Human Capital Development and the Frontiers of Research in the Sociology of Education

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Skills and Knowledge for Canada's Future: Seven Perspectives
Towards an Integrated Approach to Human Capital Development

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Executive Summary

The sociological literature on educational achievement and attainment has contributed substantially to our current understanding of human capital development. Sociologists have examined the determinants of skills and knowledge in adolescence for more than five decades. These skills constitute the majority of the human capital brought into and drawn on in the labour market, and much public policy is devoted to enhancing the educational system's capacities to foster them.

In our synthesis of the sociological literature that is relevant to Canadian policy on human capital development, we consider four broad explanations – the effects of family background, the impact of race, opportunities to learn, and school effects – for motivation and commitment to schooling, learning and preparation for post-secondary education and resulting educational attainment. These explanations are based, mostly, on empirical research on educational institutions in the United States, rather than in Canada, as the literature in the sociology of education is dominated by studies of U.S. institutions. Intermixed in this presentation, we offer definitions and some explanation of the sociological concepts of cultural capital and social capital, which are often used in sociology when developing explanations for the accumulation of human capital.

Following this broad accounting of the explanatory mechanisms of the sociology of education, we narrow the focus to consider what is known about these mechanisms in Canadian education. For this later section, we draw on the non-sociological literature on education in Canada, as the education literature in Canadian sociology is somewhat thin. Although we are able to summarize adequately what is known about these processes in Canada, many gaps in the literature on Canadian education remain to be filled. A primary reason for these gaps is insufficiency of data: Canada lacks a nationally representative, school-based, longitudinal survey such as those that have been used extensively in quantitative research in the sociology of education in the United States.

Finally, we conclude with a section on policy implications as well as recommendations for further research. Regarding the former, the literature clearly points to policy recommendations for grade retention and ability streaming. Although it is not unreasonable to surmise that the threat of grade retention stimulates students' effort and that poorly performing students could benefit from revisiting material that they have not mastered, the weight of the evidence indicates that grade retention does more harm than good for the performance of retained students. They appear to learn no more when retained, and they are far more likely to drop out of secondary school. The evidence on the net effects of ability streaming is not as compelling. However, when ability streaming is in place, steps should be taken to eliminate the inequities that – while not part of the ideal-type model of streaming – appear to develop in practice. Deviations from the meritocratic ideal of placement on the basis of academic potential and past performance appear to follow a class-biased pattern in which higher-class students obtain higher-track placements, conditional on conventional measures of academic achievement and cognitive ability. Because higher-track classes typically are taught by more experienced teachers and use more engaging teaching materials, unfair track placements can increase inequalities of human capital development.

Human Capital Development and the Frontiers of Research in the Sociology of Education[1]

Introduction

The sociological literature on educational achievement and attainment has contributed substantially to our current understanding of human capital development. Sociologists have examined the determinants of skills and knowledge in adolescence for more than five decades. These skills constitute the majority of the human capital brought into and drawn on in the labour market, and much public policy is devoted to enhancing the educational system's capacities to foster them.

Accordingly, in our synthesis of the sociological literature, we will focus mostly on explanations for motivation in and commitment to schooling, learning and preparation for post-secondary education, and finally college entry and subsequent educational attainment. And thus, even though we will at times summarize noteworthy findings from studies of early childhood education as well as adult education, our presentation will be dominated by the core literature from the sociology of education that has covered these areas.[2]

Because our presentation is therefore limited in scope, we should note at the outset that more comprehensive summaries of the literature on the sociology of education are available. The 25 chapters in Hallinan (2000) constitute a comprehensive presentation of this sociological literature. The classic reader by Karabel and Halsey (1977), the updated reader by Halsey et al. (1997), and a recent compilation of state-of-the-art research by Hedges and Schneider (2005), all offer excellent introductions to the field.

In the remainder of our chapter, we first summarize the four primary explanatory mechanisms from the sociology of education. These explanations are based, mostly, on empirical research on educational institutions in the United States, rather than in Canada, as the literature in the sociology of education is dominated by studies of U.S. institutions. Following this broad accounting of the explanatory mechanisms from the sociology of education, we will narrow the focus to consider what is known about these mechanisms in Canadian education. For this later section, we draw on the non-sociological literature on education in Canada, as the education literature in Canadian sociology is somewhat thin. We conclude with a brief note on recent

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[2] Our relative inattention to human capital development in adulthood is also consistent with the findings of some recent literature in economics, such as Heckman's conclusion that "adults past a certain age . . . make poor investments" (1998:117) (see Krueger 2003, 42-55, for a contrary position). Moreover, Neal and Johnson (1996) conclude that most of the differences in wages between Blacks, Hispanics, and non-Hispanic Whites can be attributed to differences in cognitive skills that are formed by age 18. See section 3, where we discuss efforts to model lifelong learning in Canada.

attempts to assess the effects of lifelong learning, before ending with an appeal for better and more frequent Canada-U.S. comparisons.

1. Primary Explanatory Mechanisms in the Sociology of Education

In this section, we describe the four most prominent categories of explanation for patterns of educational achievement and attainment. We begin with family background effects and radiate outwards to school-level and neighbourhood-level mechanisms. Intermixed in this presentation, we offer definitions and some explanation of the sociological concepts of cultural and social capital, which are often used in sociology when developing explanations for the accumulation of human capital.

We summarize this literature in open-ended fashion, focusing more on the questions and frameworks that have been formulated than on the answers that have been established. We take this strategy for two main reasons: (1) we reserve our summary of findings for the next section, which discusses more directly Canadian education; (2) the literature has more effectively formulated questions than answers to its own questions.

1.1 Family Background

In the sociology of education, family background – usually defined as some function of parents' education, occupational attainment, family income, and wealth – is universally considered to be the most important determinant of educational achievement and attainment. Two basic explanatory models have dominated the sociological literature – the status attainment model and a radical critique of it. Although these two perspectives were developed alternatively in the United States and in France, the basic position of most sociologists is that they are broadly relevant to all industrial societies.

The status attainment approach is grounded on a specific causal mechanism that relates individuals' expectations and aspirations for the future to the social contexts that generate them. The origins of the model are in structural-functional sociology from the mid-twentieth century. The 1953 article entitled "Educational and Occupational Aspirations of Common Man Boys," written by Joseph A. Kahl, is perhaps the most influential early piece. But, the explanation is most often identified with the so-called Wisconsin model of status attainment, which was based on early analyses of the Wisconsin Longitudinal Survey (a random sample of all high school seniors in the state of Wisconsin in 1957). The full model was first fully specified in two influential articles published in the *American Sociological Review*, by Sewell, Haller, and Portes (1969) and Sewell, Haller, and Ohlendorf (1970), which reported results from both the original 1957 data and the follow-up 1964 data on the educational and early occupational careers of young men.

According to the original Wisconsin model, the joint effects of a high school student's family background and mental ability on his eventual educational and occupational attainments can be completely explained by the expectations that others hold of him. In particular, significant others – parents, teachers, and peers – define expectations, which students then internalize as educational and occupational aspirations. Because the underlying theory assumes that students are compelled to follow their own aspirations, the model is powerfully simple and implies that

significant others can increase a student's educational and occupational attainment merely by increasing their own expectations of him.

