analysis reveals that there was a relationship between fathers’ occupational class and that of their offspring. The positive outcome is that, based on the comparison by generation, intergenerational mobility is increasing overall. In other words, those in the youngest generation are more likely to be distributed among various levels of occupational class than those from the middle and oldest generation.

Intragenerational analysis on the other hand reveals a different story. Intrageneration is defined here as movement in occupational class within the same generation. For example, intrageneration analysis looks at the extent to which those who are between 25 and 34 end up in the same occupational class as their parents. The results from the analysis are shown in Table 1.8. Focusing only on the youngest generation (those between 25-34 years old) those whose parents were in the managerial and professional occupational classes were much more likely to be in the managerial and professional class (52%) than in any other class. Similarly, those whose parents were service workers were more likely to be in the service worker class (45%) than any other class and those whose parents were manual labourers were also more likely to be manual labourers themselves (41%) than any other class.

This trend was not apparent for owners. It is plausible that small business owners have the cultural capital and the economic capital that allowed offspring to be successful in affording to pursue high
levels of education which may have lead to high incomes and better jobs. We saw in the previous section that the majority (73%) of those whose parents owned a business pursued a postsecondary diploma or a university degree.

Table 1.8 – Respondents’ occupational class by generation by parents’ occupational class

<table>
<thead>
<tr>
<th>Parents’ Social Class</th>
<th>Owners</th>
<th>Managers/Professionals</th>
<th>Service Workers***</th>
<th>Manual Workers***</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yongest</td>
<td>Middle</td>
<td>Oldest</td>
<td>Yongest</td>
</tr>
<tr>
<td>Owners</td>
<td>15%</td>
<td>21%</td>
<td>26%</td>
<td>9%</td>
</tr>
<tr>
<td>Managers/Professionals</td>
<td>38%</td>
<td>32%</td>
<td>40%</td>
<td>52%</td>
</tr>
<tr>
<td>Service workers</td>
<td>27%</td>
<td>20%</td>
<td>15%</td>
<td>32%</td>
</tr>
<tr>
<td>Manual workers</td>
<td>20%</td>
<td>21%</td>
<td>18%</td>
<td>7%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>


Notes:
1) Chi-square is statistically significant at the *p<0.05; **p<0.01; and ***p<0.001 level.
2) Data are weighted and filtered to exclude unemployed and full-time students.

In sum, we have seen that there is a tendency towards social reproduction based on occupational class. Though only slightly less than half (40%) of Canadians tended to remain in their respective occupational classes with little movement into a different occupational class, the situation in both the U.S. and Scandinavia is worse much more grave (Livingstone and Stowe, 2001). The situation in Canada has ameliorated for the youngest generation; the findings from Livingstone and Stowe (2001) based on 1998 data resulted in 58% of working class people staying in working class. In order to be truly equitable and to have no social reproduction, we should see no differences based on parents’ occupational class.

Effects of One’s Education on Occupational Class

The following analysis was carried out in order to determine whether one’s own education is associated with one’s occupational class. The analysis allows us to determine whether those who have high levels of education end up in high occupational classes. The analysis controlled for sex in case males and females may end up in different occupations based on social class.

The results for the 25 to 34 age group are shown in Table 1.9. The majority of males (63%) who had high school or less ended up working in manual jobs. The majority of males who completed university (57%) were in managerial professional occupational class positions. Results are
statistically significant at the .001 level. We can conclude with confidence that the level of
education attained by males in the youngest cohort had an effect on social class. These patterns
were consistent with previous findings from the analysis. Moreover, the fact that males who earned
a high school education or less were more likely to be in manual labour positions was consistent
with both Bourdieu’s theory of social reproduction and previous research.

Patterns for females differed slightly. The majority of those who stopped at high school (55%) or
who took some post-secondary education (52%) worked in service work jobs. This is different
from males where those whose fathers’ were in manual labour occupational class ended up in the
same class whereas females whose parents were in manual labour occupational class ended up in
service workers' class. Moreover, the majority of females who finished university (69%) were in
professional or managerial classes. Results are statistically significant at the .001. Again, these
findings are consistent with previous research and the theory of social reproduction.

Based on these results, it is evident that those with post-secondary education credentials are more
likely to end up in higher occupational classes than those with low education levels. This is
consistent with the previous literature (de Broucker and Underwood 1998). These findings are also
consistent with Bourdieu’s social reproduction theory. Those who completed high levels of
education received better rewards (i.e. employment) than those who choose to withdraw.

**Table 1.9 – Respondents’ occupational class by respondents’ education by sex**

<table>
<thead>
<tr>
<th>Respondents’ Social Class</th>
<th>Males***</th>
<th>Females***</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>High school or less</td>
<td>Some postsecondary</td>
</tr>
<tr>
<td>Owners</td>
<td>7%</td>
<td>17%</td>
</tr>
<tr>
<td>Managers Professionals</td>
<td>10%</td>
<td>23%</td>
</tr>
<tr>
<td>Service workers</td>
<td>20%</td>
<td>26%</td>
</tr>
<tr>
<td>Manual workers</td>
<td>63%</td>
<td>34%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>N</td>
<td>(160)</td>
<td>(52)</td>
</tr>
</tbody>
</table>

Notes:
1) - Chi-square is statistically significant at the *.05; **.01; and ***.001 level.
2) - Data are weighted and filtered to exclude unemployed and full-time students.
Effects of Education on Income Level

In this section I examined the extent to which income level was related to educational level. Based on Bourdieu’s theory of social reproduction, the two should be linked. The thinking by Bourdieu is that those with high levels of education end up in careers that earn high incomes. This relationship was also prominent in the review of literature.

As seen in the Table 1.10, both males and females who obtained a university degree are more likely to report earning high incomes than those who did not. More specifically, the majority of males (52%) who obtained a university degree earned more than $50,000 compared to approximately one third (35%) of those who only had some post-secondary education or who did not complete their postsecondary education (35%) or who had high school or less (33%). Less than one quarter (22%) of males who had a non-university post-secondary education earned more than $50,000. Similarly, females who had a university degree (34%) were much more likely to earn over $50,000 than those with some post-secondary education (17%), high school or less (9%) or non university post-secondary education (9%). Differences in income among males and females are statistically significant at the .001 level. This finding indicates that despite sex, those who obtain high levels of education end up earning more money straight out of the education gate. An analysis that looked at the middle and oldest generations was not possible because of the small sample size.

Table 1.10 – Respondents’ income by respondents’ education by sex

<table>
<thead>
<tr>
<th>Respondents’ Income</th>
<th>Males*** Respondents’ Education Level</th>
<th>Females*** Respondents’ Education Level</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>High school or less</td>
<td>Some postsecondary</td>
</tr>
<tr>
<td>$1-$29,999</td>
<td>31%</td>
<td>25%</td>
</tr>
<tr>
<td>$30,000-$49,999</td>
<td>36%</td>
<td>40%</td>
</tr>
<tr>
<td>$50,000-$69,999</td>
<td>22%</td>
<td>16%</td>
</tr>
<tr>
<td>$70,000 or more</td>
<td>11%</td>
<td>19%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

N (171) (53) (208) (128) (110) (57) (182) (143)

Notes:
1) Chi-square is statistically significant at the *.05; **.01; and ***.001 level.
2) Data are weighted and filtered to exclude unemployed and full-time students.
The important aspect of the relationship is that those in the youngest generation who had a high level of education and who were at the beginning of their career earned the most. Based on the review of literature for adult education, where money is a factor in upgrading skills, we can assume that those who are most likely to participate in adult education are those who earn high incomes. These findings are consistent with the review of literature that one of the main reasons for not participating in upgrading their skills is financial (Rubenson 2007). It is important to keep in mind that these results are based on the youngest generation who are most likely in entry-level positions where skills upgrading is most likely to pay off.

**Effects of Occupational Class on Income Level**

We have seen from the analysis so far that education and occupational class are interrelated; however, we do not know the extent to which occupational class is related to income level. The following analysis looks at the extent to which a person’s occupational class is related to income. Table 1.11 looks at the results of the analysis of respondents’ income level by parents’ occupational class by generation. Differences for the youngest generation were mainly found in the low income categories. Those whose parents’ were in the owners and service workers class were most likely to be in the lowest income category of $29,999 or less (40% for owners and 54% for service workers) than those whose parents’ were in the managerial/professional (22%) and manual labour (29%) class. Overall for the youngest generation, it appears that incomes are similar for those whose parents’ were in professional/managerial or manual labour classes. The gap in respondents’ income between the professional/managerial classes and the other classes for each generation increases for the lowest and highest income categories. In other words, few of those in the middle generation whose parents’ are managers and professionals (14%) earn less than $30,000 compared to the other occupational classes (owners - 40%; service workers - 44%; and, manual workers - 29%). It is important to note though that the absolute difference among all the occupational classes and all the income categories (other than those in the extremely low and high levels) are small. It appears that manual labourers have the opportunity to earn high incomes (likely due to union membership). It is the offspring of service workers and small business owners that do not. The problem is that although manual labour positions can pay well, the manual labour sector is very volatile and has been collapsing in Canada. It is no longer a job for life, which leaves the unemployed in a precarious position due to lack of education.
Table 1.11 – Respondents’ income by generation by fathers’ occupational class

<table>
<thead>
<tr>
<th>Parents’ Occupational Class</th>
<th>Owners</th>
<th>Managers/Professionals***</th>
<th>Service Workers</th>
<th>Manual Workers***</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respondents’ Generation</td>
<td>Yongest</td>
<td>Middle</td>
<td>Oldest</td>
<td>Yongest</td>
</tr>
<tr>
<td>$1-$29,999</td>
<td>49%</td>
<td>40%</td>
<td>41%</td>
<td>22%</td>
</tr>
<tr>
<td>$30,000-$49,999</td>
<td>31%</td>
<td>29%</td>
<td>22%</td>
<td>50%</td>
</tr>
<tr>
<td>$50,000-$69,999</td>
<td>15%</td>
<td>12%</td>
<td>13%</td>
<td>18%</td>
</tr>
<tr>
<td>$70,000 or more</td>
<td>6%</td>
<td>19%</td>
<td>24%</td>
<td>11%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Notes:
1) Chi-square is statistically significant at the *.05; **.01; and ***.001 level.
2) Data are weighted and filtered to exclude unemployed and full-time students.

Conclusion

In summary, we have seen that each of the independent variables that represent parents’ cultural (parents’ education) and economic capital (parents’ occupational class) has to some extent an effect on the education, the occupational class and, to a lesser extent the income earned by their offspring. Moreover, we saw that one’s education has an impact on income earned and one’s occupational class.

These conclusions generally exist independent of sex and generation. The main differences found for sex are that males are more likely to remain in a manual labour class while females are more likely to end up in the service worker occupational class. Either way, social reproduction based on class continues to exist.

We also saw that Canadians in the youngest generation were obtaining higher levels of education than those in the middle and oldest generations. Although females made more gains than males, there are few sex differences in level of education attainment for the youngest generation. Despite a lack of difference between sexes, there continues to be inequity based on social class. Those whose parents are from privileged social backgrounds (higher parental education and occupational class) are more likely to obtain a high level of education themselves than those from less privileged backgrounds. Moreover, the findings indicate that there is a link between parents’ social background (education and occupational class level) and one’s own social background.
The analysis continues to confirm previous findings that there is a direct link between respondents’ education level and income level. This finding is nothing new; however, it is surprising that despite many efforts to close the gap by government and lobby groups, true equity has not been reached. As one’s level of education increases, so does one’s income. Inequity in education has a lasting effect in the sense that those with low levels of education are not able to secure high income employment which in turn creates a barrier for their offspring to afford a postsecondary education.

The next chapter determines whether equal opportunities exist with regard to participation in adult education. The focal question for the section is: do those from lower social class backgrounds have equitable access to adult education? Equity in this realm is important because adult education should be used as a way for people to increase their opportunities by upgrading their skills.
EFFECTS OF CULTURAL AND ECONOMIC CAPITAL ON PARTICIPATION IN ADULT EDUCATION

We have seen in the review of literature that two of the strongest predictors of participation in adult education are one’s education level and one’s income. Both go hand in hand with Bourdieu’s notion of social reproduction and the role that cultural and economic capital play in accessibility to education. We also saw in the previous chapter that social reproduction continues to persist strongly in Canada even for the youngest generation. Those whose parents have high levels of education are likely themselves to attain the same status.

The analysis in this section examines the extent to which one’s own education, occupational class, and income has an effect on participation in adult education and reviews the relationship between parents’ cultural and economic capital on participation in adult education. Previous research has focused on the individual and participation in adult education but has not looked at the effects of parents’ level of cultural and economic capital. The section begins with an exploration of participation in adult education followed by crosstabs that test social reproduction effects in accessibility.

**Participation Rates in Adult Education in Canada**

The first analysis looks at the overall picture of who participates in adult education courses in Canada. Excluding full-time students and those who are unemployed, overall, half (51%) of the working Canadian population participated in adult education courses in 2004. Women (55%) are slightly more likely to participate than males (48%). Participation declines slightly with age. More than half (54%) of those in the youngest generation (25-34) and the middle generation (51%) (ages 35-59) report taking courses compared to only slightly over one third (39%) in the oldest generation (60-75). These findings are consistent with previous research (Johnstone and Rivera 1965; Belanger and Valdiviselo 1997; Valentine 1997; Rubenson 2007).

It is not surprising to find that those in the oldest generation (60 to 75) who are still working to be less likely to participate in adult education courses because they are likely approaching full
retirement. This means they are less likely to be motivated to take courses because there is less need to increase their credentials. Though there is a gap in participation based on age, it is not a large gap considering that more than one third over the age of 60 is participating. These results are consistent with previous literature that has seen an increasing number of people in the older age categories taking courses (Johnstone and Rivera 1965; Belanger and Valdiviselo 1997; Livingstone 2005; Rubenson 2007).