Regarding the specific processes of aspiration formation, the principal social-psychological theorist, Archibald Haller, maintained that aspirations are formed in three ways – imitation, self-reflection, and adoption. Once formed, Haller (1982:5-6) wrote, aspirations are embedded in "approximately consistent and mutually reinforcing cognitions," which then "have an inertia of their own and are expressed in corresponding behavior." Thus, students' educational and occupational aspirations become stable abstract motivational orientations (see Spenner and Featherman 1978), and the measured Wisconsin model variables – college plans and expected future occupation – are merely realistic indicators of these latent status aspirations.

Although the theory underneath the original Wisconsin model was bold, its creators were well aware of its many limitations. Almost immediately upon publication, they began to qualify its basic mechanisms, and in the process they weakened its most parsimonious theoretical claims by allowing for the addition of supplemental direct effects of socio-economic status on all endogenous variables. The addition of paths not predicted by the original socialization theory presented problems for the powerful claims of the 1969 article. In particular, the claim that significant others could raise students' educational and occupational attainments by simply imposing higher expectations on them began to seem less credible. Instead, the revised models of the 1970s and 1980s suggested that, while the expectations of parents, teachers, and peers have direct effects on the educational and occupational attainment process, other variables, such as the structure of opportunities in the education system and the labour market, also play an important role.

These revisions were, in part, a response to research critical of the Wisconsin model and its supposed origins in structural-functionalist sociology. Critics argued that structural constraints embedded in the opportunity structure of society should be at the centre of all models of educational attainment, and hence that concepts such as aspirations and expectations offer little or no explanatory power. Most famously, Pierre Bourdieu dismissed the work of sociologists who assert that associations between aspirations/expectations and attainments are causal. Rather, for Bourdieu, the unequal opportunity structures of society "determine aspirations by determining the extent to which they can be satisfied" (Bourdieu 1973:83). And, as such, aspirations and expectations have no autonomous explanatory power, as they are nothing other than alternative indicators of attainment.

Critiques such as these helped to bring an end to the brief dominance of status attainment theory in the study of social inequality. Accordingly, a more radical conflict approach to explaining educational achievement and attainment was then developed in the 1970s and 1980s. The perspective is best captured by the work of Pierre Bourdieu, as most widely read in his early 1973 article and in Bourdieu and Passeron (1977). For Bourdieu, sociologists of education should focus on the reproduction of inequality. In the past education literature, too much attention was given to studies of mobility; much more research should be devoted to uncovering the mechanisms that generate immobility. More deeply, Bourdieu assumed that the education system, while projecting an ethos of class neutrality, in fact serves primarily to reproduce the class structure.

Bourdieu's most celebrated theoretical mechanism is based on the concept of cultural capital – the possession of cultural knowledge that signifies membership in the dominant social classes. This cultural capital is transmitted in the home, and schools then reward students based on the generalized cultural competence that working class students do not, by definition, possess. Bourdieu (1973:58) writes: "By doing away with giving explicitly to everyone what it implicitly demands of everyone, the educational system demands of everyone alike that they have what it does not give." Accordingly, Bourdieu writes, "the negative predispositions toward the school which result in the self-elimination of most children from the most culturally unfavored classes and sections of a class . . . must be understood as an anticipation, based upon the unconscious estimation of the objective probabilities of success possessed by the whole category, of the sanctions objectively reserved by the school for those classes or sections of a class deprived of cultural capital." In relation to the status attainment model, and in particular the Wisconsin model described earlier, the claim here is that significant others have no real individual-level effects; instead, they respond mechanically to cultural capital endowments. Students rebel (or have low aspirations) because they subconsciously recognize this reality.

Both forms of family background scholarship are still prominent in the sociological literature, and each has received updates and embellishments since the 1970s. Lareau (1987) used Bourdieu's basic framework to model the behaviour of parents, arguing for "the importance of class and class cultures in facilitating or impeding children's (or parents') negotiation of the process of schooling" (289). Morgan (2005) takes the expectations and aspirations tradition of explanation and builds a new stochastic decision tree model of commitment. The goal of this work is to integrate sociological and economic approaches by building a model where educational achievement and subsequent attainment are sensitive to the exogenous impact of shifts in costs and benefits, but also independent belief formation processes that can overwhelm expected utility calculations. The ultimate goal is to transcend both the status attainment perspective and its radical critique in the work of scholars such as Bourdieu, in order to determine how structural dynamics should be incorporated into models of educational attainment – that is, as structure that is imposed from the outside as the rigid constraints maintained by institutions or via individual responses to perceived structural constraints (see also Breen and Goldthorpe 1997 and Gambetta 1987).

1.2 The Impact of Race

Explanations that consider the racial identification of students are an important set of mechanisms that is inextricably related to the family-background-based explanations presented in the last section. This research tradition is dominated by studies of the gaps that exist between the achievement and attainment of white and black students in the United States, although there is a vast literature on different contrasts in the United States and in other countries. Their relevance to the Canadian education system is unclear at present, although immigration patterns and the renewed consideration of access for Canadian Aboriginal people prompts us to include some discussion of this literature.

A primary source for these explanations is the 1998 volume by Christopher Jencks and Meredith Phillips, *The Black-White Test Score Gap*.[3] This volume, which grew out of a conference on the

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[3] See also the review paper by Hallinan (2001).

topic, represents most of the major explanations for race differences (although presented only as explanations for the black-white gap in the United States). In their summary chapter, Jencks and Phillips set the background for race-specific differences by noting that the black-white test score gap in the United States has declined over the course of the twentieth-century. Comparable standardized tests show, however, that the rapid convergence of scores since the 1960s slowed down in the late 1980s. Jencks and Phillips then show that family background explains some of the gross difference between whites and blacks. But an unexplained portion remains, and differences across siblings suggest that test scores cannot be explained entirely by family background. They note that there is no evidence that there is any genetic basis for the black-white differences (that is to say, there is evidence of a genetic basis for intelligence and test score differences, but not any evidence that genetic differences explain any of the black-white gap). They show that early childhood differences have been found, especially in vocabulary, but the gaps widen throughout childhood and adolescence. And, as we will discuss more broadly later, they claim that (1) there is no evidence that levels of per pupil expenditures across schools explain much of the gap but (2) average class size may matter.

Against this background, the volume includes updated (and sometimes confirmatory) positions on the following race-specific explanations. Fordham and Ogbu (1986) are credited with developing the claim that black adolescents underachieve in schooling because they maintain a disproportionately oppositional student culture. Based on ethnographic evidence – drawn primarily from observations of students in predominantly black schools – Ogbu and his colleagues argue that, for the most part, blacks in the United States are descendants of involuntary immigrants who were brought to the U.S. as slaves. This history breeds fictive kinship that leads to a rejection of the dominant culture. School success is thereby regarded as "acting white," and loyalty to a fictive kin group prompts black students to apply sanctions to their high-achieving peers. As a result, relatively high-achieving black students reduce their effort in school, and average test scores among black students decline.

Although frequently cited, this tradition of scholarship has foundered. The most recent survey-based research has shown that blacks and whites do not differ to the degree emphasized by Ogbu and his colleagues (see Ainsworth-Darnell and Downey 1998; Cook and Ludwig 1997). These results have now been corroborated by ethnographies, including Carter (2005).

A more recent and increasingly prominent explanation for black-white differences is Claude Steele's two-part theory of stereotype threat and disidentification (see Steele 1992, 1997). According to Steele and his colleagues, black students from all levels of the socio-economic spectrum are haunted by the spectre of confirming stereotypes of inherent black inferiority. These threatening stereotypes interfere with everyday educational performance in school, especially on important tests, because black students try too hard to avoid the low performance that "makes the stereotype more plausible as a self-characterization in the eyes of others, and perhaps even in one's own eyes" (Steele and Aronson 1995:797). Stereotype-threatened test-takers spend "more time doing fewer items more inaccurately – probably as a result of alternating their attention between trying to answer the items and trying to assess the self-significance of their frustration" (Steele and Aronson 1995:808). Stereotypes do not directly lower the motivation or performance expectations of test-takers. Instead, stereotypes activate a

subconscious mechanism wherein stereotype anxiety, which is manifest in self-evaluative pressure, impairs test-taking efficiency.

Over time, Steele surmises, black students adapt to their predicament, and this adaptation results in disidentification. In order to maintain positive self-images, they inoculate their global self-esteem against performance evaluations in schooling. In so doing, they disidentify with educational achievement in general in order to claim a psychic victory, which preserves self-worth. Unfortunately, however, disidentification does not offer a costless victory because it undermines the motivation and commitment that are necessary for continued educational achievement. Thus, unlike stereotype threat, disidentification directly lowers motivation and one's own performance expectations, further depressing future achievement.

This two-part explanation is now widely discussed in the literature, for two primary reasons. First, the experimental results on stereotype threat effects on test performance have been widely replicated (see Steele, Spencer and Aronson 2002 for citations). Second, it offers a new explanation for the existence of an oppositional culture, reinterpreted as widespread disidentification, which emerges from widespread and current stereotypes.[4] For those who find the oppositional culture mechanism promising, it is useful to have contemporary sources for it that do not have to be justified by a history of involuntary immigration status.

1.3 The Structure of Opportunities to Learn

In contrast to Bourdieu's efforts to discredit the status attainment perspective, since the 1970s other scholars have attempted to work within (or alongside) the status attainment tradition by giving greater emphasis to (1) the structure of schools and (2) the mechanisms by which students are allocated to different positions within this structure. Alan Kerckhoff (1976) argues that status attainment explanations focused too narrowly on socialization processes in which parents, teachers and peers influence a student's aspirations, which subsequently influences their educational attainment. More attention should be paid to allocation processes in which students are placed into different positions within the school (for example, different ability streams) according to "externally imposed criteria" (1976:369).

This perspective resulted in a new wave of studies that focused on the effects of exposure to alternative opportunities to learn, as structured by the configurations of schooling institutions. Much of the early literature focused on curriculum tracking and streaming. The more recent literature has focused on the consequences of age-grading of classes, as well as promotion and retention policies.

In the United States, age-graded classrooms within levels of grammar and secondary schooling were institutionalized in the early twentieth century (see Tyack 1974; Tyack and Cuban 1995). This organizational form has arisen in other countries, and a good deal of important research has shown how it has spread through institutional imitation as countries have expanded access to schooling (see Meyer, Ramirez, and Soysal 1992). But, in spite of the surface similarity of age-grading within schools, tremendous variation exists in how instructional material – or opportunities to learn – is distributed across students.

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[4] But see Morgan and Mehta (2004) for a dissenting view on disidentification.

Consider first-grade reading instruction. Students are most commonly gathered together into small reading groups, with assignments to reading groups based on recommendations from kindergarten teachers. In an early article, Eder (1981) showed how kindergarten teachers' recommendations were based on perceptions of ability and maturity, with the latter defined as ability to maintain attention. Because most children enter the first grade with little or no ability to read, assignments to reading groups are almost entirely a function of behavioural maturity. The result is that the lowest reading groups are characterized by the largest number of behaviour problems throughout first grade, operationalized as reading turn violations, where students interrupt each other. As a consequence, more material can be presented in the highest reading groups, which creates a self-fulfilling prophecy out of the initial group assignments (see also Hallinan and Sørensen 1983).

Although ability grouping in the first grade represents a pure-type example of how opportunities to learn can be differentially and consequentially distributed, most attention has focused on later grades. The educational systems of most industrialized nations employ some form of curriculum tracking or streaming, usually where students are sorted into entirely different classes based on perceived ability.

In an extraordinary set of studies, much has been learned about these processes in the United States. Prior academic ability is the strongest determinant of track placement, but family background is related to track placement beyond what would be expected based on academic ability alone (Lucas 1999; Gamoran and Mare 1989). This relationship may emerge because of the decisions of teachers and guidance counsellors (Rosenbaum 1976), as well as the deliberate intervention of highly educated parents (Useem 1992). This is of potential consequence to class reproduction, because many studies find track placement to have independent effects on learning and educational attainment. Barr, Dreeben, and Wiratchai (1983) carefully analyze the curriculum management process as it interacts with group assignments. Gamoran (1992) assessed the reasons for variation in tracking across types of schools, and Hallinan (1996) then modelled movement between tracked classes.

Even though much has been learned about tracking policies and practices, no definitive study of the causal effect on achievement of having been assigned to one track rather than another has achieved a consensus. Even the best available study, where Gamoran and Mare (1989) assessed the consequences of high school tracking for achievement on standardized tests, has failed to generate a consensus. As a result, debate proliferates (see Hallinan 1994 and Oakes 1994), as no one has been able to effectively challenge the traditional claims that (1) learning is easiest when material is presented at a comfortable pace, (2) students differ in their ability to absorb new material.

Nonetheless, in the past 30 years, a de-tracking movement emerged in the United States, partly in response to some of this early scholarship (that is, Oakes 1985; Rosenbaum 1976). This reform movement effectively eliminated the broad cross-subject secondary school tracks of the mid-twentieth century. The college preparatory, general, and vocational tracks were broken down into sequences of courses, allowing, for example, for students to take advanced math but general English. Although some scholars believe these organizational changes have been helpful in a

variety of ways (see Wellner and Oakes 2000), others have argued that the little has changed other than administrative procedures (see Lucas 1999).

Nonetheless, the most recent literature seems to support some forms of tracking, at least insofar as the school-to-work transition could be better managed. In comparison with German and Japanese secondary schools, de-tracked (or ostensibly de-tracked) comprehensive secondary schools in the United States do not prepare non-college-bound students for entry into the labour force (see Rosenbaum 2001). Increasingly, scholars have advocated for new vocational programs that provide skills that are demanded in the labour market, as well as novel apprenticeship programs that provide on-the-job training and employment contacts for non-college-bound youth.