The next analysis looks at whether less time is spent on courses as people age. Though measures of hours are not overly accurate because people need to estimate, the following analysis helps us better understand the extent to which those that do take courses differ in the average number of hours spent in their courses by generation. The results from the analysis are shown in Table 2.1 below. The average weekly hours spent on adult education courses for the youngest generation is 1.76 compared to 1.16 for the middle generation and .40 for the oldest generation. The median hours are a better measure due to the large standard deviation; moreover, the median reveals a very similar pattern as the mean. The analysis reveals that those in the youngest generation who took courses end up spending more hours on adult education courses than those in the middle and oldest generations. The results from the ANOVA are statistically significant at the .001 level for hours spent by generation (i.e. youngest to middle; middle to oldest; and youngest to oldest); however, it is important to use caution when interpreting the magnitude of the difference. In general, peoples’ estimates of the number of hours spent in adult education are quite loose in the sense that it is very difficult to be precise when recalling the amount of time spent studying. The important finding is that there continues to be a relationship between age and participation in adult education.

Table 2.1 – Mean hours spent on adult education courses per week by generation

<table>
<thead>
<tr>
<th>Respondents’ Generation</th>
<th>Youngest 25-34</th>
<th>Middle 35-59</th>
<th>Oldest 60-75</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean hours</td>
<td>1.76</td>
<td>1.16</td>
<td>.40</td>
<td>1.29</td>
</tr>
<tr>
<td>Median</td>
<td>.40</td>
<td>.29</td>
<td>.08</td>
<td>.30</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>3.17</td>
<td>2.69</td>
<td>.72</td>
<td>2.80</td>
</tr>
<tr>
<td>N</td>
<td>(659)</td>
<td>(1696)</td>
<td>(101)</td>
<td>(2456)</td>
</tr>
</tbody>
</table>

Notes:
1) - ANOVA is statistically significant at the .001 level.
2) - Data are weighted and filtered to exclude unemployed and full-time students and those who did not take courses.
In order to better understand the large standard deviation, a categorical analysis was carried out on the number of hours spent on courses per week. In Table 2.2, we see that overall a large majority (76%) of those who reported taking courses reported spending on average less than one hour per week on them. Moreover, those in the youngest cohort spent more hours on adult education courses than those in the other two cohorts. This finding confirms the two findings above for the decline in participation by age. For example, only approximately two thirds (65%) of those in the youngest generation spent less than one hour compared to three quarters (76%) of those in the middle generation and 86% of those in the eldest generation. Differences between the youngest and the middle generation were statistically significant at the .001 level. Statistical significance could not be calculated for the oldest generation because of empty cells.

Table 2.2 – Number hours spent on adult education courses per week by generation

<table>
<thead>
<tr>
<th>Hours spent on courses</th>
<th>25-34</th>
<th>35-59</th>
<th>60-75</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 1</td>
<td>65%</td>
<td>70%</td>
<td>87%</td>
<td>73%</td>
</tr>
<tr>
<td>1 to 2 hours</td>
<td>17%</td>
<td>13%</td>
<td>12%</td>
<td>14%</td>
</tr>
<tr>
<td>3 to 5 hours</td>
<td>9%</td>
<td>7%</td>
<td>1%</td>
<td>7%</td>
</tr>
<tr>
<td>6 to 10 hours</td>
<td>6%</td>
<td>3%</td>
<td>0%</td>
<td>4%</td>
</tr>
<tr>
<td>10+ hours</td>
<td>3%</td>
<td>2%</td>
<td>0%</td>
<td>2%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>N</td>
<td>(659)</td>
<td>(1696)</td>
<td>(101)</td>
<td>(2456)</td>
</tr>
</tbody>
</table>

The main reason for carrying out this analysis was to see in which category the majority of respondents were situated. It appears that although high percentages of people were participating in adult education courses, not a lot of time was spent on them. These findings are consistent with previous research that found that as people age, there is less tendency to participate in adult education courses. Moreover this finding is consistent with Bourdieu's explanation that people will participate in a field if there is something to be gained. In this instance, those who are 60+ are not as likely to benefit from obtaining formal credentials as those who are younger and who have their whole working life ahead of them. Another important point though is that despite age, many continue to engage in formal courses to learn about other aspects of life.
Participation in Adult Education by Sex

We saw in the first set of analysis that, overall, females are slightly more likely to participate in adult education than males. In order to better understand this relationship, the same analysis was carried out controlling for generation.

The results from the analysis that looked at sex differences in participation in adult education courses are shown in Table 2.3. Looking within each generation we see that there was a tendency for more females than males to participate as age increased. The gap between males and females in the youngest generation was only 3% compared to 8% for the middle generation and 21% for the oldest generation. More specifically, differences between males and females in the youngest and middle generations were not statistically significant. Differences did exist for the oldest generation (chi-square was statistically significant at the .001 level) where half of females take courses (51%) compared to less than on third (30%) of males.

It appears that women are more likely to continue formal learning throughout their work lives than males. It is important to keep in mind that courses included both work-related and non work-related courses. It seems plausible that females feel they have to rely more on formal credentials to obtain good jobs compared to males.

Table 2.3 – Participation in adult education by generation by sex

<table>
<thead>
<tr>
<th>Taken Formal Courses</th>
<th>Respondents' Gender</th>
<th>Respondents' Generation</th>
<th>Respondents' Generation</th>
<th>Respondents' Generation</th>
<th>Respondents' Generation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
<td>Total</td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td>Yes</td>
<td>53%</td>
<td>56%</td>
<td>54%</td>
<td>47%</td>
<td>55%</td>
</tr>
<tr>
<td>No</td>
<td>47%</td>
<td>44%</td>
<td>46%</td>
<td>53%</td>
<td>45%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>N</td>
<td>(639)</td>
<td>(571)</td>
<td>(1210)</td>
<td>(1815)</td>
<td>(1552)</td>
</tr>
</tbody>
</table>

Notes:
- Filtered to include only those working and exclude full-time students.
- Chi-square is statistically significant at the .05 level; and ***.001 level.

The overall finding that females are more likely than males to engage in formal courses in the youngest generation is not counter intuitive. We saw in the review of literature that one of the
predictors of participation in adult education is education level. Females are gaining higher levels of education than males. Moreover, Bourdieu's theory of social reproduction states that those who self eliminate (in this case more likely to be males) are less likely to re-enter the field.

In order to determine whether the courses taken were for interest rather than work related, the following analysis looked at the extent to which respondents engaged in work related courses. The large majority of those between 25 and 75 reported taking work-related courses (74%) as opposed to courses that were partially work-related (14%) or not at all work-related (11%).

So far we have seen that the large majority of courses taken were related to work. Moreover, females were more likely to participate in adult education and participation decreased with age. The following analysis focused on social class variables in order to understand the extent to which those from lower social classes had access to upgrading their skills.

**Participation in Adult Education by Education Level**

The following analysis (shown in Table 2.4) was done to determine the extent to which one’s own education affects participation in adult education. Overall, looking at all generations, we can see a clear relationship between educational level and participation in adult education courses. More specifically, one third (35%) of those with high school or less participated in adult education courses compared to the majority of those with a university degree (65%). A similar pattern was evident for those in the youngest generation but to a much smaller degree than for the overall sample. Less than half (44%) of those with high school or less participated in adult education compared to more than two thirds (68%) of those with university degrees. Differences in participation in adult education by educational level within each generation were statistically significant for both the youngest and the middle age group but not for the oldest age group at the .001 level. This finding is consistent with social reproduction theory in the sense that those who feel they can benefit most from competing will do so. The youngest generation just entered the workforce; therefore, they should gain the most from upgrading their skills.

The fact that those with low levels of education participate less in adult education is indicative that social reproduction continues to this day, even as people are adults. Overall, those with higher levels of education are more likely to participate in adult education courses than those with lower
levels of education. This finding is consistent with previous research (Johnstone and Rivera 1965; Cross 1981; Darkenwald and Merriam 1982; Doray and Arrowsmith 1997; Baran, Berube et al. 2000; Rubenson 2007) and is the most widely reported finding in the social sciences over at least the last 5 or 6 decades.

The gap that is apparent for the middle and oldest generation is not surprising. We have seen extensively in the literature that the best predictor of participation in adult education is one's own level of education (Rubenson 2007). The surprising finding is that such a large gap (24%) exists among those in the youngest generation. Those in the youngest generation have the most to gain from obtaining more education in terms of length of time remaining in the workforce. This finding confirms that social reproduction persists into adult education.

**Table 2.4 – Participation in adult education by respondents’ education by generation**

<table>
<thead>
<tr>
<th>Taken Formal Courses</th>
<th>Respondent's Generation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>25 to 34***</td>
</tr>
<tr>
<td>Respondent's Education</td>
<td>HS or Less</td>
</tr>
<tr>
<td>Yes</td>
<td>44%</td>
</tr>
<tr>
<td>No/not stated</td>
<td>56%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
</tr>
<tr>
<td>N</td>
<td>(318)</td>
</tr>
</tbody>
</table>

Notes:
- Filtered for currently employed, no full-time students, and answered parental questions.
- Chi-square is statistically significant at the *.05 level; **.01 level; ***.001 level.

In order to further delve into participation in adult education by generation, the same analysis as above was carried out using hours rather than simply participation. The results are shown in Table 2.5. Those in the youngest generation who obtained a university education reported spending the most hours per week on adult education courses (2.32) compared to those who had high school or less (1.73), some post-secondary education (1.16), and post-secondary education other than university (1.47). Differences for the youngest cohort were slightly more pronounced when using the median as a comparison. The median number of hours was .31 for high school or less, .31 for some post secondary, .27 for non university post secondary, and .61 for university. The main differences were for those who completed their university education compared to those who did
not. Difference between 30 minutes and 1 hour is not large. However, it is interesting to see that there were differences based on education level. Differences in education level may be a trend that should be investigated more rigorously in order to determine the extent of these differences. These differences are important to note. Despite the previous finding that those with a university degree were more likely to participate than those with high school or less, we cannot know for certain whether more hours were spent on learning in courses. Those who take courses who have low levels of education spent on average nearly as much time as those with high levels of education.

Similar findings were found for those in the middle generation where those with a university education spent more hours in adult education courses (1.48) than those with some post-secondary education (1.21), those with high school or less (1.02) and those with non university education (.99). The results for both the youngest and the middle generations were statistically significant at the .05 level; however, results for the oldest generation were not statistically significant.

Table 2.5 – Mean hours spent on adult education courses per week by generation by education

<table>
<thead>
<tr>
<th>Respondents' Education Level</th>
<th>Youngest 25-34*</th>
<th>Middle 35-59*</th>
<th>Oldest 60-75</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>High school or less</td>
<td>1.73</td>
<td>1.02</td>
<td>.33</td>
<td>1.14</td>
</tr>
<tr>
<td>Some post-secondary</td>
<td>1.16</td>
<td>1.21</td>
<td>.52</td>
<td>1.18</td>
</tr>
<tr>
<td>Non university PSE</td>
<td>1.47</td>
<td>.99</td>
<td>.39</td>
<td>1.09</td>
</tr>
<tr>
<td>University</td>
<td>2.32</td>
<td>1.48</td>
<td>.56</td>
<td>1.72</td>
</tr>
<tr>
<td>Total</td>
<td>1.76</td>
<td>1.15</td>
<td>.40</td>
<td>1.14</td>
</tr>
</tbody>
</table>

N

<table>
<thead>
<tr>
<th>25-34*</th>
<th>35-59*</th>
<th>60-75</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>(655)</td>
<td>(1668)</td>
<td>(100)</td>
<td>(2423)</td>
</tr>
</tbody>
</table>

Notes:
1) * ANOVA is statistically significant at the .05 level for the youngest and middle generations.
2) Data are weighted and filtered to exclude unemployed and full-time students and those who did not take courses.

In sum, we see that one's level of education does influence whether one participates in adult education courses; however, there is no significant difference in the number of hours spent on the course by education level.
In order to better understand whether the courses taken are related to initial education or upgrading towards a credential, the following analysis looks at the types of courses taken count towards a credit. As seen in Table 2.6, less than one in ten (7%) of those taking courses were doing so to obtain a credit towards a degree. Moreover, the differences based on respondents’ education level were not statistically significant. We can only loosely gather from the analysis that of those who take courses, there are no differences among education levels regarding whether individuals were taking courses that counted towards a credit or not or whether the minority that tended to pursue adult education for credit was similar among those of different educational background.

Table 2.6 – Participation in adult education towards credits for post-secondary education by respondents’ education

<table>
<thead>
<tr>
<th>Courses for Post Secondary Credit</th>
<th>Respondent’s Education</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>HS or Less PSE Non U Degree U Degree</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>96% 92% 93% 91%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>4%   8%   7%   9%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>100% 100% 100% 100%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>(559) (262) (963) (656)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes:
Filtered to include only those working and exclude full-time students.
Chi-square is statistically significant at the *0.01 level.

In sum, we saw that one’s education continued to be a good predictor of participation in adult education courses. This finding is consistent with Bourdieu’s social reproduction theory that postulates that those with the most economic and cultural capital continue to accumulate economic and cultural capital. Moreover, we can apply Bourdieu’s notion that those who do not see a reason to compete in the field of education to adult education. Based on these findings, those with low levels of education who self eliminated from formal education are less likely to participate in adult education.

We do not know the extent to which economic capital (one’s personal income) influences participation in adult education courses. We saw in the review of literature that cost is one of the reasons given by respondents in previous research. The following examines whether cost continues to influence participation by using income as a proxy for affordability. It should be
understood that many factors other than income should be considered when considering affordability. However, for this thesis we are focusing on the extent to which economic capital is related to participation in adult education.

**Participation in Adult Education by Income Level**

The results for the analysis of participation in adult education by income level are shown in Table 2.7. The findings indicate that as income level increased the level of participation in adult education also increased. This pattern in participation continued to exist when controlling for age. More specifically, focusing on the youngest generation working at the time of the survey, less than half (46%) of those whose income was less than $30,000 took adult education courses compared to more than half (56%) of those whose income was between $30,000 and $49,000, and almost two thirds (62%) of those whose income was between $50,000 and $69,999, and almost three quarters (73%) of those whose income was $70,000 or more.

As seen in the same table, a similar pattern to the above was found for the middle generation. Those whose income was low were least likely to participate in adult education (38%) with a steady increase for all other income groups reaching 69% for those in the highest income group of $70,000 or more. Differences by income within the youngest and middle generations were statistically significant at the .001 level. Differences for the oldest generation were not statistically significant due to the small number in this category.