In the United States, debates over the distribution of opportunities to learn are now dominated by discussion of promotion and retention policies, especially as they now interface with the Bush administration's federal legislation No Child Left Behind. Most of the literature here notes that retention policies have no substantial benefits and instead produce substantial harm (see Hauser 2004a, b; Hauser, Simmons, and Pager 2004; Shepard and Smith 1989; Walberg, Reynolds, and Wang 2004). The mechanisms are unclear, but a strong stigma may be attached to failing; failing may lead to lower effort and aspirations because it causes students to distance their school performance from their identity and self-esteem; and failing may break up social networks. The issue is not completely settled, however. Orfield and Kornhaber (2001) provide a collection of essays that debate the benefits of these policies, and Alexander, Entwisle, and Dauber (2003) use unique data on Baltimore City Schools to generate some support for the relative attractiveness of retention policies. Promoters of strict retention policies generally argue that high-stakes tests and retention threats motivate students while forcing teachers to maintain consistently high expectations for all students. Detractors argue that motivational responses are in the opposite direction, and they lead at-risk students to withdraw further from schooling. As a result, more students drop out of high school (see Jimerson, Anderson, and Whipple 2002).

What has not been discussed sufficiently is the relationship between tracking and retention policies within a more general opportunities-to-learn framework. To the extent that the students who are promoted are placed in low tracks with the least-skilled teachers, the relative harm of retention policies may be lessened for particular students. And, if age-grading of classes were abandoned, then the distinction between retention and tracking practices would disappear.

1.4 Social Capital, School, and Neighbourhood Effects

In the government report, *Equality of Educational Opportunity* (Coleman and US Office of Education 1966) – now known simply as "the Coleman Report" – James S. Coleman argued that school resources had surprisingly small independent effects net of the effects of family background. Perhaps the largest and most famous piece of educational research ever undertaken, the Coleman Report has become the touchstone for research on school effects. The most famous claim of the report – that school resources only very weakly predict educational achievement – is still debated, although mostly within the field of economics (see Card and Krueger 1996; Hanushek 2001). (Also see Crocker in this collection.)

Less than two decades later, however, Coleman and a new set of colleagues then presented evidence that schools may matter a great deal, net of family background (see Coleman, Hoffer, and Kilgore 1982; Hoffer, Greeley, and Coleman 1985; Coleman and Hoffer 1987). In particular, Coleman and his colleagues presented evidence that private Catholic schools in the United States are more effective than public schools, even though they spend comparably less money on each pupil. Their findings were challenged immediately by other researchers (see Morgan 2001 for a summary of the debate).

Coleman then developed a social capital explanation for educational achievement, focusing on the functional communities within which Catholic schools are situated. Given the importance of types of capital to this human capital development project, some detail on the sociological origins of the term social capital is appropriate before describing how social capital research is relevant to human capital development (and the Catholic school effect in particular).[5]

Foundational definitions of social capital are most frequently attributed to Bourdieu (1986) and Coleman (1988). For Bourdieu, capital is created and sustained through struggle in relevant fields of competition. It exists in three "guises" – economic, social, and cultural capital.[6] Although embodied in everyday behavioural practices, the three types of capital are only readily observable when objectified and institutionalized as money, credentialed cultural competence, and titles that signify social advantage. The network ties through which social capital is accumulated and institutionalized must be activated through symbolic exchanges. The ties are therefore irreducible to measures of spatial proximity or associations that are devoid of content. Nonetheless, Bourdieu's definition of social capital is usually paraphrased as a stock of social resources that confer advantages on those who are able to access it.

For Coleman, social capital is any feature of social structure that a purposive actor uses to their advantage when pursuing their interests. Beyond this broad definition, Coleman preferred to present the term by providing vignettes of the positive and negative returns yielded by different forms of social capital – primarily sets of network ties, specific norms that sanction proscribed behaviour, and implicit shared expectations. This allowed him to present the term social capital as a broad concept of nearly limitless power and utility.[7]

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[5] Coleman, Hoffer, and Kilgore (1982) also suggested that non-academic tracks are more demanding and have more academic courses in Catholic schools. Catholic schools also place a higher proportion of students in academic tracks conditional on students' background characteristics (Hoffer, Greeley, and Coleman 1985).

[6] See the *Family Background* section for some detail on Bourdieu's usage of cultural capital.

[7] Definitions of social capital are often criticized for their generality. The expansive literature that now exists is testament to the appeal that such loose conceptualizations offer (see Burt 2000, Portes 1998, Sandefur and Laumann 1998, and Woolcock 1998 for reviews of the literature). And, ironically, the more specific ways in which Coleman used the concept of social capital have attracted little attention. Although almost never recognized, social capital has a more specific place in Coleman's formal theoretical system – the linear system of action (1990). In this system, social capital is any feature of social structure that actors use to facilitate exchange in order to reach an equilibrium that improves the welfare of all engaged actors. For the simple system with which he introduces the framework, the relationship that two brothers have with their parents can be used as social capital to facilitate the exchange of football and baseball cards in order to improve the welfare of both traders.

Now, recall that the Catholic school research began in 1983, before Coleman is commonly thought to have developed the term "social capital" for his 1988 piece "Social Capital in the Creation of Human Capital." This is simply a misreading of the literature, as Coleman had already been heavily engaged in debating the unique advantages that social capital provided to Catholic schools in educating their students. His enthusiasm for the concept was, in fact, created out of the conflict over his results on Catholic schools, and it has origins in his community resources work from the 1960s and 1970s.

The Catholic schools research then led to two strands of subsequent survey research in the sociology of education: effective schools research and a new generation of social capital research (Carbonaro 1998; Lee and Smith 1993, 1995; Lee, Smith, and Croninger 1997; Morgan 2000, 2001; Morgan and Sørensen 1999a, b).[8] And, in the end, it has come be fairly widely accepted that Catholic schools (and other effective public schools) achieve their comparative success through at least one of several complementary explanations: strict discipline, a normative view that all children can learn, communal organizational practices that build trust between teachers and principals, and a supportive community outside the school imbued with productive social capital that helps parents to enforce norms of academic diligence (see Bryk, Lee, and Holland 1993; Bryk and Schneider 2002). The main criticism of these narratives is one of selection bias: effective schools attract the best students, net of observable characteristics of students and their families.[9]

Even though this research initially had few connections to market models of school competition – which advocate the decoupling of public funding of schools from traditional administrative structures by giving students vouchers to spend at schools of their choice (see Chubb and Moe 1990; Hoxby 1996, 2003) – the Catholic schools research was soon co-opted to it. School choice advocates claimed that the primary benefits of Catholic schooling could be fostered within the public school sector by enabling parents to choose schools. The resulting elective communities would become fictive functional communities where like-minded adults monitor peer groups and the performance of teachers similarly. Subsequent analysis of school choice programs have not shown large gains, or the creation of functional communities, even though there are claims that school choice creates learning benefits (Howell and Peterson 2002; Peterson and Hassel 1998).

Although the social capital literature in education is deeply connected to school effects research, there is also an important individual-level tradition of analysis as well. Focusing on peer group affiliations and associational opportunities, this type of social capital research interfaces with sociologists' longstanding interest in extracurricular activities and school outcomes (see Holland

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[8]   There is a large literature on neighbourhood effects on education, health, and crime (for example, Jencks and Mayer 1990; see Sampson, Morenoff and Gannon-Rowley 2002 for a review). It is strangely disconnected from the literature on school effects.