**Table 2.7 – Participation in adult education by respondents’ income by generation**

<table>
<thead>
<tr>
<th>Taken Formal Courses</th>
<th>25-34***</th>
<th>35-59***</th>
<th>60-75</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Respondent's Generation</strong></td>
<td><strong>Respondent's Personal Income</strong></td>
<td><strong>Respondent's Personal Income</strong></td>
<td><strong>Respondent's Personal Income</strong></td>
</tr>
<tr>
<td><strong>$1-29K</strong></td>
<td><strong>$30-49K</strong></td>
<td><strong>$50-69K</strong></td>
<td><strong>$70K or more</strong></td>
</tr>
<tr>
<td>Yes</td>
<td>46%</td>
<td>56%</td>
<td>62%</td>
</tr>
<tr>
<td>No/not stated</td>
<td>54%</td>
<td>44%</td>
<td>38%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td><strong>N</strong></td>
<td>(395)</td>
<td>(394)</td>
<td>(181)</td>
</tr>
</tbody>
</table>

Notes:
- Filtered for currently employed, no full-time students, and answered parental questions.
- Chi-square is statistically significant at the .05 level; **.01 level; ***.001 level.
These findings provide evidence that those with high economic capital were more likely to participate in adult education courses than those with low economic capital. This finding is consistent with Bourieu’s theory of social reproduction.

Overall, we can see that regardless of age, those earning high incomes were more likely to participate in adult education courses than those earning low incomes, with the exception of those over the age of 59. Age plays less of a factor than income level, which again is consistent with both the review of literature and with Bourdieu's notion of those with high levels of economic capital can afford a better education.

We saw in the analysis above that regardless of generation, females were more likely to participate in adult education courses than males. The following analysis was carried out to determine whether differences in participation in adult education existed based on sex for the youngest generation by income level. Results are shown in Table 2.8 for the youngest generation only in order to keep the table relatively simple. Females in the lowest income category (52%) were more likely to participate in adult education courses than males from the same income category (38%). Differences in participation for other income categories were not statistically significant which suggests that income level does not affect males differently than females above a threshold income level.

<table>
<thead>
<tr>
<th>Taken Formal Courses</th>
<th>$1-29K**</th>
<th>$30-49K</th>
<th>$50-69K</th>
<th>$70K or more</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Respondents' Gender</td>
<td>Respondents' Gender</td>
<td>Respondents' Gender</td>
<td>Respondents' Gender</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td>Yes</td>
<td>38%</td>
<td>52%</td>
<td>54%</td>
<td>58%</td>
</tr>
<tr>
<td>No/not stated</td>
<td>62%</td>
<td>48%</td>
<td>46%</td>
<td>42%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>N</td>
<td>(158)</td>
<td>(236)</td>
<td>(219)</td>
<td>(174)</td>
</tr>
</tbody>
</table>

Notes:
1) - Chi square is statistically significant at the *.05; **.01; and ***.001 level.
2) - Data are weighted and filtered to exclude unemployed and full-time students.

Females are more likely to be in service sector jobs in which opportunities for advancement are based on formal credentials. For males, opportunities for advancement may not be increased based
on formal credentials, such as in manual labour jobs that are unionized. Bourdieu’s interpretation is that people will not compete in a field unless there is an opportunity to gain something. It then makes sense that males who have stopped their education at high school or less do not participate in adult education because from their perspective there is not much for them to gain.

**Participation in Adult Education by Occupational Class**

We have seen that a relationship exists between participation in adult education and an individual’s education and income. As occupational class is related to both education and income, the following analysis is done to determine the extent to which there exists a relationship between occupational class and participation in adult education.

As shown in Table 2.9, there continued to be a relationship between adult education and occupational class background. More specifically, focusing on the youngest cohort, nearly two thirds (66%) of those in managerial or professional positions participated in adult education compared to half (51%) of those in service work positions and less than half (42%) in manual work positions. There was a similar result for those in the middle generation. Those between the ages of 35 and 59 who were managers or professionals (70%) were 1.5 times more likely to take adult education courses than those who were service workers (47%) and 1.75 times more likely to take courses than manual workers (40%). Differences based on occupational class within generation were statistically significant for both the youngest and the middle generations but not for the oldest generation. These findings are not inconsistent with both the review of literature and Bourdieu's theory.
So far, through the crosstab analysis, we saw that one’s own education, income, and occupational class have direct effects on participation in adult education. The question that is left to answer is the extent to which parents’ cultural and economic capital influences participation in adult education. We know that parents’ background influences initial levels for their offspring but we do not know whether the influence persists when offspring become adults and join the workforce.

**Participation in Adult Education by Parents’ Education**

As shown in Table 2.10 below, for the youngest generation almost two thirds (62%) of those whose parents had either a non-university post-secondary education or a university degree participated in adult education compared to only half (52%) of those whose parents had high school only and less than half (45%) of those whose parents had less than high school. For the middle generation where those whose parents had less than high school (43%) or high school (53%) were less likely to participate in adult education courses than those whose parents had non-university post secondary (70%) and university post secondary (61%) education.

In sum, we see that there exists some kind of relationship between parents’ education and participation in adult education. We cannot determine the strength of this relationship based on the above analysis. The strength of this relationship was tested through the structural equation modelling analysis. We know for certain that there is an indirect effect in the sense that parents’ education affects the initial level of education attained by offspring. We also know that one’s own education is the best predictor of participation in adult education. By default, one can assume that
parents’ education level is related to participation in adult education. We do not know though the extent to which those who are from low levels of education who participate in adult education are influenced by their parents.

No differences are found based on sex (analysis not shown). These data confirm that a relationship exists between parents’ education and respondents’ participation in adult education but it is not possible to know the strength of the relationship through cross-tab analysis. The strength of the relationship is examined in the structural equation modelling phase of the analysis.

### Table 2.10 – Participation in adult education by parents’ education by generation

<table>
<thead>
<tr>
<th>Taken Formal Courses</th>
<th>Parent’s Education Level</th>
<th>Respondent’s Generation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Less than HS</td>
<td>25 to 34*</td>
</tr>
<tr>
<td></td>
<td>HS</td>
<td>35 to 59***</td>
</tr>
<tr>
<td></td>
<td>Non-University</td>
<td>60 to 75</td>
</tr>
<tr>
<td></td>
<td>University</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Owners</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mgrs/Prof</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Service Workers</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Manual Workers</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Owne rs</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mgrs/Prof</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Service Worker</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Manual Workers</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>45%</td>
<td>52%</td>
</tr>
<tr>
<td></td>
<td>53%</td>
<td>43%</td>
</tr>
<tr>
<td></td>
<td>70%</td>
<td>61%</td>
</tr>
<tr>
<td></td>
<td>36%</td>
<td>46%</td>
</tr>
<tr>
<td></td>
<td>46%</td>
<td>45%</td>
</tr>
<tr>
<td></td>
<td>44%</td>
<td>56%</td>
</tr>
<tr>
<td>No/not stated</td>
<td>55%</td>
<td>48%</td>
</tr>
<tr>
<td></td>
<td>38%</td>
<td>38%</td>
</tr>
<tr>
<td></td>
<td>57%</td>
<td>47%</td>
</tr>
<tr>
<td></td>
<td>30%</td>
<td>39%</td>
</tr>
<tr>
<td></td>
<td>64%</td>
<td>54%</td>
</tr>
<tr>
<td></td>
<td>55%</td>
<td>56%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td>100%</td>
<td>100%</td>
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<td>100%</td>
<td>100%</td>
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<tr>
<td></td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>N</td>
<td>(116)</td>
<td>(181)</td>
</tr>
<tr>
<td></td>
<td>(141)</td>
<td>(185)</td>
</tr>
<tr>
<td></td>
<td>(665)</td>
<td>(455)</td>
</tr>
<tr>
<td></td>
<td>(207)</td>
<td>(271)</td>
</tr>
<tr>
<td></td>
<td>(69)</td>
<td>(30)</td>
</tr>
<tr>
<td></td>
<td>(20)</td>
<td>(8)</td>
</tr>
</tbody>
</table>

Notes: Filtered to include only those working and exclude full-time students.

Chi-square is statistically significant at the * .05 level; **.01 level; ***.001 level.

### Participation in Adult Education by Parents’ Occupational Class

Seeing that a relationship exists between parents’ education level and participation in adult education, it seems beneficial to explore the extent to which parents’ occupational class has a lasting effect on participation in adult education. The following analysis, which is shown in Table 2.11, reveals that differences in participation in adult education based on parents’ occupational class exist for both the youngest and the middle generation. The sample for those 60 to 75 is too small to test for significant differences. In the youngest generation, respondents whose fathers are in the manager or professional occupational class (61%) are more likely to participate in adult education courses than those whose fathers are in the owners (54%), service workers (54%) or manual workers (46%) occupational classes. The main difference for the middle generation is between those whose fathers’ are professionals (58%) who are 20% more likely to participate than those who are manual workers (46%). Results are statistically significant for the youngest (at .01 level) and the middle generation (at .001 level) but not for the older generations. These findings
allude to the notion that social reproduction may be manifested in participation in adult education. The above results provide evidence that those whose parents are from low occupational classes are less likely to participate in adult education than those whose parents are in high occupational classes. Confirmation of the strength of the relationship while controlling for one's own level of education will be clearer in the structural equation analysis section.

Table 2.11 – Participation in adult education by parents’ occupational class by generation

<table>
<thead>
<tr>
<th>Taken Formal Courses</th>
<th>25 to 34***</th>
<th>35 to 59***</th>
<th>60 to 75</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Father's Class</td>
<td>Father's Class</td>
<td>Father's Class</td>
</tr>
<tr>
<td></td>
<td>Owners Mgrs/Prof Service Workers Manual Workers</td>
<td>Owners Mgrs/Prof Service Workers Manual Workers</td>
<td>Owners Mgrs/Prof Service Workers Manual Workers</td>
</tr>
<tr>
<td>Yes</td>
<td>54% 61% 54% 46% 53% 58% 50% 46% 35% 50% 44% 46%</td>
<td>46% 39% 46% 54% 47% 42% 42% 54% 65% 50% 56% 54%</td>
<td>100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100%</td>
</tr>
<tr>
<td>No/not stated</td>
<td>46% 39% 46% 54% 47% 42% 42% 54% 65% 50% 56% 54%</td>
<td>100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100%</td>
<td>100%</td>
</tr>
<tr>
<td>Total</td>
<td>100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100%</td>
<td>100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Notes:
Filtered to include only those working and exclude full-time students and those who did not answer the parental question.
Chi-square is statistically significant at the *.05 level; **.01 level; ***.001 level.

Summary of Findings for Adult Education

We have now seen that statistically significant relationships exist between parents’ and offspring’s occupational class and participation in adult education. These findings confirm that those who are from privileged backgrounds continue to be more likely to pursue formal education than those from less privileged backgrounds. These findings suggest that parent education level and to some extent occupational class has an effect on participation in adult education. Previous research focused on an individual's level of education rather than on parents’ background. The crosstab analysis suggests that there may be a relationship; however, the structural equation analysis will be more thorough in determining the strength of the relationship. We can conclude from the crosstab analysis that an adult who has self eliminated from formal education is less likely to engage in formal education as an adult compared to those who pursued education to the postsecondary level. Moreover, we have seen that those who earn low incomes are less likely to participate in adult education. This finding links to the research that discussed cost as a barrier to participation. The two findings from previous research that have been confirmed are that one’s level of education and income are good predictors of participation in adult education.
Based on the analysis carried out to this point, despite overall increases in education level attained by Canadians, the evidence reveals that there continues to exist social reproduction for both initial formal education and adult education. Those who have obtained high levels of education, who are in professional occupations and who earn high incomes are the most likely to participate in adult education to upgrade their skills. However, previous research shows that those in the bottom third economically benefit the most from participation in adult education (Myers, 2009).
EFFECTS OF CULTURAL AND ECONOMIC CAPITAL ON WORK RELATED INFORMAL LEARNING

The intent of this chapter is to determine the extent to which Bourdieu's theory of social reproduction can be applied to work-related informal learning. Bourdieu explains that people will self eliminate due to barriers created by structures in the formal education system. Consistent with this position, we saw that those from low cultural and economic capital were least likely to attend post-secondary education and were least likely to participate in formal adult education courses. The question that remains unanswered is whether the lack of engagement in formal learning is an issue of aversion to learning altogether or an issue of withdrawing from formal education due to structures that embody middle and upper class values. Analysing participation in work-related informal learning by cultural and economic capital will help clarify the extent to which social reproduction is only for formal education or whether it also applies to other forms of learning. For those who have been turned off the formal education system, informal learning would be a substitute for skill upgrading.

The following section addresses issues of cultural and economic capital and informal learning for the workplace. The next chapter determines whether similar patterns of inequality based on capital exist for participation in work-related informal learning. The focal question for the section is: do those with low cultural and economic capital have access to work-related informal learning to the same extent as those with high level of capital? The hypothesis is that there will be more equity seeing that the structures that create barriers for formal learning are not present for informal learning.

Overall Participation in Work-related Informal Learning

As seen in Table 3.1, an analysis carried out on the data for this thesis indicates that participation in work-related informal learning is carried out by the large majority of the Canadian working population. This is consistent with the findings from the review of literature (Livingstone, Raykov et al. 2001; Rubenson 2007). Overall, a large majority (79%) of respondents, regardless of sex or age, participated in work-related informal learning. Very slight differences were found in
participation based on generation. Those in the oldest generation were slightly less likely to participate in work-related informal learning; however, the differences are negligible. It is not surprising that those in the oldest category would be less likely to participate in work-related informal learning seeing that most are either close to retirement or have retired from their careers but are currently working full-time. This finding is not meant to imply that the oldest generation is not engaging in informal learning; rather, it applies only to work-related informal learning. These slight differences may be related to the fact that those in the oldest age group were between the ages of 60 and 75 where there may be less of a need to engage in work-related informal learning for their job. Other research has found that despite age, the large majority of Canadians engage in informal learning in general (Livingstone 2004).

Small differences were found based on sex for participation in work-related informal learning for the youngest generation. Though these differences were statistically significant at the .001 level, it is important to note that overall the differences were rather small relative to the percentage of individuals who participated in work-related informal learning. In Table 3.1, we see that an overwhelming majority of males (87%) and females (80%) engaged in work-related informal learning which renders the 7% difference between the sexes insignificant in magnitude. The small differences in participation by generation indicate that Canadians in the youngest generation (between 25 and 34) were just as likely to engage in work-related informal learning as the older generations.