[9]   In Morgan and Sørensen (1999a), entitled "Parental Networks, Social Closure, and Mathematics Learning: A Test of Coleman's Social Capital Explanation of School Effects," and published in the *American Sociological Review*, the first author examined whether or not the network density of parents surrounding Catholic schools creates a norm-enforcing environment that is especially conducive to student learning. In this paper, we found that this was generally the case, but alternative relationships were present within the public school sector. Here, schools embedded in dense networks showed net lower levels of achievement, suggesting that these communities were reinforcing norms that were not as clearly linked to student achievement.

and Andre [1987] and Feldman and Matjasko [2005] for reviews). Here, it has been argued that participation in extracurricular activities is positively related to academic achievement, high school completion, and various measures of psychological well-being such as self-esteem and general life satisfaction (Gilman 2001). The most powerful predictor of outcomes is participation in extramural sports, with academic, music and arts clubs more weakly related to outcomes. Some claim that the effects appear to be strongest for "at risk" students (Mahoney 2000; Mahoney and Cairns 1997).

Most explanations for these relationships posit that extracurricular activities develop some form of social capital that is used to create human capital. McNeal (1999) argues that extracurricular activities generate social capital in the form of supportive networks of friends and adults. Because participants in extracurricular activities tend to have high educational aspirations and achievement, and because participation develops new networks (Dworkin, Larson, and Hanson 2003), engaging in extracurricular activities can lead to networks with school-supporting norms. Case studies (for example, Reis and Diaz 1999) find that high-achieving females report that their extracurricular activities worked in just this way for them. Extracurricular activities may also be important in developing social capital – not just because they provide exposure to different people – but also because they provide a different setting in which members work cooperatively in activities of shared interest.

Although not forms of social capital narrowly conceived (Coleman 1988), other explanations for the apparent effects of extracurricular activities focus on social networks as well. Exposure to networks of high achievers may also lead some extracurricular participants to accept and adopt pro-school values. Extracurricular activities may be a source of recognition and respect (Coleman 1961) that provides incentives to retain contact with school, rather than drop out prior to graduation (Finn 1989). Extracurricular activities can lead to a simple increase in the number of friends at school, which could itself increase attachment to schooling. This point is especially important with respect to dropping out, because high school dropouts are found to be more likely to have been rejected by their school peers and have friendships with people who have already dropped out (Parker and Asher 1987). Many suggest that extracurricular activities are also a site of informal learning related to teamwork, communication and other social skills, but this is not well documented.

Research on extracurricular activities has currently undergone "proliferation through segmentation," in which the trend has been to segment students into sex, race, and ethnic groups, as well as to further segment extracurricular activities themselves (for example, activities can be either "structured" or "unstructured" [McHale, Crouter, and Tucker 2001]; intramural or extramural [Broh 2002]; or affiliated with or independent of the school [Jordan and Nettles 2000]). All studies on extracurricular activities suffer from potentially serious selection problems. Most studies attempt to deal with selection by adjusting for observed variables in regression analyses, which reduces estimates of the effects of extracurricular participation, but these models are not complete solutions to the concerns. Accordingly, there is a clear need for additional research.

2. Research on Canadian Education

Before describing the literature that has engaged these four broad themes to study educational outcomes in Canada, we first note two important reasons why we will not be able to construct a tight synthesis of the sociology of education literature in four sections parallel to those just offered.

First, we have had to go beyond the Canadian sociology literature in search of education research that engages these four explanations. It seems that a greater proportion of Canadian sociologists adopt a critical epistemological stance and focus on aspects of social institutions that maintain or worsen social inequalities, especially across class, sex, race, and ethnicity. This criticism includes institutions whose purported aim is to build human capital and reduce inequality. Much of this literature seems conjectural to us in the sense that facts are too readily interpreted as evidence of unfair practices or contemptible motives. More importantly, it offers little practical guidance on how to develop human capital. In fact, it often takes a critical position on the human capital paradigm itself, arguing that it is an ideology that justifies – rather than explains – unequal outcomes. Although the following positions on the state of Canadian sociology may well be too alarmist, they are not appreciably inaccurate. Ogmundson (2002:68) claims that "Marxist and feminist schools of thought have established hegemony . . . quantitative studies, in particular, are weak and getting weaker." McLaughlin (2004:96) writes that the "Canadian case shows what can happen when this critical edge of our disciplinary culture is taken too far." And Michael Smith (2000:251) laments that Canadian sociology's dominant perspective has led to the "relative marginalization of sociology with respect to policy choice."

This dominant epistemological stance shapes the sociological study of education in Canada. Bourdieu's perspective on the reproduction of class receives a great deal of attention, and the "hidden curriculum" – which is the transfer of knowledge, tastes, and so on, that is not part of the official curriculum – is also a common theme (for example, Baldus and Kassam 1996). Conversely, the equally (or more) established status-attainment perspective is discounted and ignored. The leading Canadian textbook on the sociology of education explicitly takes a critical perspective (Wotherspoon 1998; 2004).[10]

Second, although Canadian data are generally of a high quality, they have not permitted the range of analysis reported in our last section on findings from the United States. Canada lacks a nationally representative, school-based, longitudinal survey such as those that have been used extensively in quantitative research in the sociology of education in the United States.[11] Perhaps

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[10] Its perspective is tellingly summarized in the textbook's publicity material: "Throughout the book, formal education is presented as a contested and contradictory endeavour that contributes to the reproduction of social inequality at the same time it offers possibilities for social justice and change." See Davies (1995a) for a somewhat subversive summary of critical perspectives in the sociology of education.

[11] These datasets are produced by the *National Center for Education Statistics*, which has no direct counterpart in Canada. Canada also lacks a tradition of long-term, household-based longitudinal datasets, which are widely used to study education in the United Sates. The data produced by Statistics Canada, however, is beginning to develop such a tradition. Even so, Canadian datasets

as a consequence of this data shortage, there is considerably less quantitative research on issues related to the structure of opportunities to learn and general school effects on achievement. Much of the outcomes-based analysis of education that we found is based on the cross-province-focused School Achievement Indicators Program (SAIP) (see Crocker 2002). These data are limited in the sense that they do not allow for the measurement of outcomes for the same students over time in school, and they lack both substantial classroom-level characteristics and students' subsequent labour-market experiences. Even so, by looking broadly across the literature on Canadian education inside and outside of sociology, we have been able to find relevant empirical research that engages the same four explanatory mechanisms detailed in the last section.

2.1 Family Background in Canadian Education

For research on primary and secondary education, the role of family background has, of course, been well analyzed in Canada. Even so, the literature lacks depth, as we now explain. In the major Canadian sociology journals, articles that consider the relationship between family background and educational achievement are often framed within Bourdieu's theory of social reproduction (Beagan 2001; Lehmann 2005; Maxwell and Maxwell 1995; Nakhaie and Curtis 1998), as summarized in the last section. Education journals are similarly dominated by critical perspectives. Wotherspoon and Schissel (2001), for example, raise objections to labelling students "at risk," thereby undermining what we would see to be well-intentioned efforts to improve skill acquisition among disadvantaged youth. They write that "as with many educational ideologies, an uncritical adoption of practices associated with at-risk discourses may also contain potential to reinforce the problems that they seek to address or to produce new dangers" (Wotherspoon and Schissel 2001:321).