<table>
<thead>
<tr>
<th>Did work-related informal learning</th>
<th>Respondent's Generation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>25 to 34***</td>
</tr>
<tr>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Yes</td>
<td>87%</td>
</tr>
<tr>
<td>No</td>
<td>13%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
</tr>
<tr>
<td>N</td>
<td>(639)</td>
</tr>
</tbody>
</table>

Notes:
Filtered for those currently working and excluding those who are full-time students.
Chi-square is statistically significant at the *.05 level; **.01 level; ***.001 level.
The following analysis looked at the number of hours spent in work-related informal learning in order to examine participation based on age and sex. It is important to note that estimates in number of hours spent in informal learning are very approximate. People will try their best to estimate hours spent in an activity in surveys; however, the accuracy of this type of question is not exact. Bearing in mind this limitation, the main task is to determine whether, based on sex and age, large gaps exist in hours spent in work-related informal learning exists based on sex and age.

As can be seen in Table 3.2 below, focusing on the total column, respondents reported spending 5.4 hours per week on work-related informal learning with a large standard deviation of 7.6 hours. The median is lower at 3.0 hours. The important finding is that overall the number of hours spent in work-related informal learning surpassed the number of hours spent in adult education. Not only were more people participating in work-related informal learning than adult education but they were also spending more hours doing it.

Very few differences existed in the number of hours spent in work-related informal learning by age. On average, the youngest generation reported spending 6 hours in informal learning per week compared to 5.2 hours for the middle generation and 4.8 for the oldest generation. Despite the differences in average hours spent in work-related informal learning being statistically significant at the .01 level, the differences were not large (approximately one hour or less which may be representative of the accuracy of these types of estimates). These findings indicated that people from all ages engaged in work-related informal learning. As seen previously, more hours were spent in informal learning than in adult education. This finding confirms that the barriers that prevent people from participating in adult education are not present for work-related informal learning.
These findings differ from those found for adult education where there was a decline in participation based on age. For work-related informal learning, it appears that everyone participates and spends more hours doing it than adult education. The following analysis delves further into participation rates in work-related informal learning by social background in order to determine the extent to which social reproduction exists for informal learning activities. In other words, it is important to understand the extent to which those who are less likely to engage in formal learning participate in informal learning activities as a substitute for formal learning.

We saw earlier that males in the youngest generation were slightly more likely to engage in work-related informal learning than females and that no differences were found by sex and participation in work-related informal learning for those in other generations. As can be seen from Table 3.3, similar results were found for number of hours spent in work-related informal learning by sex. Males spent on average slightly more time (5.7 hours per week) in work-related informal learning than females (5.1 hours per week). Differences based on sex were statistically significant at the .05 level for the youngest generation but not for the middle and oldest generations. It is important to keep in mind that this difference was only one hour and that hours spent on informal learning were only an estimate. Therefore, differences were not very meaningful when considering that the majority engage in work-related informal learning.

Table 3.2 – Mean hours spent on work-related informal learning per week by generation

<table>
<thead>
<tr>
<th>Hours</th>
<th>Respondents’ Generation</th>
<th>25-34</th>
<th>35-59</th>
<th>60-75</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean hours</td>
<td>6.14</td>
<td>5.22</td>
<td>4.81</td>
<td>5.44</td>
<td></td>
</tr>
<tr>
<td>Median</td>
<td>3.00</td>
<td>3.00</td>
<td>2.00</td>
<td>3.00</td>
<td></td>
</tr>
<tr>
<td>Standard deviation</td>
<td>8.53</td>
<td>7.14</td>
<td>7.91</td>
<td>7.58</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>(1014)</td>
<td>(26166)</td>
<td>(184)</td>
<td>(3813)</td>
<td></td>
</tr>
</tbody>
</table>

Notes:
1) - ANOVA is statistically significant at the .01 level.
2) - Data are weighted and filtered to exclude unemployed and full-time students and those who did not take courses.
Table 3.3 – Mean hours spent on work-related informal learning per week by sex by generation

<table>
<thead>
<tr>
<th>Respondents' Gender</th>
<th>Youngest</th>
<th>Middle</th>
<th>Oldest</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Males</td>
<td>6.63</td>
<td>5.46</td>
<td>4.14</td>
<td>5.70</td>
</tr>
<tr>
<td>Females</td>
<td>5.55</td>
<td>4.94</td>
<td>5.87</td>
<td>5.14</td>
</tr>
<tr>
<td>Total</td>
<td>6.14</td>
<td>5.22</td>
<td>4.81</td>
<td>5.44</td>
</tr>
<tr>
<td>N</td>
<td>(1014)</td>
<td>(2616)</td>
<td>(184)</td>
<td>(3813)</td>
</tr>
</tbody>
</table>

Notes:
1) * ANOVA is statistically significant at the .05 level for the youngest and middle generations.
2) Data are weighted and filtered to exclude unemployed and full-time students and those who did not take courses.

So far we have seen that overall the large majority of Canadians engage in work-related informal learning despite age and sex. We also know from the previous analysis that there continues to exist a relationship between cultural and economic capital and formal learning which is consistent with Bourdieu's theory of social reproduction. Based on this theory, people will stop their formal education if they do not feel they can overcome the structural barriers to the point of gaining something from participating. This theory implies that individuals who are not pursuing formal education are not necessarily averse to learning because they do not pursue formal education.

The following analysis is intended to determine the extent to which a relationship exists between respondents' level of formal education and participation in work-related informal learning.

Participation in Work-related Informal Learning by Education Level

As seen in Table 3.4, there were no statistically significant differences in participation in work-related informal learning for the youngest generation. The large majority of young people engage in work-related informal learning for all education levels (from 80% for less than high school to 88% for those with a university degree). For the middle generation, there was a significant difference where those with high school or less (69%) were less likely than those with some post-secondary education (81%), non university postsecondary (81%), and university degrees (88%) participated in work-related informal learning. Despite the differences in participation rates, it is essential to keep in mind that the large majority of Canadians despite their education level engage in a learning activity.
In summary, we saw in previous research that looks at participation in informal learning (not strictly work-related) generally found that there was no variation in participation in work-related informal learning based on education (Livingstone 2004). The overall difference between the 69% for those with high school or less and the 80% for those with some or complete non-university postsecondary is not large. The key factor is that the large majority engage in work-related informal learning.

Table 3.4 – Participation in work-related informal learning by respondents’ education by generation

<table>
<thead>
<tr>
<th>Did work related informal learning</th>
<th>Respondent's Education</th>
<th>Respondent's Generation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>25 to 34</td>
<td>35 to 59***</td>
</tr>
<tr>
<td></td>
<td>HS or Less</td>
<td>Some PSE</td>
</tr>
<tr>
<td>Yes</td>
<td>80%</td>
<td>84%</td>
</tr>
<tr>
<td>No</td>
<td>20%</td>
<td>16%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

N

(318) (131) (440) (310) (1142) (296) (1225) (659) (123) (21) (80) (36)

Notes:
Filtered for those currently working and excluding those who are full-time students.

Chi-square is statistically significant at the *.05 level; **.01 level; ***.001 level.

**Participation in Work-related Informal Learning by Income Level**

In the review of literature we saw that two of the most cited barriers to adult education were financial costs and lack of time. We also saw that informal learning was accessible because of cost and the fact that one can participate in informal learning when it is convenient. People generally participated in informal learning by asking questions to others who are around them, surfing the internet, using books from the library, etc. Unlike formal courses where there was tuition and one needed to attend classes at a specific time each week, all of these methods of informal learning had few cost and time implications. Moreover, Bourdieu’s theory of social reproduction states that those who feel that nothing will be gained by participating in formal education will drop out which may lead some to use informal learning as a substitute for formal learning.
The following analysis was intended to determine the extent to which those who earned high incomes engaged in work-related informal learning at a greater rate than with low incomes. The results for this analysis are shown in Table 3.5 below. Similar to the findings of participation in work-related informal learning by education level, very few differences existed for work-related informal learning by income level. There was only a small increase in participation rates in work-related informal learning based on income level. More specifically for the youngest generation, 79% of those whose income was less than $29,000 participated in work-related informal learning compared to 88% for those whose income was between $30,000 and $49,999, 86% whose income was between $50,000 and $69,999, and 93% whose income was $70,000 or more. Figures were similar for the middle generation.

The important thing to note is that very few differences existed based on income level. The main finding was that the large majority of respondents, despite income level participated in work related informal learning. It appears that lack of earnings are not a barrier to participation in work-related informal learning.

Table 3.5 – Participation in work-related informal learning by respondents’ Income by generation

<table>
<thead>
<tr>
<th>Respondent’s Generation</th>
<th>Respondent’s Personal Income</th>
<th>Respondent’s Personal Income</th>
<th>Respondent’s Personal Income</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$1-29K</td>
<td>$30-49K</td>
<td>$50-69K</td>
</tr>
<tr>
<td>Did work related informal learning</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>N</td>
<td>(395)</td>
<td>(394)</td>
<td>(181)</td>
</tr>
</tbody>
</table>

Notes:
Filtered for those currently working and excluding those who are full-time students.
Chi-square is statistically significant at the *.05 level; **.01 level; ***.001 level.

The following analysis looks at the number of hours spent in work-related informal learning by income level. The results are shown in Table 3.6. Focusing on the youngest generation, the main item of interest is that those earning less than $30,000 spent on average more than 8 hours per
week in work-related informal learning compared to 6 hours by those earning between $30,000 and $49,999; 5 hours for those earning between $50,000 and $69,999; and 4 hours for those earning $70,000 or more. The findings for the other generations were not as extreme. The largest jump was where those from the middle generation who earned the least spent on average 6 hours in work-related informal learning compared to all other income levels.

Despite the fact that the overwhelming majority of people engaged in work-related informal learning, there was a slight decrease in the number hours spent in work-related informal learning as level of income increased regardless of whether respondents were in the youngest or middle generations. It seems that those who earned the lowest incomes were more likely to devote more time to work-related informal learning.

**Table 3.6 – Mean hours spent on work-related informal learning per week by respondents’ income by generation**

<table>
<thead>
<tr>
<th>Respondents' Income Level</th>
<th>Youngest 25-34***</th>
<th>Middle 35-59***</th>
<th>Oldest 60-75</th>
<th>Total***</th>
</tr>
</thead>
<tbody>
<tr>
<td>$1-29K</td>
<td>8.24</td>
<td>6.08</td>
<td>4.33</td>
<td>6.66</td>
</tr>
<tr>
<td>$30-49K</td>
<td>5.68</td>
<td>5.14</td>
<td>4.32</td>
<td>5.29</td>
</tr>
<tr>
<td>$50-69K</td>
<td>5.29</td>
<td>4.36</td>
<td>7.41</td>
<td>4.74</td>
</tr>
<tr>
<td>$70K or more</td>
<td>4.07</td>
<td>4.68</td>
<td>4.82</td>
<td>4.59</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>6.35</strong></td>
<td><strong>5.14</strong></td>
<td><strong>5.15</strong></td>
<td><strong>5.47</strong></td>
</tr>
</tbody>
</table>

**Notes:**

1) * ANOVA is statistically significant at the .05 level for the youngest and middle generations.
2) Data are weighted and filtered to exclude unemployed and full-time students and those who did not take courses.

The youngest generation are the ones most likely to engage in learning activities because they recently joined the workforce and therefore have the most to learn. Though the large majority of those from all levels of income engaged in work-related informal learning, it was apparent that those in the youngest generation with low incomes spent considerably more hours in informal learning than those from other income categories. These findings about equity in participation based on income are consistent with previous research on accessibility to learning (Livingstone 2001) and with Bourdieu’s theory of social reproduction. Those earning the lowest incomes likely only have a high school diploma, therefore, they need to obtain skills on the job rather than
through formal education. Based on these findings, people engage in learning activities despite the formal education system that reproduces inequities as posited by Bourdieu.

**Participation in Work-related Informal Learning by Occupational Class**

Up until this point, we have seen that the large majority of Canadians participated in work-related informal learning. Few differences were found in participation levels and hours spent in work-related informal learning based on one's level of education and income. All of these findings confirmed previous research findings which were outlined in the review of literature. We can deduce from these findings that the link between engaging in a learning activity and either education level or income level is not strong. More research should be carried out to look at this lack of relation in more depth. What we can conclude is that despite one's economic and cultural capital, individuals engage in a learning activity.

Another variable which is linked to the theory of social reproduction is occupational class. The following analysis looks at participation in work-related informal learning by occupational class. Based on the results shown in Table 3.7, we can see that though some differences in participation exist, the differences were not large.

Focusing on the youngest generation, we can see only a very slight difference in participation among those from various occupational classes. Overall, the large majority of those in the youngest generation engaged in work-related informal learning. The largest gap was between professional/managers (87%) and manual labour (79%) occupational classes. Despite the gap, it is important to recognize that there was only an 8 percentage point difference in participation and that the large majority participate in a learning activity related to their work. Considering that an overwhelmingly large majority of people in the youngest generation were engaged in work-related informal learning, we can conclude that the magnitude of difference in occupational classes was fairly insignificant.

Differences for the middle generation were slightly more pronounced but not large in magnitude. Here we can see a difference of approximately 20% between the highest participation group and the lowest. More specifically, as outlined in Table 3.7, a large majority of managers/professionals (86%) and business owners (82%) participated in work-related informal learning. Nearly three
quarters (73%) of service workers and about two thirds (67%) of manual workers engaged in work-related informal learning. There seemed to be a pattern where those in low skilled occupations (such as manual and service work) were slightly less likely to report engaging in work-related informal learning than those in high skilled occupations (such as professional work). Intuitively one might conclude that the difference may be due to level of skill needed for the types of tasks that need to be completed. An example would be a post office mail delivery person whose has been on the job for some time. Little work-related informal learning may be necessary for them to carry out their work seeing that he or she has been in the job for so long. It does not mean that those in manual labour and service worker classes do not engage in learning, only that they may not engage in work-related informal learning. However, it is more plausible that those in low level occupations are not recognizing the informal learning that they do on the job as worthy of mentioning. Previous research that focuses on deskilling and learning point to the ongoing learning that takes place on the job and the movement from learning specific skills to learning about the social aspects of work (Garrick 1998).