What this research lacks, in general, is empirical content. Bourdieu's cultural capital thesis is invoked as an explanation but not evaluated for its explanatory power relative to other perspectives. Thus, there is an opportunity for better empirical research in Canadian sociology, and some recent literature has shown the promise of studying specific family-background-based mechanisms in Canada. For example, Davies (1995b) shows that claims of a working class oppositional culture in Canada are relatively weak and do not account for a substantial proportion of the social reproduction of inequalities in educational outcomes. The importance of family background for early childhood outcomes has been studied effectively (see Peterson 1994), and a good deal is now known about how family background determines the child-rearing practices to which children are exposed (see Sayer, Gauthier, and Furstenberg 2004).

Willms' (2002) edited volume based on the National Longitudinal Survey of Children and Youth (NLSCY) examines the relationship between family background and childhood vulnerability (measured with cognitive ability test scores and behaviours), as well as the mechanisms that may mediate the relationship. It shows that the relationship between family background and vulnerability is evident even among young infants; it grows with age, and this can possibly be explained by a variety of predictors of vulnerability such as parenting style, child care, family structure, parental education, and so on.

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are, in general, comparatively more difficult to access than those in other countries, because of confidentiality issues and resource barriers.

On balance, however, the main findings call into question the attention often given to family background. Family background is not strongly related to the most important predictors of childhood outcomes, such as parenting practices, and family background is a poor predictor of childhood vulnerability. Therefore, there is little support for policies targeting children from poor families in particular. Universal programs, or targeted programs using more specific indicators of vulnerability, are more advisable.

It would seem that the majority of the research on the relationship between family background and education is conducted by employees or affiliates of Statistics Canada. However, many of these papers are primarily descriptive in nature, and they effectively highlight the basic facts concerning issues of importance without making strong causal claims. The recent work of de Broucker (2005) is a case in point. He masterfully presents the facts on secondary school completion in Canada and in international perspective, and he poses a challenge to policy advocates. However, by focusing on students' economic reasoning and available economic incentives, he does not identify the range of underlying mechanisms that lead some students to drop out of high school.[12]

In studies of higher education, more specific research on the effects of family background is available. Recent concerns that increasing tuition at post-secondary institutions will exacerbate educational disparities related to family background have been studied. Some research in this area finds that the relationship between post-secondary attendance and tuition has changed little over the 1990s (Drolet 2005; Corak, Lipps and Zhao 2003). However, this is strongly at odds with research relating specifically to the University of Guelph, which found a marked change in the composition of family background over the 1990s (Quirke and Davies 2002). Also, large increases in the tuition for professional programs do appear to change the distribution of family background of graduates as measured by parental education (Frenette 2005a).[13]

2.2 The Impact of Race in Canadian Education

Canadian sociology has been concerned to a great degree with the impact of ascriptive characteristics such as birthplace, race, and ethnicity, which is perhaps a consequence of the legacy of John Porter's landmark sociological study of stratification in Canada, *The Vertical Mosaic* (1965). Porter argued that the English and the French were given "charter status" as the founding peoples of Canada and that all others tacitly accepted a lower status in the distribution of socio-economic position.

Although test-score gaps across racial or ethnic divisions do generate some descriptive research in Canada, research on race as a predictor of educational outcomes focuses on the particularities

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[12] Warren (2002) actually contests both the opportunity cost and time allocation explanations of the paid work-dropout relationship. He makes a strong case that the majority of the relationship between paid work and dropping out represents pre-existing disengagement from school. He also finds that paid employment detracts minimally from academically oriented activities, because working adolescents also spend less time with friends, watching television, and so on.

[13] Frenette (2005b) also examines the issue of equity of post-secondary access by comparing the relationship between parental income and post-secondary attendance in Canada with that relationship in the U.S., concluding that access is decidedly more equitable in Canada. However, Wanner (1993) finds that educational and occupational mobility are similar across the two countries.

of the Canadian situation. Although perhaps this could be seen as a weakness of the Canadian scholarship, we would argue the opposite, since the pressure to improperly extrapolate from patterns in other countries has been avoided. As shown by Guppy and Davies (1998:105-110), Canada is very different from the U.S. in that, conditional on immigration status, most visible minority groups – including blacks – have higher educational attainment than other Canadians.

A distinctive feature of this research tradition is the concern given to developing and then analyzing "antiracist" educational practices (see Bonnett and Carrington 1996; Carrington and Bonnett 1997; Dei 1996), under the presumption of that pre-existing curricula unintentionally disadvantage minority students. Although to us this research is more normative than explanatory, it has helped to frame some important empirical research, which has led in turn to fruitful examination of how immigrant children and their families compare with other majority and minority subpopulations (for example, Dyson 2001; Maxwell, Maxwell, and Krugly-Smolska 1996), how non-white teachers cope with their own felt disadvantage (for example, Carr and Klassen 1997), and the special challenges posed by the incorporation of Canadian Aboriginal people (for example, Ryan 1989).[14]

2.3 The Structure of Opportunities to Learn in Canadian Education

Although the opportunities-to-learn framework is used infrequently in the Canadian literature, there are some reliable empirical analyses of tracking, streaming, ability grouping, and the consequences of retention.[15] Crocker (2002) uses the SAIP data to demonstrate that streaming and ability-grouping are common in Canada, although more common among 16-year-olds than among 13-year-olds. He also shows that there is substantial variation across jurisdictions. Using the Third International Mathematics and Science Study (TIMSS), Frempong and Willms (2002) find that grade 7 and 8 classrooms with less ability-grouping tend to have better average performance, conditional on a range of covariates. Davies (1994) finds that placement in non-ability streams predicts dropping out of high school in an Ontario sample. Similar to the detracking movement in the United States, there are similar efforts to destream schools in some jurisdictions in Canada. Although little research exists that assesses the consequences of such destreaming for student outcomes, Ross, McKeiver, and Hogaboam-Gray (1997) argue that teachers initially lose confidence in their abilities to produce learning immediately after destreaming, but eventually they recover as they work through the challenges of implementation.

The largest area of inquiry concerns the effectiveness of vocational education, which is generally considered the lowest track in the tracking literature. Lyons, Randhawa, and Paulson (1991) provide a historical account of the devaluation of vocational education in Canada, which is common in most advanced industrialized countries. They argue, however, that it is high time for Canada to improve its offerings for non-college-bound youth. Taylor (2005) has, accordingly, studied school-to-work policy in Ontario, and finds it wanting with respect to the adequacy of

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[14] We do not summarize research on francophone-anglophone differences, or on bilingualism issues.

[15] Nagy (1996) emphasizes the need to consider variation in opportunities to learn when comparing results on standardized achievement tests across students who have been exposed to alternative curricula. He uses this argument, in particular, to argue that Canadian education is better in comparison with the educational systems of other countries, contrary to some of the alarmist literature.

workplace placements for students; she calls for greater effort on the part of governments, educators and unions to ensure allocation opportunities. Lehmann (2005) studied youth apprenticeships in Canada and Germany, and he argues that these show considerable promise. His research is notable for its analytic focus and consideration of the stratification literature in sociology, which leads him to a nuanced position on the degree to which vocational education merely reproduces inequality. He claims that, while some forms of vocational education may be limiting for those who prematurely commit to them (as such students therefore usually eliminate themselves from the pursuit of post-secondary education), he finds that apprenticeships are viewed by apprentices as useful choices that allow them to make the most of their occupational futures. The extent to which this finding is consistent with the older findings of Richer (1974) – that Canadian students in pure technical high schools have higher aspirations than those in high schools with both technical and college-prep students – deserves examination in contemporary Canada.

Finally, unlike in the United States, there appears to be little research on the effects of retention on later student outcomes. Janosz et al. (1997) and Westbury (1994) demonstrate that retention effects appear to be largely negative in Canada, but Westbury laments the lack of other research on the topic to corroborate the findings. Indeed, she notes that few school boards in Canada collect consistent over-time data on rates of retention and promotion. The literature on the vicissitudes of Canadian educational policy suggests that this will be an area of growing research, as common educational policies tend to spread across industrialized societies. For work on this broader policy context, see especially Davies (2002), Davies and Guppy (1997), and Guppy and Davies (1999).[16]

2.4 Social Capital, School, and Neighbourhood Effects in Canadian Education

Although some quantitatively oriented studies of school effects on learning outcomes can be found in the Canadian literature, such as Ma and Klinger (2000), Ma (2001), and Frempong and Willms (2002), it appears that the paucity of longitudinal, school-based survey data limits this type of research in Canada, and the range of grades over which data are available. Consistent with research on the U.S., Ma and Klinger (2000) and Frempong and Willms (2002) find that: (1) the mean socioeconomic status (SES) of a school (or a classroom in the case of Frempong and Willms) is associated with lower achievement scores for individual students, conditional on background variables and (2) a "liberal" disciplinary climate is associated with higher achievement.

There is substantial case-study-based research, which is similar to the effective schools research from the United States, and it focuses, for example, on the effectiveness (and attractiveness) of common schools (Callan 1995) as well as the impact of effective cooperation between district-level and school-level administrators (Coleman, Mikkelson, and LaRocque 1991). If policy implications are to emerge from these sorts of studies, replication across multiple sites is needed until appropriate, widespread survey data are available to sustain their conjectures.

Although the impact of school financial resources on student outcomes is not commonly studied in the Canadian education literature, some attention is given to the particular consequences of the

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[16]   See also Eisenberg (1995), Elliott and Maclennan (1994), and Lanning (1994) for related work.

finance system (for example, Sale and Levin 1991). This attention dovetails with a major emergent issue in Canadian education and Canadian sociology of education: the marketization – broadly conceived – of education. Scott Davies and his colleagues have begun a research program on school choice. One focus is on the growth of small, non-elite private schools in Canada. Contrary to expectations, these new private schools (and the educators who work at them) are not generally motivated by neoliberal ideology (Davies and Quirke 2005); instead, their interest is in providing education that is tailored to different students' needs. Another focus is the increasing use of private tutoring (Davies 2004; Aurini 2005), which Davies (2004) argues is a substitute for school choice that may be in higher demand because of the Canadian public's growing dissatisfaction with public education (see Guppy and Davies 1999 for a discussion of the declining confidence in public education). Aurini and Davies (2005) look at home schooling and conclude that it is on the rise and has attained new levels of legitimacy among the mainstream. They also conclude that home schooling is not motivated by parental concern over human capital development but by a concern for individualized instruction (every child is different) and the preciousness of their children.

Canadian research on social capital and peer networks reaches the same conclusions as the U.S. research, but it appears to focus more narrowly on the issue of dropping out of high school.[17] Ellenbogen and Chamberland (1997) find that students "at-risk" of dropping out (as measured by a combination of self-reported attitudes and students' records) tend to have fewer friends at school than those not at-risk, and also tend to have more friends who are already dropouts and who have jobs. Janosz et al. (1997) find that the number of friends, the level of involvement with one's friends, and being a "leader" in your network are all negatively related to dropping out. Although their sample is somewhat small, they add to the debate by adjusting for an unusually rich set of personality variables obtained from several test batteries. Davies' (1994) findings confirm the importance of friends who are dropouts in the dropout process.

Although not focusing on the effects of peers on schooling in particular, Craig, Peters, and Willms (2002) show that involvement with peers who are frequently in trouble is strongly related to behavioural problems in early adolescence. Young adolescents' self-reported lack of social competence, which attempts to capture number of friends and ease of friendship formation, also strongly predicts emotional and behaviour problems.

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[17] For example, Janosz et al. (1997) include extracurricular activities as a predictor, but pay it little attention.

3. Research Unique to Canada: Lifelong Learning

The acquisition of skills and knowledge among adults is rarely studied by sociologists of education. As we noted at the outset, sociologists by and large assume that most of the crucial skill acquisition that is relevant for labour market performance occurs in childhood and adolescence. However, a large-scale, multi-method, collaborative Canadian undertaking focuses on lifelong learning. The project began as *New Approaches to Lifelong Learning* (NALL), which included a national survey and set of interviews conducted in 1998, as well as several case studies. Data collection has continued with *The Changing Nature of Work and Lifelong Learning: National and Case Study Perspectives* (WALL), which allows longitudinal analysis by revisiting case studies, replicating many parts of the survey, and re-interviewing many respondents of the first survey five years later. Much of the longitudinal analysis is incomplete, so the focus here will be on earlier work from NALL.[18]

The NALL survey was the first extensive survey of informal learning practices in Canada, and the first anywhere in over 25 years. The project is also novel – from a sociology of education perspective – because it covers a range of types of learning (for example, formal schooling, informal learning) as well as a range of sites of learning. For example, the survey asks about learning in paid employment, volunteer work, leisure activities, care and household activities. The case studies cover these different sites of learning, as well as examining paid employment across a range of occupations and industries.

A major NALL finding is that informal learning is widespread: estimates suggest that adults are engaged in about 15 hours per week (much more than formal learning), and that informal learning occurs across the range of activities outlined above, not just at the workplace. Even these basic findings suggest that informal learning is potentially a major part of human capital development, and that a greater understanding of informal learning is an important step in the development of effective human capital development policy. For example, if informal learning is better understood, this has obvious implications for introducing new technology and designing workplace training.

What bearing do the mechanisms of sociology of education and the NALL research have on one another? One of the main findings of the NALL research is that – unlike formal schooling – informal learning is unrelated to personal characteristics such as sex, race, ethnicity, and age (Livingstone 2000); it is also unrelated to formal education. This equity of adult learning could be the basis for the amelioration of human capital differences across groups that develop over the course of formal schooling as measured by achievement tests and completed years of schooling. There may be smaller group differences in the willingness to learn among adults, even if there are large group differences in the willingness to attend formal schooling in adolescence. Policy interventions that boost adult learning for those with weaker workplace skills may have more potential than has been claimed (for example, Heckman 1998).

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[18] The national survey for WALL was fielded in the winter of 2003-04, and the results are expected to be released soon. Many working papers can be found on the WALL Web site, but they largely consist of literature reviews and the development of analytic typologies.