Table 3.7 – Participation in work-related informal learning by respondents’ occupational class by generation

<table>
<thead>
<tr>
<th>Did work related informal learning</th>
<th>25 to 34*</th>
<th>35 to 59***</th>
<th>60 to 75*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Owners</td>
<td>Mgrs / Prof</td>
<td>Service Workers</td>
</tr>
<tr>
<td>Yes</td>
<td>78%</td>
<td>87%</td>
<td>82%</td>
</tr>
<tr>
<td>No</td>
<td>22%</td>
<td>13%</td>
<td>18%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>N</td>
<td>(110)</td>
<td>(363)</td>
<td>(335)</td>
</tr>
</tbody>
</table>

Notes:
Filtered for those currently working and excluding those who are full-time students.
Chi-square is statistically significant at the *.05 level; **.01 level; ***.001 level.

In order to delve a little deeper into work-related informal learning and occupational class, the following analysis focused on hours spent in work-related informal learning. The results are shown in Table 3.8. Business owners reported spending the highest average number of hours in work-related informal learning (6.2 hours) per week followed by service workers (5.5 hours), manual workers (5.3 hours), and managers/professionals (5.0 hours). These differences were insignificant.
in magnitude. Overall, by looking at the total hours we can conclude that very few differences exist in the number of hours spent in informal learning for each occupational class. We can conclude with confidence that one's occupational class has little bearing on the number of hours one spends in work-related informal learning.

**Table 3.8 – Mean hours spent on work-related informal learning per week by occupational class by generation**

<table>
<thead>
<tr>
<th>Respondents' Class</th>
<th>Youngest 25-34</th>
<th>Middle 35-59**</th>
<th>Oldest 60-75*</th>
<th>Total*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Owners</td>
<td>7.14</td>
<td>6.12</td>
<td>4.65</td>
<td>6.15</td>
</tr>
<tr>
<td>Managers/Professionals</td>
<td>5.77</td>
<td>4.66</td>
<td>6.45</td>
<td>5.02</td>
</tr>
<tr>
<td>Service Workers</td>
<td>5.55</td>
<td>5.30</td>
<td>7.11</td>
<td>5.45</td>
</tr>
<tr>
<td>Manual Workers</td>
<td>4.96</td>
<td>5.72</td>
<td>1.85</td>
<td>5.26</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>5.67</strong></td>
<td><strong>5.31</strong></td>
<td><strong>4.83</strong></td>
<td><strong>5.38</strong></td>
</tr>
<tr>
<td><strong>N</strong></td>
<td>(852)</td>
<td>(2177)</td>
<td>(156)</td>
<td>(3185)</td>
</tr>
</tbody>
</table>

Notes:
1) * ANOVA is statistically significant at the .05 level for the youngest and middle generations.
2) Data are weighted and filtered to exclude unemployed and full-time students and those who did not take courses.

We have seen that very small insignificant differences exist in participation in work-related informal learning by occupational class. Overall, the large majority of respondents engage in work-related informal learning and the average hours spent was similar for each occupational class. The main findings for work-related informal learning based on cultural and economic capital indicate that the barriers to learning found for formal education do not appear to be a problem for work-related informal learning.

In summary, based on the cross-tab analysis, we can conclude that there is evidence that Bourdieu's theory of social reproduction applies to participation in formal learning but not for work-related informal learning. There continues to exist a relationship between one's occupational class and participation in adult education courses but not for informal learning. We saw that those of high education, income, and occupational class are more likely to participate in adult education courses than those of low levels of education, income and occupational class. However, there was not much of a relationship between one's background and participation in work-related informal
learning. We can conclude that work-related informal learning is more accessible than formal education.

The only significant finding in the informal learning section is that those in the youngest generation who earn less than $30,000 per year spent on average about 3 hours more per week in work-related informal learning than those who earn higher incomes. Moreover, they are the very people who are least likely to engage in adult education. This finding is more pronounced for males than females. We may be able to conclude from these findings that those from lower incomes use informal learning as a substitute to formal learning due to the lack of barriers.

Overall, the crosstab analysis shows that there continued to be a relationship between social class background and participation in formal education. No relation was found for work-related informal learning. The analysis in the following chapter uses structural equation modelling to determine the strength of the relationship among the independent variables of parents' education and social class; among the intervening variables respondents' education, occupational class, and income; on the dependent variables respondents' participation in adult education and informal learning.
Chapter 7

SOCIAL REPRODUCTION STRUCTURAL EQUATION MODEL ANALYSIS

Introduction

The question the thesis tried to answer is: To what extent does social reproduction in education and learning continue to exist for the youngest generation in Canada? More specifically, to what extent does your parents’ cultural and economic capital (education and occupational status) continue to influence participation in learning activities by offspring into their adulthood?

The following was tested through the structural equation model (SEM):

1. The extent to which parents’ cultural (proxy - parents' education) and economic capital (proxy - occupational class) influences educational attainment levels for Canadians in the youngest generation;

2. The extent to which parents’ cultural (proxy - parents' education) and economic capital (proxy - occupational class) and an individual's own cultural (proxy - education) and economic capital (proxy - income, and occupational class) have an effect on participation in adult education; and,

3. The extent to which parents’ cultural (proxy - parents' education) and economic capital (proxy - occupational class) and an individual's own cultural (proxy - education) and economic capital (proxy - income, and occupational class) have an effect on participation in work-related informal learning.

Overall, the crosstab analysis from the previous chapter showed that there continues to be a relationship between social class background and participation in formal education and to a much lesser extent or no relationship for work-related informal learning. However, we cannot tell from crosstab analysis the extent to which these variables interacted nor do we know the impact that
each of the independent variables had on the dependent variables. The analysis in this chapter used structural equation model (SEM) to design and test the extent to which there existed a cause and effect relationship between social class background and participation in formal education and work-related informal learning. The SEM analysis has the capacity to simultaneously test multiple relationships in one model which cannot be done through crosstabs.

Although it may seem counter intuitive to include work-related informal learning in the SEM analysis, it was important to include both formal and informal learning activities for several reasons:

1. Bourdieu’s social reproduction theory states that both cultural and economic capital have an effect on participation in formal learning. Seeing that I extended the theory to work-related informal learning, it was essential that participation in work-related informal learning be included in the analysis. Otherwise, it would not be possible to compare the extent to which informal learning was more accessible than formal education for those with varying levels of cultural and economic capital.

2. We saw in the crosstab analysis that both parents’ and one’s own cultural and economic capital had an effect on participation in formal learning activities and a slight effect on work-related informal learning activities. Intuitively, one would assume that participation in work-related informal learning is generally accessible based on these findings. The problem is that the measure of statistical significance used in the crosstab sections (chi-square and ANOVA) only measure differences between the two variables that were included in the analysis. The SEM model allowed us to test the extent to which relationships among the variables existed by taking into consideration all of the variables that were antecedent to the two dependent variables (participation in adult education and in work-related informal learning). Moreover, the beta for the SEM was more sensitive than the chi-square and ANOVA test used for the crosstab analysis. It is possible that results that are not statistically significant in the crosstab analysis, may be significant for the SEM analysis.
relations were run in order to ensure that a relationship exists between the independent variable of parents’ education and the dependent variables of participation in both adult education \( (r = .108) \) and work-related informal learning \( (r = .042) \). In both cases, the independent variable of parents’ education had a statistically significant relationship with the number of hours spent in adult education (.01 level) and in work-related informal learning (.05 level) by offspring (results are shown in Appendix C). Though the correlation is not extremely strong, the fact that the results are statistically significant suggests that the variables should be included in the SEM analysis.

This chapter outlines the results from the structural equation model analysis beginning with a description of the sample used for the structural equation model; a review of the model tested outlining each of the hypothesized relationships; a discussion of the suitability of the model fit for the data; a detailed outline of the variables that are included in the model; a summary of the results from testing the suitability of the model for the data; a review of the significant relationships in the model; followed by, a more detailed discussion of the results linking to Bourdieu's social reproduction theory.

**Model Testing**

Structural equation modeling (SEM) is used to test whether the hypothesized model representing social reproduction theory is consistent with the empirical data.

In general, SEM is made up of two sub-models: the first is a structural model that employs path analysis and the second is a measurement model that utilizes confirmatory factor analysis (Kline, 2005; Byrne 2001). The reason for using SEM in the analysis is because it is not possible from the crosstab analysis to test the extent to which multiple social class background variables (proxies of cultural and economic capital) have an effect on one another; however, with SEM this is possible.

Outlined in Figure 7.1 are the specifics of the structural equation model which was based on Bourdieu's theory of social reproduction. The model was designed to determine the extent to which social reproduction continues to be embodied in the overall level of education attained
participation in adult education and in work-related informal learning for the youngest generation. Following the model is an explanation of the relationships that were tested in the analysis.

The model was run to control for sex and parents’ occupational class (proxy for economic capital) which are variables that not included in the model. These two variables cannot be included in the model because they are categorical variables: only continuous variables can be included in the model.

**Description of the hypothesized relationships**

The following is a brief description of the relationships that are represented in the model. All of the relationships are assumed to be direct relationships between each variable.

Relationship 1:
The relationship between (a) parents’ education and (b) respondent’s educational: This relationship is based on Bourdieu’s notion that cultural capital is passed on from parents to children. In this case, parents’ and respondents’ education are considered cultural capital.

Relationship 2:

The relationship between (b) respondents’ education and (c) respondents’ income: We clearly saw in both the crosstab section and the review of literature that those with high levels of education were more likely to earn high incomes than those with low levels of education. Testing this relationship allows us to better understand the strength of this relation and the extent to which it persists for the youngest generation.

Relationship 3:

The relationship between (a) parents’ education and (d) participation in adult education: The assumption behind this relationship is that parents pass on cultural capital to their child, which affects the child’s educational attainment. Moreover, we saw in the review of literature that respondents’ education is a strong predictor of participation in adult education. The thinking is that if parents’ education is a predictor of the level of education attained by their offspring and level of education attained is a strong predictor of participation in adult education, then there should be a positive relationship between parents’ education level and offspring’s participation in adult education. This assumption is tested in the model. Should there be a positive relationship, we can then conclude that cultural capital has a lasting effect on level of education attained into adulthood. Should there not be a relationship, we can conclude that something happens between level of education initially attained and participation in adult education. For example, it is possible that as people enter the workforce, there is a notion that participation in adult education will be of benefit.

Relationship 4:

The relationship between (a) parents’ education and (e) respondents’ participation in work-related informal learning: Though we did not see much of a relationship between education and work-related informal learning and between income and work-related informal learning in the crosstab
analysis, it is essential to include this relationship in the model for the reasons stated earlier (on page 117). We have seen from the crosstab analyses that there is only a very small tendency for those from high social classes to be more likely to participate in work-related informal learning than those from low social classes. It is essential to test whether there is a direct relationship between (a) parents’ education and (e) work-related informal learning when taking into consideration all of the variables linked to Bourdieu’s notion of social reproduction. Testing this relationship allows us to determine whether social reproduction applies to participation in work-related informal learning.

Relationship 5:

The relationship between (b) respondents’ education and (d) respondents’ participation in adult education: As seen in the review of literature and confirmed through the crosstab analysis, the level of education attained by respondents is linked in a positive way to participation in adult education. Those with high levels of education are more likely to participate than those with low levels of education. Including this relationship in the model allows us to determine the strength of the relationship between the two variables for the youngest generation while simultaneously testing the effects of the other background variables. Moreover, it is essential to determine whether Bourdieu’s theory of social reproduction is applicable for participation in adult education. The hypothesis is that the relationship between (b) respondent’s education level and (d) adult education is a direct relationship.

Relationship 6:

The relationship between (b) respondent’s education and (e) participation in work-related informal learning: Based on Bourdieu’s theory of social reproduction, the structures that would prevent an individual from participating in the formal education system are not present for informal learning. It is important to test the extent to which those from low education levels participate in formal versus informal learning.

Relationship 7:
The relationship between (c) respondent’s income and (e) respondents’ participation in adult education: The intent with this relationship is to test the relative effect of respondents’ income level to participation in adult education. Based on the crosstab analysis, we saw that to some extent those who earn less were also less likely to participate in adult education courses. Moreover, this relationship tests the effect of economic capital on participation in adult education courses.

Relationship 8:

The relationship between (d) respondent’s income and (f) participation in work-related informal learning: It is important to remember here that the majority of Canadians do engage in work-related informal learning; however, it is essential to include the variable in the model in order to understand the extent to which the variables interact with each other.

In addition to these direct effects, the model postulates that there are indirect effects from parents’ education to adult education through the intervening variable of respondents’ education. We saw in the review of literature that parents’ education is a good predictor of their offspring’s education and that one’s education level is a good predictor of participation in adult education.

Sample
Purposefully, the sample for the structural equation modeling is restricted to only those who were working during the time of the interview; who were not full-time students; who answered questions about parental social class background; who were eligible to ask about work-related informal learning; and who were between the ages of 25 and 34. The sample size for the youngest generation consisted of 864 respondents.

SEM Analysis Approach
There are different approaches to carrying out a structural equation analysis (Byrne, 2001). The intent for the analysis for this thesis was to judge the extent to which the model presented above fit the data for social reproduction rather than to compare the specific relationships between the variables in the model. More specifically, the model allowed us to determine the extent to which parents’ cultural and economic capital continued to have an effect on offspring’s education level, participation in adult education and in work-related informal learning. Therefore, the full-model without controls was used to test the relationships.
More specifically, the model was analysed in three phases to ensure that potential confounding factors related to sex, and social class background were tested. The first was an analysis that included no controlling variables in order to test whether the model is a good fit to the data. The second estimation compared the results of a constrained and unconstrained model controlling for sex in order to determine whether the results based on sex differed in a significant way. The third analysis controlled for parents’ occupational class to determine whether the relationships were the same for each occupational class (proxy for economic capital). Approaching the problem in this way ensured that potential confounding factors related to sex and occupational class were controlled.

**Variable Description**

Information on the variables used in the structural equation analysis for the specific sample outlined above is presented in Tables 7.1 to 7.4 below. The information presented in the table reports number of cases, percent of total N where relevant, minima, maxima, means, standard deviations, and probably of differences in the means for each grouping.