It is also possible to interpret equity in informal learning across sex, race, ethnicity and education groups as evidence of inequality in the returns to human capital across these same groups. In other words – as many have suggested – conventional indicators of human capital such as test scores and completed education may be much more strongly related to family background, race, etc. than human capital itself. Because formal academic credentials are held in such high regard compared to practical knowledge obtained outside of academic institutions (Collins 1979), it will be difficult to argue this case without a convincing demonstration that the content of informal learning enhances productivity. Some programs attempt to measure the content of non-credentialled knowledge (for example, Prior Learning Assessment and Recognition [PLAR]), but the NALL research to date mostly addresses the duration of informal learning.[19]

Insofar as informal learning takes the form of learning from others, the literature on social capital and school effects seems highly relevant to the study of adult informal learning because it suggests that features of the workplace can affect learning. One possibility is to connect the informal learning literature and research with network analysis on information channels in the workplace (for example, Burt 2004), which attempts to understand the properties of interpersonal networks that facilitate the goals of workers and/or their firms via information flows and social support.

The NALL/WALL research may also influence how we think about the learning that goes on in schools. It is possible that by bringing in styles of learning that occur away from the school into the school, the learning disparities observed across family background and race can be more effectively addressed. In the opposite direction, however, by bringing informal learning practices into the classroom, some pitfalls of particular forms of informal learning will be identified.

Most obviously, if learning goes on in a greater variety of activities than is normally acknowledged, then some of these activities can be incorporated into the formal schooling process (Schugurensky and Mundel 2005). This would serve to broaden the types of skills learned at school, because respondents cited a broad range of personal and social skills developed that are not the focus of academic education. The recognition that learning takes place during a diversity of activities also suggests that student apathy could be reduced by introducing material and activities of a more obviously practical nature than purely academic material.

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[19] Eichler (2005) suggests that we should consider some form of remuneration for what is now unpaid house and care work. It seems unreasonable to expect that this would come into effect any time soon, but she and others are amenable to the quantification of the value of unpaid work (see also Schugurensky and Mundel 2005).

4. Policy Implications

The literature review demonstrates that there are few consensus positions in the sociology of education, because thoughtful studies can generally be found to cast doubt on most conclusions; consequently, the state of the literature is such that unqualified support for one specific policy over another is rarely justified on empirical grounds. Nonetheless, the literature points to policy recommendations for grade retention, ability streaming, and social capital development.

Grade retention is almost certainly a poor policy choice insofar as retained students' outcomes are concerned. It is intuitively obvious to most people that the threat of grade retention stimulates student effort and that poorly performing students could benefit from revisiting material that they have not mastered; however, the weight of the evidence is that grade retention does more harm than good for the performance of retained students. They appear to learn no more when retained, and they are far more likely to drop out of high school.

The evidence on the net effects of ability streaming is not as compelling, and we advocate neither ability streaming nor de-streaming. However, when ability streaming is in place, steps should be taken to eliminate inequities that – while not part of the ideal-type model of streaming – appear to develop in practice. Deviations from the meritocratic ideal of placement on the basis of academic and mental ability appear to follow a class-biased pattern in which higher-class students obtain higher-track placements, conditional on conventional measures of academic achievement and cognitive ability. Higher-track classes typically are taught by more experienced teachers and use more engaging teaching materials.

Social capital development also warrants policy consideration. Although the findings are plagued by selection-bias complications, it is difficult to see how trying to develop new forms of social capital could cause substantial harm. How best to develop social capital is unknown, however. With respect to social capital in the form of peer networks, perhaps the most obvious strategy would be to expand structured opportunities – such as extracurricular activities – to develop students' peer network. However, the literature suggests that many students are uninterested in structured activities, and that the uninterested often have low achievement and are the most vulnerable to dropping out. Perhaps these students can be better reached with mandatory activities, or expanded unstructured opportunities to develop their peer networks. Although these sorts of interventions may have positive effects for those with pre-existing weak attachment to schooling, they should not be permitted to interfere with time devoted to instruction. And, the possibility that such interventions could backfire (for example, by creating an opportunity for the cultivation and reinforcement of anti-schooling norms in some associational groups) must be recognized and prevented by school officials.

5. Recommendations for Further Research

There are many unanswered questions, but in this concluding section we focus on research topics relevant mostly to education in Canada that are not obvious from our prior summary of the literature.

5.1 Provocative Comparative Methodology

A fundamental problem faced in the research-policy nexus is that compelling research findings often fail to motivate policy-makers and the public in a way that propels policy change, because research that carefully attends to causal inference through statistical control fails to generate public interest in the way that narrative does (Levin 2002). Policy-oriented research should be – where it is sensible – designed at the outset to be provocative while at the same time attending carefully to the importance of control in causal inference. These goals can be met by employing comparative methods, in which one criterion for the selection of comparison cases is that their juxtaposition will generate interest.

Research that compares Canada with the U.S. could be useful, and this possibility has guided the way in which we have structured our synthesis of the literature. As others have noted, Canada and the U.S. serve well as each other's comparison case (Lipset 1990; Card and Freeman 1993; Ogmundson 2002) because they are very similar, and this is especially true for education systems. Each of the four types of explanations we have focused upon could be motivated directly by Canada-U.S. comparisons, perhaps particularly well when aligning provinces and U.S. states with comparable populations.

These points may be obvious, but when considering how well each country could serve as the other's comparison case, there is surprisingly little Canada-U.S. comparative work in sociology. Part of the process of encouraging this type of research could be an effort to accumulate information on dataset comparability.   This could involve compiling a list of existing comparative Canada-U.S. research. We believe that such an effort would substantially increase the volume of comparative research; if researchers knew which U.S. datasets were compatible with which Canadian datasets on which issues, then the time-consuming and frustrating initial explorations into compatibility issues – and even into what datasets exist – would be greatly reduced.

Of course, one need not cross international borders to generate interest.   Interprovincial comparisons in Canada may be more sensible in many cases because of their greater specificity. What we advocate here is that specificity and closeness of comparison cases not be the only criteria for choice; provocative comparisons should be pursued where possible.   Deliberate attempts to compare "have" and "have not" provinces, or to compare provinces with informal rivalries (e.g., Alberta and Ontario), could generate research of public interest.   The policy implications of such research may then command greater public support.

5.2 Substantive Topics of Particular Interest in Canada

Two topics of research appear to be of particular interest in the present Canadian policy context: high school completion and post-secondary institutional flatness. First, Audas and Willms (2001) have proposed that the NLSCY be used to study dropping out of high school from a life course perspective. We propose that this project be pursued with comparative methods. Similarly, the NLSCY is well-suited to the study of post-secondary entry. One could study why high ability students from disadvantaged backgrounds do not complete secondary school (or complete secondary school but do not pursue post-secondary education at the expected rates). Research on high ability students from disadvantaged backgrounds is also sensible, because policies are most likely to have effects on them, and because there should be broad support for policies intended to encourage fairness and educational success for disadvantaged but talented students. For example, these policies should be supported even by those who believe that education acts primarily as a signal, as well as by those who think that promoting high school completion for all necessarily involves lowering standards.

Second, research suggests that Canadian post-secondary education is becoming more institutionally hierarchical. As such, it is beginning to resemble post-secondary education in the United States. It seems sensible to study the causes and effects of this convergence, and it is therefore a natural topic for Canada-U.S. comparisons. We do not claim that this is a novel proposal: the Canada-US comparison offered by Davies and Hammack (2005), for example, is exemplary and serves as a fine model for more widespread work.

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