As seen in the first row of Table 7.1, the mean for education was 3.91 which fell between categories 3 "some post-secondary education but not completed" and 4 "non-university post-secondary education". Category 3 thus included those who did some post-secondary education but did not finish whereas category 4 includes those who graduated from a non-university program. Although level of educational attainment has previously been defined as a categorical variable, here it was treated as a continuous variable. In structural equation analysis all variables must be continuous. Despite the fact that the interval between categories is not equal, each of the categories is one level of education higher than the previous category in terms of years spent in school. The categories for education level were coded 1 through to 6.

As seen in Table 7.1 in the second row, the minimum was zero hours (representing those that do not participate) and the maximum was 46.15 hours per week. The mean for the sample was 1 hour per week with a standard deviation of 3.91 hours. The adult education variable is a continuous

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24 A note about the missing data: the average for missing data ranged from a low of 0% to a high of 17% with an average of 7%. No clear guidelines exist that outline what constitutes too much missing data.

25 Category codes for formal education are 1 – less than high school; 2 – high school diploma; 3 – some post-secondary education; 4 – non-university post-secondary education; 5 – undergraduate university degree; and 6 – graduate or professional degree.
variable based on self reports of the average number of hours spent in adult education courses in a typical week.

As seen in Table 7.1 in the third row, the mean number of hours spent in work-related informal learning for participants was 5.54 hours per week with a fairly large standard deviation of 8.35 hours. Work-related informal learning is also a continuous variable which is based on the self reported average number of hours spent on work-related informal learning in a typical week. The minimum hours were .25 (15 minutes) (this is treated as a proxy for non-participation in cases where a person responded yes to the questions that asked about type of informal learning; however, responded no hours). In these particular cases a minimum of .25 was recorded to differentiate them from those who reported that they participated in no informal learning whatsoever and the maximum is 71 hours per week. Respondents who did less than 30 minutes were also included in the 15 minute category. The interviewers recorded less than 30 minutes as 15 minutes. The consequence for the structural equation modeling is simply that the number of hours were slightly over-stated for those who claimed not to have done any work-related informal learning and under-stated for those who did more than 15 minutes but less than 30 minutes. The overall magnitude of the difference between 15 minutes and 30 minutes in informal learning when taking into consideration the lack of precision with this type of question was considered minimal for this analysis.

<table>
<thead>
<tr>
<th>Education Level</th>
<th>N</th>
<th>Total % of N</th>
<th>Min</th>
<th>Max</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adult Education Hours</td>
<td>863</td>
<td>100%</td>
<td>0.00</td>
<td>46.15</td>
<td>1.02</td>
<td>2.86</td>
</tr>
<tr>
<td>Work-related Informal Learning Hours</td>
<td>782</td>
<td>100%</td>
<td>0.25</td>
<td>71.00</td>
<td>5.54</td>
<td>8.35</td>
</tr>
</tbody>
</table>

As seen in Table 7.2, sex was equally split between males (49.7%) and females (50.3%). Based on a comparison of the means, males attained slightly lower levels of education with a mean of 3.76
which was just below category 3 "non-university postsecondary education" compared to females who had a mean of 4.07 which was slightly above category 4 "the non-university postsecondary education". The standard deviation for both males (1.44) and females (1.35) was similar. Differences between the means were statistically significant at the .001 level. Differences based on sex are consistent with previous research which indicates that females are surpassing males in level of education attained up to the graduate level.

| Table 7.2 – Level of education attained by sex |
|-----------------|----------------|----------|----------|----------|--------|
| N               | Total % of N   | Min      | Max      | Mean     | SD     | P<    |
| Male            | 425            | 49.7%    | 1.00     | 6.00     | 3.76   | 1.44  |
| Female          | 430            | 50.3%    | 1.00     | 6.00     | 4.07   | 1.35  |
| Total           | 855            | 100.0%   | 1.00     | 6.00     | 3.91   | 1.40  | .001 |

As seen in Table 7.3, on average those whose fathers were in the managers or professionals occupational class reached higher levels of education (4.40) than those whose fathers were in the owners (4.06), service workers (1.31), and manual workers (1.51) occupational class categories. There is a slightly higher standard deviation for manual workers (1.51) compared to the other occupational class groups that had a standard deviation between 1.29 and 1.32. Differences in the means were statistically significant at the .001 level. The results that show lower levels of education attained by those from lower occupational classes are consistent with previous research. The large standard deviation for those from working class backgrounds is likely due to the fact that females from working class backgrounds are more likely to attain higher education levels than their male counterparts.

| Table 7.3 – Level of education attained by parents' occupational class |
|-----------------|----------------|----------|----------|----------|--------|
| N               | Total % of N   | Min      | Max      | Mean     | SD     | P<    |

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The results shown in Table 7.4 represent level of education attained by respondents by parents’ level of education. We can see from Table 7.4 that 14.9% of parents did not complete high school; 27.6% completed high school but did not obtain any post-secondary education; 4.6% obtained some post-secondary education but did not finish; 20.1% obtained non-university post-secondary education; 15.7% obtained an undergraduate university degree; and 17.2% obtained a graduate or professional degree. Differences in the level of education obtained by respondents based on parents’ education level were statistically significant at the .001 level. The results indicate that the higher the level of education attained by parents, the higher the level of education attained by offspring. More specifically, those whose parents did not complete high school ended up with a mean of 3.46 which includes those who did some postsecondary education but did not finish and those who completed non-postsecondary education. The mean for those whose parents had university education was 4.54 which include those who completed postsecondary education that is not university and those who completed university. These results are not surprising. They are consistent with previous research and the crosstab analysis we saw in previous chapters. Differences in the means were statistically significant at the .001 level.

|                | N    | Total % of N | Min | Max | Mean | SD  | P <  
|----------------|------|--------------|-----|-----|------|-----|------
| Incomplete high school | 110  | 14.9%        | 1.00| 6.00| 3.46 | 1.47|
| Complete high school   | 204  | 27.6%        | 1.00| 6.00| 3.74 | 1.37|
| Some post-secondary    | 34   | 4.6%         | 1.00| 6.00| 3.85 | 1.33|
| Non-university post-secondary | 149  | 20.1%        | 1.00| 6.00| 4.07 | 1.30|
Model Results

This section is divided into four sub sections. The statistical results from testing the model are discussed followed by a discussion of the fit of the model to the data. The results from the model that tests the relationships among variables are discussed.

The following are the criteria used in evaluating whether the structural equation model fits the data:

1) The root mean square error of approximation (RMSEA) is considered a good fit when the result is below .05 (Browne and Cudeck 1993); a reasonable fit for results between .05 and .08 (Browne and Cudeck 1993); a mediocre fit for results between .08 and .10 (MacCallum, Browne et al. 1996); and a poor fit for results higher than .01 (MacCallum, Browne et al. 1996);

2) The model is a better fit when the confidence intervals are narrow and within the above criteria (Steiger 1990; MacCallum, Browne et al. 1996);

3) The P close test is less than .50 (Joreskog and Sorbom 1996); and,

4) The comparative fit index (CFI) is larger than .90 (see Bentler, 1990 for more information).

These criteria were applied to the results from the analysis.

Results for the youngest generation

A model was run for the youngest generation because the focus for this thesis is on the youngest generation (25-34) in order to determine whether the variables that represent social reproduction theory have a significant effect for those who most recently finished their initial formal education. Based on the results shown in Table 7.5, looking at the fit of the model for the youngest
generation without controlling for sex or parents' occupational class, there was a good fit between the model and the empirical data. The chi-square was 1.327 with 2 degrees of freedom. The RMSEA was .000, which was substantially below the .05 threshold; the confidence interval at the 90% level was .000 to .060 which were both within the threshold for a good fit and the interval was narrow. These figures indicated a fairly precise fit. The P close test was .899 and the CFI was 1.000. All of these figures indicated that the model was a good fit for the data collected for those in the youngest generation between the ages of 25 and 34.

Table 7.5 – Model results for youngest generation

<table>
<thead>
<tr>
<th>Model</th>
<th>$x^2$</th>
<th>DF</th>
<th>RMSEA</th>
<th>90% Con Int</th>
<th>P test</th>
<th>CFI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Generation</td>
<td>1.327</td>
<td>2</td>
<td>.000</td>
<td>.000 - .060</td>
<td>.899</td>
<td>1.000</td>
</tr>
</tbody>
</table>

Results for youngest generation controlling for sex

The same model as above was tested for the youngest generation controlling for sex. The results are shown in Table 7.6. The first step was to run a simultaneous two group unconstrained model. The unconstrained chi-square was 4.661 with 4 degrees of freedom. The RMSEA was .014 with a confidence interval at the 90% level of .000 to .055. The P close test was .917 and the CFI was .996. The results indicate that the model for males and females was a good fit to the data for both males and females.

The next step was to run a simultaneous two group unconstrained model and compare these results to the results of a fully constrained model. Then the chi-square from each model was compared to determine whether differences between the two models were statistically significant. The analysis from the constrained model resulted in a chi-square of 13.829 with 12 degrees of freedom and for the unconstrained model the chi-square was 4.661 with 4 degrees of freedom. The difference in chi-square (9.168) and degrees of freedom (8) resulted in a difference that was not statistically significant ($p = 0.33$). Based on these results, we can conclude that there was no difference in the model for males and females in the youngest generation. In other words, the model fit both sexes.

Table 7.6 – Model results by sex
Results for youngest generation controlling for occupational class

The same model as above was tested controlling for father's occupational class. As with the analysis controlling for sex, this analysis was also carried out in a two-step process. The results are shown in Table 7.7 below. The first step was to run a simultaneous four group unconstrained model. The unconstrained chi-square was 4.064 with 8 degrees of freedom. The RMSEA was .000 with a confidence interval at the 90% level of .000 to .024. The P close test was .999 and the CFI was 1.000. The results indicate that the model was a good fit for all occupational classes. In other words, the variables included in the model were suitable for owners, professional/managerial, service workers, and manual labour occupational classes.

The next step was to run a simultaneous four group unconstrained model and compare these results to the results of a fully constrained model. Then the chi-square from each model was compared to determine whether differences between the two models were statistically significant. The analysis from the constrained model resulted in a chi-square of 34.186 with 22 degrees of freedom and for the unconstrained model the chi-square was 4.064 with 8 degrees of freedom. The difference in chi-square (30.122) and degrees of freedom (24) resulted in a difference that was not statistically significant (p > 0.82). Based on these results, we can conclude that there was no difference in the model for fathers' occupational in the youngest generation. In other words, the model fits all occupational classes.
The results from the overall model that did not control for sex or fathers' occupational class are shown in Figure 7.2 below. The solid lines in the diagrams represent relationships that were found to be statistically significant at the .05 level or less and the dotted lines represent relationships that were not statistically significant. The numbers located near the lines are the standardized regression coefficients followed by the \( p \) value.

**Figure 7.2 Overall Model for 25-34**

Based on the model results above, we can see that there exists a positive relationship between parents’ education and the level of education attained by offspring (beta = .28). In other words, as the level of education attained by parents increased so did the level of education attained by their offspring. The total variance explained is 8%.

The relationship between respondents' education and participation in adult education was also found to be positive and statistically significant at the .05 level (beta = .09). The total variance explained is 1%.
The relationship between respondents' education and respondents' income was also positive (beta = .30), which suggests that the higher the respondents’ education, the higher their income. Moreover, 9% of the variance in income is explained by respondents’ education. This is a fairly substantial variance when looking at sociological phenomena.

The other relationship that is statistically significant is the relationship between respondents' income and the number of hours spent informal learning (beta = -.14). This relationship was negative, which means that as one’s income increases, the number of hours spent in work-related informal learning decreases. Though only 3% of the variance in informal learning is explained by income, it is important to remember that there is a statistically significant relationship. This means that the finding did not occur by chance.

The negative relationship between income and work-related informal learning suggests that there may be a substitution effect where those who earn low incomes may be using informal learning rather than formal. Moreover, there may be some presence of social reproduction where those with low levels of education earn low incomes; therefore, are less likely to engage in formal learning due to costs.

The relationships that were not statistically significant were the relationships between respondent's education and hours spent in work-related informal learning; respondent's income and hours spent in adult education; the direct relationship between parents' education and respondents' participation in adult education; and the direct relationship between parents' education and hours spent in work-related informal learning.

Discussion of Results
The discussion of the results begins with outlining the results that are pertinent to the hypotheses tested for this thesis.

Hypotheses Tested
Looking only at the tested hypotheses, the findings confirmed each one. Each hypothesis is discussed briefly followed by a discussion of the relationships tested.

1. The first hypothesis was that parents’ education (proxy for cultural capital) and
occupational class (proxy for economic capital) influence the level of education pursued by their offspring. In fact, the findings indicated that there continued to be a relationship between parents’ education and the level of education attained by offspring for the youngest generation. This relationship existed when the analysis controlled for sex and occupational class which means that the relationship between parents’ education and offspring’s education existed regardless of parents’ occupational class.

2. The second hypothesis was that respondents' social class had a direct effect on participation in adult education and that there would be a direct relationship between parents' education and participation in adult education. The evidence shows that there existed a relationship between parents’ education and respondent’s education level and between respondents’ education and participation in adult education despite controlling for sex and occupational class. This indicates that there is an indirect relationship between parents’ education level and participation in adult education.

3. The third hypothesis was that there would not be a significant direct relationship between respondents’ social class and participation in work-related informal learning and between parents’ social class background and work-related informal learning. The findings did not confirm this hypothesis in its entirety. A direct negative relationship was found between respondents' income and participation in work-related informal learning. No relationship was found between parents’ education and participation in work-related informal learning.

Discussion of the results
The following discussion links the findings of the analysis to Bourdieu’s theory of social reproduction and previous research. The crosstab analysis indicated that those from low levels of education and low social classes continued to be underrepresented in the formal education system including adult education. The structural equation modelling analysis went one step further in showing the strength that each independent variable had on each of the intervening and dependent variables. The following discussion systematically walks through all of the relationships that were tested in the SEM analysis.
Parents’ Education Level to Respondents’ Education Level

Beginning with the first relationship that tested the extent to which parents’ education level continued to affect respondents’ education level, we saw that cultural capital (defined as parents’ education level) continued to play a role in accessibility to formal education for the youngest generation.

The positive relationship that was found for the most recent graduates (the youngest generation) was a statistically significant positive relationship which means that as parents’ education level increased, so did that of their offspring. This relationship was consistent despite sex and occupational class differences. It seems evident from the findings that parents from high levels of education were passing onto their children a disposition that facilitated success in our education system.

We saw in the review of literature that barriers to participation included more than just tuition (Finnie, 2008). The fact that parents’ education level was a predictor of one’s own education level supported this notion. Despite the many support programs that have been implemented by both governments and postsecondary institutions, students whose parents had a high level of education were more likely to themselves obtain a high level of education.

The relationship between parents’ education level and respondents’ education level was present for both males and females. We saw in the crosstab section that females made strides in gaining access to the point of surpassing males in level of education attained. Despite increased access for both males and females, we still found that parents’ education persisted in predicting level of education attained by offspring.

Similarly, despite one’s class, parents’ education level continued to be a predictor of the level of education attained by their offspring for all four occupational classes tested. It appears that Bourdieu's theory that those with high levels of cultural capital (defined as parents’ education level) continued to provide an advantage to their offspring in terms of the level of education attained.

Respondents’ Education by Respondents’ Income

Another relationship that reinforced both previous research and Bourdieu's social reproduction theory was that those who attained high levels of education (cultural capital) continued to be better
remunerated (increased economic capital) than those who had low levels of education. This is not new information; rather, it reinforces the notion that despite social class background, education is a vehicle by which one can improve economic capital. The problem is that despite the many changes in policies that aim to increase equity are not effective in eliminating social reproduction.

No differences based on sex and occupational class were found. This indicates that despite sex or occupational class, inequities in income exist. Cultural capital has an effect on income level despite whether you are male or female. It also appears that education is a better predictor of income level than occupational class. There likely is some link between parents’ education and parents’ occupational class; however, the stronger predictor is education.

The finding for this particular relationship is an indication that Bourdieu’s theory of social reproduction persists in Canada for those in the youngest generation where high cultural capital begets high economic capital. This is consistent with previous research that found that few university (5%) and college (8%) educated workers were in the low earnings categories in Ontario. This finding is nothing new. The problem is that this finding highlights the importance of ensuring equity in education for everyone despite parents’ capital in order to allow people an opportunity to obtain the level of education necessary to ensure good stable employment despite one’s social background.

Respondents’ Education by Participation in Adult Education

The results from the SEM analyses indicated that the relationship between respondents’ education and participation in adult education was positive even when controlling for sex and occupational class. Though only 1% of the variance in participation in adult education is explained by respondent’s education level, the presence of a positive relationship suggests that the more education one gets, the more likely that person is to engage in adult education. Moreover, the fact that 8% of the variance in respondents’ education is explained by parents’ education indicates that social reproduction might be extended into adult education. The low level of explained variance indicated that there are other factors that affect one’s participation in adult education. Examples of other factors might be the nature of the job one holds, whether participation was mandatory or voluntary, the idea of the demand for credentials by employers, or the supply of adult education courses. Should these factors have been included in the model, the amount of the variance
explained may have been more substantial. The positive relationship was consistent with both Bourdieu's theory of social reproduction, previous findings from past research, and it confirmed the findings from the crosstab section. We saw many of these factors in the review of literature. The important point to take away from this finding is that despite initial level of education, it appears that those who may not have attained a high level of education do overcome their past experiences and upgrade their skills. Bourdieu's theory of social reproduction suggests that once an individual self-eliminates from formal education, he or she will not likely return. This finding does not confirm this notion for adult education.

**Respondents' Income by Participation in Work Related Informal Learning**

Another relationship that was consistent throughout the SEM model despite sex and occupational class was the inverse relationship between respondents' income and participation in work-related informal learning. This means that the lower the respondents' income, the more likely the respondent was to participate and spend hours in work-related informal learning. It implies that those who earned low incomes were participating in a learning activity; therefore, they were not unwilling to engage in learning, rather, they were potentially disinclined to participate in formal education which consists of structures that oppress those from lower social classes. The downside of low income people engaging in informal learning is that informal learning is not linked to a formal credential that is recognized to the same extent as formal education. The programs that are aimed at assessing one's prior learning (such as Prior Learning Assessment and Recognition Programs PLAR) take into consideration that people learn in informal ways that are valuable and that this learning should be recognized in a formal way. This finding highlights the importance of PLAR when individuals seek to return to formal schooling to upgrade their skills.

**Respondents' Education by Participation in Work-Related Informal Learning**

The relationship between respondents' education and participation in work-related informal learning was not statistically significant. The lack of relationship implied that despite one's education level, there was no difference in the extent to which one participated in work-related informal learning. This finding supports much of the previous research that outlined that informal learning was more accessible to people than formal learning (Livingstone 2004; Rubenson 2007). The oppressing structures that are in our formal education system that tend to perpetuate social
reproduction do not seem to be present for informal learning, as a consequence we can say that there was much more equity in participation.

**Respondents' Income by Participation in Adult Education**

The relationship between respondents' income and participation was not statistically significant. It appeared that out of the variables in the model, income did not affect participation in adult education as much as the other background variables. This does not imply that people do not find the cost of participation to be a barrier; we can only say that income level was not one of the predictors of participation in adult education. It seems as though cultural capital played a larger role in participation in adult education than economic capital.

**Parents' Education by Participation in Adult Education**

The relationship between parents' education and respondents' participation in adult education was not statistically significant which indicated that there was no direct relationship between parents' education level and participation in adult education. This was an important finding in the sense that despite your parents' education level, if as an adult an individual chooses to upgrade his or her skills, parental cultural capital would not influence the outcome to the same extent as other variables in the model. Cultural capital was passed on from parents to offspring at an early stage in life which influenced the initial level of education attained but lessened as offspring became adults.

**Parents' Education by Participation in Work-related Informal Learning**

The relationship between parents’ education and respondents’ participation in work-related informal learning was not statistically significant. This indicated that there was no direct relationship between the two. This finding was consistent with much of the previous research that found that informal learning was much more accessible than formal learning. Moreover, we saw that respondents’ education and occupational class did not affect participation in work-related informal learning. It seems that despite parents’ education level, people participate in a learning activity.
Discussion of Overall Findings

In sum, the structural equation model tested whether Bourdieu’s theory of social reproduction applies in Canada for those in the youngest generation regarding level of education, participation in adult education, and in work-related informal learning. The significant relationships that pertain to Bourdieu’s theory were the positive relationships between parents’ education and respondents’ education; respondents’ education and respondents’ income; and, respondents’ education and participation in adult education. All of these relationships indicate that the higher the level of cultural capital, the higher the level of education and economic capital by offspring. Moreover, the higher the level of capital gained by respondents (through education), the higher the level of participation in adult education.

The only prediction that did not materialize was the negative relationship between respondents’ income and participation in work-related informal learning. However, this is consistent with Bourdieu’s theory in the sense that the structures found in the education system that impede those from low social classes from participating are not present in informal learning. This means that there would be participation from all social classes. The surprising finding is that it is an inverse relationship where those from low incomes spend more time in work-related informal learning than those from high incomes. We conclude that those with low levels of education who earn low incomes are not hesitant to learn but rather they are disinclined to participating in formal education activities. This is consistent with the notion that those who are most disadvantaged in our society must rely on informal learning to gain skills rather than to participate in more expensive formal education.
Chapter 8

CONCLUSION

Introduction

Everyone should have the opportunity to pursue the career of their choice despite their parents' cultural and economic capital. Structural functionalist theorists presume that the education system rewards students based on merit (Parsons 1961; Alexander 1985); however, it is unlikely that the vast majority of children from lower social class are less capable of learning and achieving the grades necessary to succeed in post-secondary education. If the education system were strictly based on merit and ability, we would see a more even distribution in education attained by individuals with different socio-economic statuses.

Despite evidence of inequities in our formal education system and lack of participation in adult education by those from low socioeconomic classes, no studies have looked at the effects of parents' socioeconomic background on participation in adult education courses. Those studies that look at participation in adult education focus on the motivations and barriers to participation. People are not aware of the structural barriers in the formal education that keep them from participating. I believe that people likely interpret these barriers as lack of money, lack of time, and so on while the reason they do not participate is due to the lack of ability to overcome the structural barriers.

The aim of the thesis was to explore the magnitude of inequity in accessibility to initial formal education, continuing adult education, and work-related informal learning. The two main issues that the thesis attempted to determine were: first, the extent to which background characteristics have consequences for intergenerational educational mobility, and second, whether social background characteristics that affect initial educational attainment continue to influence participation in adult education and job-related learning. This research focused on three main questions:
1) To what extent does parents’ social background influence educational attainment levels for Canadians?

2) To what extent does parents’ social background influence participation in adult education for their offspring beyond the effects of an individual’s own social background?

3) To what extent does parents' social background have on their offspring's participation in informal learning for the workplace beyond the effects of an individual's own social class background?

The intent of this study was to delve further into social reproduction in formal education and adult education. The objective of the study is to enable institutions and governments to better understand that programs designed to increase accessibility for those who are underrepresented need to focus not only on financial support for postsecondary education and adult education.

Based on the results of the analysis in this thesis, we can see that parents' education continues to be a strong predictor of the level of education attained by offspring. We also saw that one’s level of education affects participation in adult education. This means that indirectly, your parents’ level of education has an effect on your participation in adult education. Inequities are not found in participation in work-related informal learning. In fact, a large majority of Canadians engage in informal learning activities. This finding reinforces the fact that people want to learn; however, not everyone can learn from the formal education system consisting of structures that create barriers for those from lower social classes.

In this thesis, two types of analyses applied. Basic crosstabs were analysed to determine the level of education, participation in adult education and in work-related informal learning by those with varying levels of cultural and economic capital. Subsequently, a structural equation model was used to examine the extent to which cultural and economic capital influence education level, participation in adult education and work-related informal learning.
Overall, Canadians are obtaining higher levels of education than in the past. No differences exist in level of education based on sex. However, there is a gap in level of education based on parents' level of cultural and economic capital. Inequity continues to exist with regards to accessibility to formal education.

The analyses from the crosstabulations showed that those whose parents were from high levels of education were advantaged in our education system. Similarly, when controlling for occupational class, we saw that those with parents in the professional or manager classes were more likely to obtain post-secondary education (mostly a university degree) than to those whose parents were in the owner, service worker and manual labour classes.

The results from the SEM analysis carried out on the youngest generation indicate a positive relationship between parents' education level and offspring's education level. In other words, the higher the level of education a parent attains, the higher the level of education the child attains. This effect was present even when controlling for sex and parents' occupational class, which implied that parents' education background was a more powerful predictor of education level than occupational class or sex. Therefore, we can conclude that overall, the findings from the analysis indicate that social reproduction continues to exist in our education system. In other words, those with high cultural capital (defined by parents' education) continue to succeed in the education system and those with high economic capital (defined by occupational class) also are more likely to succeed than those from low occupational classes. These findings that inequities continued to exist for the youngest generation confirm previous research.

Overall, approximately half of working Canadians now participate in adult education. The majority of those who participate take work-related courses. There were no differences based on sex for the youngest generation. There was a slight decline in participation for working Canadians who were older than 60. The results from the crosstab analysis showed that a good predictor of participation in adult education courses was an individual's own level of formal education. This finding confirms previous findings. We also saw from the analysis that those who earned high incomes and who were from high occupational classes were more likely to participate in adult education than those who earned low incomes and who were in low occupational classes. These findings substantiate previous research on participation in adult education. As well, the findings suggest that those who
were in high occupational classes were more likely to participate in adult education than those from low occupational classes.

The crosstab analysis went one step further by looking at the effects of parents’ education and occupational background on participation in adult education. The results from this analysis indicate that those whose parents have higher levels of education and occupational class are more likely to participate. However, the crosstab analysis did not control for respondents’ level of education. The structural equation modelling analysis was used to control for this. The results from the structural equation modelling show that overall, the relationship between parents' education and offspring’s education was significant whereas the relationship between parents’ education level and offspring’s participation in adult education courses was not. This finding suggests that parents' education level has an effect on initial formal education attained by offspring but as offspring become adults, the influence is no longer statistically significant. The relationship between respondents' incomes and participation in adult education was not significant. This finding means that formal educational attainment is more of a factor in participation in adult education.

Work-related informal learning is much more accessible than formal learning to everyone despite sex, one's own occupational class, and parents' occupational class. Barriers that create inequities in formal education are much more pronounced than for work-related informal learning.

**Original Contributions**

The analyses demonstrated persistence in the effects of parents’ education level (cultural capital) and respondents’ education level. Despite the gap between the less educated and the more educated closing and the increase in the overall education level attained by Canadians, the relationship continues to exist for the youngest generation. Social reproduction based on cultural capital continues to be an issue.

The analyses that looked at the effects of parents’ education level on their children’s participation in adult education showed no direct effect. These findings are consistent with the overall narrowing of the gap between those from high and low education levels, incomes, and occupations participating in adult education. As adults, offspring are not as influenced by their parents’ cultural and economic capital.
There is a definite lack of parental effect on respondents' participation in work-related informal learning. This is not surprising given that the large majority of Canadians report participating in informal learning. No previous research examined the effects of parental cultural and economic capital on informal learning. The important thing to take away from this is that despite the amount of valued cultural and economic capital, people engage in work-related learning activities. Prior learning assessment and recognition programs can help address the inequities faced through the formal education system. Skills are learned informally and they need to be recognized.

The results from the crosstab analysis that show that those from low incomes spend more time in work related informal learning along with the finding from structural equation model analysis that shows the negative relationship between income and hours spent in informal learning indicates that informal learning may be more accessible to these folks than formal education. In order to better understand this finding, I recommend that more research be carried out that would delve into this phenomena further. These findings only reinforce the need to develop better ways of identifying/recognizing informal learning in order to aid in overcoming discriminatory reproduction in the formal system. This recommended work can build on one prior effort that addressed this issue which is the research carried out for the “Hidden Knowledge” by Livingstone and Sawchuk (2004).

Implications of the findings:

Since parents’ education level (cultural capital) plays a significant role in offspring’s education, programs need to be developed at primary and secondary levels of education offering those from less privileged backgrounds opportunities to develop the cultural capital needed in our education system for all social classes to succeed. Examples of programs can include having a mentorship program at a very early age where those from low cultural capital are grouped with children from high levels of cultural capital in order to expose these children to dominant forms of capital; there could be after school programs that help students acquire the capital necessary for them to succeed; and, teacher education programs that help teachers support children in acquiring the dominant cultural capital. These are simply examples of ways to help increase levels of cultural capital.
Though we found that there was no direct effect between parents’ education level and respondents’ participation in adult education, there is an indirect relationship where parents' education affects offspring’s education which in turn affects participation in adult education. There seems to be a need for the development of programs that reach those who have been turned off the formal education system at the primary and secondary levels if we are going to create equity in accessibility to a second chance at upgrading skills. It is not good enough to provide programs that pay for people to return to school as adults. This funding simply supports those that already have a high level of education rather than those who may really need to upgrade. The problem with accessibility is two-fold: the first is that those with low education levels have lower incomes and few opportunities to obtain good jobs which create a barrier to access adult education opportunities. Moreover, many of the government funded programs support people returning to work who have the basic literacy skills to access postsecondary education. There needs to be consideration for supporting those with low incomes or who lack decent work and those who do not have the basic literacy skills to qualify for these programs. Once those who have low levels of education upgrade their basic skills, they can engage in adult education courses that will improve their employment opportunities.

The finding that shows that respondents’ income and participation in adult education is not statistically significant is very important. This implies that the cost of participation in adult education is not the only barrier to access (it may be in some cases but not all). Possible reasons for the lack of relationship are that either those in high income brackets are not participating in adult education because they have reached an education level adequate for their work or those in low income brackets do not have the disposal income to spend on adult education course. Also, government programs and employer support for adult education courses - which was not taken into consideration in the analysis (due to the complexities of measuring employer support) – may interfere with the strength of this finding. In summary, though no direct relationship was found between income and adult education, we do not know the specific reasons for this lack of relationship.

The implications regarding the findings for participation in work-related informal learning are that more research is needed to explore in more depth the extent to which those from low social class backgrounds are using informal learning as a substitution for formal education, as well as how
those from high social class backgrounds are using informal learning to complement their formal education.

Prior research on work-based learning practices and the growing research regarding the use of PLAR have looked at the link between respondents’ background and participation in work-related informal learning but no research has been carried out that takes into consideration parents’ level of cultural and economic capital. This research simply skimmed the surface of these long lasting effects. Moreover, more research needs to be carried out to determine whether the skills gained informally in the workplace are as valuable to the employer as skills learned through formal education. The implications of such findings may create a situation where employers begin to value the skills gained through informal learning - allowing those from less privileged backgrounds the opportunities to have their skills recognized in the workplace.

Implications for future research

In this thesis, the analysis did not take into account those who returned to school after their initial education (the proportion was too small). Future research could make take this important differentiation into account because as people mature, they may return to school on a part-time basis to obtain a post-secondary education diploma or degree. By not eliminating those that returned to school as adults, the percentages of those who attained post-secondary education through initial schooling rather than participation in adult education may be slightly overstated. Future research should take this into consideration and eliminate those who returned to school so that more accurate results can be attained regarding initial levels of education.

In this current research, the SEM model focused on variables that pertain to Bourdieu’s social reproduction theory. Lacking in the model were variables that affect participation in adult education beyond social reproduction such as the nature of the job one holds, whether participation was mandatory or voluntary, the idea of the demand for credentials by employers, or the supply of adult education courses. Should these factors have been included in the model, the amount of the variance explained may have been more substantial. Future research should include these factors into the analysis in order to better explain overall participation in adult education.
Ideally continuous variables should be used for SEM analysis. For this thesis the education variables used was a categorical variable that was treated as a continuous variable where the categories of education were based on a categorical scale. A better measure would be to have a true continuous variable that encompasses number of years of education attained, level of education, and type of degree. Although the education variable is continuous a more precise measure would allow us to have more accurate results regarding the effect of parents' education.

There are several factors, not controlled in the analysis, that affect level of education. These may have given a different dimension to the analysis. The factors include differences based on language, province, ethno racial origin, number of years in Canada, size of community (rural vs. urban), and parental income. It is also important to look at the intersectionality effects of various background factors such as sex, social class, and ethno racial origin in order to determine which has the strongest effect.

The analysis which controlled for sex and then parents' occupational class did not look at the effects of intersectionality of sex and occupational class. Due to the small sample size and the categorical nature of the occupational class variable, intersectionality could not be determined. I was limited in this research to looking at demographic variables independently; therefore, we cannot assess the extent to which sex and race have an effect on participation. It is likely that the results for the SEM would have been different if controlling for both sex and occupational class could be done together. For example, we could better understand the situation for females whose fathers' were manual workers compared to males whose fathers' were manual workers. Future research may want to take into consideration looking at these relationships using other statistical methods than structural equation modelling such as using partial correlation measures.

Another limitation of this study was its heavy reliance on quantitative data. The main findings are very important in understanding the extent to which social reproduction takes place in Canada that is relevant to both formal and informal learning. The next step is a qualitative study using in-depth interviews to better understand how social reproduction takes place via to both formal and informal learning. We need to better understand what makes informal learning so much more attractive where the majority of respondents participate. Moreover, by using qualitative methods
we could determine the factors that make formal education so unattractive to those from less privileged backgrounds.

As a final note, many attempts have been made to measure time spent in various activities (time-use); however, in many cases the measures have relied on the respondent to estimate the amount of time spent in activities. As a result, the accuracy of hours is doubtful. Using more accurate measures to estimate the amount of time spent in formal and informal learning would allow for more specific conclusions to be drawn from analyses.
References


Appendix A

**Decision Tree: Age by Father’s Occupational Class**

Below are the results from running the father’s occupational class (labelled in SPSS as Father’s Social Class) variable with the respondent’s age variable. As we can see, the results are statistically significant at the .001 level. The decision tree indicates the age groups within which respondents remain homogeneous are for those who are between 25 to 34; 35 to 59; and, over 59 years of age.

<table>
<thead>
<tr>
<th>Risk</th>
<th>Estimate</th>
<th>Std. Error</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>.661</td>
<td>.009</td>
</tr>
</tbody>
</table>
Decision Tree: Age by Respondents' Education Level

Below are the results for respondents’ education level and age. As can be seen in the results below, the age group breakdown is six categories. The problem with using this breakdown is that the n will be too small due to having so many groups. The analyses would not be meaningful.
Estimate | Std. Error
--- | ---
0.743 | 0.006

Growing Method:
EXHAUSTIVE CHAID

Dependent Variable:
Educational Attainment

<table>
<thead>
<tr>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Observed</td>
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</tr>
<tr>
<td>incomplete high schl</td>
</tr>
<tr>
<td>0</td>
</tr>
<tr>
<td>Complete high schl</td>
</tr>
<tr>
<td>Some postsec</td>
</tr>
<tr>
<td>Non-Univ Post cert</td>
</tr>
<tr>
<td>Undergrad degree</td>
</tr>
<tr>
<td>grad-prof degree</td>
</tr>
<tr>
<td>Overall</td>
</tr>
</tbody>
</table>

Growing Method: EXHAUSTIVE CHAID

Dependent Variable: Educational Attainment

**Decision Tree: Age by Hours in Adult Education**

Below are the results for the hours of participation in adult education and age. As can be seen in the results below, the age group breakdown is three categories that are very similar to those found for occupational class. Seeing that much of the previous research for the youngest age groups is 25 to 34 and the main focus of the thesis is on the youngest generation, it seems more appropriate to work with the breakdown noted above that represents occupational class.
Risk Estimate | Std. Error
--- | ---
0.154 | 0.005

Growing Method:
EXHAUSTIVE CHAID

Dependent Variable:
Hours spent on courses

### Classification

<table>
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<th>Observed</th>
<th>Less than 1 hour</th>
<th>1 to 2 hours</th>
<th>3 to 5 hours</th>
<th>6 to 10 hours</th>
<th>10+ hours</th>
<th>Percent Correct</th>
</tr>
</thead>
<tbody>
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<td>Less than 1 hour</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>100.0%</td>
</tr>
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<td>1 to 2 hours</td>
<td>389</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.0%</td>
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<tr>
<td>3 to 5 hours</td>
<td>208</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>6 to 10 hours</td>
<td>112</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>10+ hours</td>
<td>57</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>Overall Percentage</td>
<td>100.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>84.6%</td>
</tr>
</tbody>
</table>
Growing Method: EXHAUSTIVE CHAID
Dependent Variable: Hours spent on courses

**Decision Tree: Age by Hours in Informal Learning**

Below are the results for the hours of participation in informal learning and age. As can be seen in the results below, there are no age group breakdowns associated with number of hours spent on work related informal learning. This means that work-related informal learning cannot be used for the analysis in the thesis.

<table>
<thead>
<tr>
<th>Node 0</th>
<th>Category</th>
<th>%</th>
<th>n</th>
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</thead>
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<td>94.7</td>
<td>3990</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>0.0</td>
<td>361</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>100.0</td>
<td>4351</td>
</tr>
</tbody>
</table>

Risk

<table>
<thead>
<tr>
<th>Estimate</th>
<th>Std. Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.083</td>
<td>0.004</td>
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</tbody>
</table>

Growing Method: EXHAUSTIVE CHAID
Dependent Variable: Work-Related Informal Learning

**Classification**

<table>
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<th></th>
<th>Observed</th>
<th>Predicted</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
<td>Yes</td>
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<tr>
<td>No</td>
<td>0</td>
<td>361</td>
</tr>
<tr>
<td>Yes</td>
<td>0</td>
<td>3990</td>
</tr>
<tr>
<td>Overall Percentage</td>
<td>0.0%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Growing Method: EXHAUSTIVE CHAID
Dependent Variable: Work-Related Informal Learning
Appendix B

Correlations to determine the extent to which size of company owned is correlated with level of education attained by offspring and participation in adult education or work-related informal learning.

As seen in Table A below, the correlation between the size of the fathers’ organization and respondents’ level of education is not statistically significant.

Table A – Size of Fathers’ Organization by Respondents’ Level of Education

<table>
<thead>
<tr>
<th>Correlations</th>
<th>Size of Organization</th>
<th>Respondents’ Education Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size of Organization</td>
<td>Pearson Correlation</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>-.028</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>1257</td>
</tr>
<tr>
<td>Respondents’ Education Level</td>
<td>Pearson Correlation</td>
<td>.329</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>4819</td>
</tr>
</tbody>
</table>

As seen in Table B below, the correlation between the size of the fathers’ organization and respondents’ participation in adult education is not statistically significant.

Table B – Size of Fathers’ Organization by Respondents’ Participation in Adult Education

<table>
<thead>
<tr>
<th>Correlations</th>
<th>Size of Organization</th>
<th>Hours spent on adult education courses (0 hours = no participation)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size of Organization</td>
<td>Pearson Correlation</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.623</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>1257</td>
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<tr>
<td>Hours spent on adult education courses (0 hours = no participation)</td>
<td>Pearson Correlation</td>
<td>-.014</td>
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<td></td>
<td>Sig. (2-tailed)</td>
<td>.623</td>
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<tr>
<td></td>
<td>N</td>
<td>1253</td>
</tr>
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</table>
As seen in Table C below, the correlation between the size of the fathers’ organization and respondents’ participation in work-related informal learning is not statistically significant.

Table C – Size of Fathers’ Organization by Respondents’ Participation in work-related informal learning

<table>
<thead>
<tr>
<th>Correlations</th>
<th>Size of Organization</th>
<th>Hours spent in work-related informal learning (0 hours = no participation)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size of Organization</td>
<td>Pearson Correlation</td>
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</tr>
<tr>
<td>Sig. (2-tailed)</td>
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<td></td>
</tr>
<tr>
<td>N</td>
<td>1257</td>
<td>1061</td>
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<tr>
<td>Hours spent in work-related informal learning (0 hours = no participation)</td>
<td>Pearson Correlation</td>
<td>-.002</td>
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<tr>
<td>Sig. (2-tailed)</td>
<td></td>
<td>.957</td>
</tr>
<tr>
<td>N</td>
<td>1061</td>
<td>4243</td>
</tr>
</tbody>
</table>
Appendix C

Correlations to determine the extent to which parents’ level of education is correlated with participation in work-related informal learning and participation in adult education.

As seen in Table C below, the correlation between parents’ education level and respondents’ work-related informal learning is statistically significant at the .05 level.

Table C – Parents’ education level by respondents’ work-related informal learning

<table>
<thead>
<tr>
<th>Correlations</th>
<th></th>
<th>Hours spent in work-related informal learning (0 hours = no participation)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pearson Correlation</td>
<td>1.042*</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.014</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>3891                                                                      3478</td>
</tr>
</tbody>
</table>

* Correlation is significant at the 0.05 level (2-tailed).

As seen in Table D below, the correlation between parents’ education level and respondents’ adult education is statistically significant at the .01 level.

Table D – Parents’ education level by respondents’ adult education

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<tbody>
<tr>
<td></td>
<td>Pearson Correlation</td>
<td>.042*</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.014</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>3478</td>
</tr>
</tbody>
</table>
### Correlations

<table>
<thead>
<tr>
<th></th>
<th>Parents' Education Level</th>
<th>Hours spent in work-related informal learning (0 hours = no participation)</th>
</tr>
</thead>
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<td>Parents' Education Level</td>
<td>Pearson Correlation</td>
<td>1</td>
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<tr>
<td></td>
<td>Sig. (2-tailed)</td>
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<td></td>
<td>N</td>
<td>3891</td>
</tr>
<tr>
<td>Hours spent in work-related informal learning (0 hours = no participation)</td>
<td>Pearson Correlation</td>
<td>.042*</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.014</td>
</tr>
<tr>
<td></td>
<td>N</td>
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<tr>
<td>Parents' Education Level</td>
<td>Pearson Correlation</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>3891</td>
</tr>
<tr>
<td>Hours spent on adult education courses (0 hours = no participation)</td>
<td>Pearson Correlation</td>
<td>.108**</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>3884</td>
</tr>
</tbody>
</table>

*Correlation is significant at the 0.05 level (2-tailed).

**Correlation is significant at the 0.01 level (2-tailed).