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Post-Secondary Access and Student Financial Aid in Canada: Current Knowledge and Research Gaps

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PURPOSE

The purpose of this *Background Paper* is to assist the Canada Millennium Scholarship Foundation (CMSF) to develop a comprehensive research agenda. This research agenda will be organized around two broad themes – access to post-secondary education and how students finance this education – and developed through extensive consultations with stakeholder organizations and experts. *This paper identifies knowledge gaps that must be addressed in future policy research on post-secondary education in Canada.* It does so by highlighting what we already know about factors determining access to post-secondary education, and the role of various forms of student financial assistance in this access. To achieve these ends, we present an overview of the literature relevant to addressing these topics within the Canadian context.

While this paper is not exhaustive in its coverage, we strive to identify the major conclusions and gaps in the relevant literature. We selectively draw on materials identified through comprehensive searches of electronic databases (e.g., Current Contents, CBCA Full Text Education, Canadian Periodical Index; ABI Inform, Sociological Abstracts, Social Science Abstracts, ERIC, Education Research Abstracts), in addition to relevant Internet research sites, policy documents and scholarly books. As a supplement to the paper, CPRN has provided the CMSF with a detailed annotated bibliography.

The literature search has several limitations. Our coverage of the international literature is restricted to the English language, and our coverage of Canadian materials in French is more limited than that in English. We also focused on students in their teenage and young adult years (ages 13 to 25), which accounts for most post-secondary educational planning and activity. While ‘life-long learning’ clearly is an important public policy goal today, we only raise it if it includes individuals who are over the age of 25 when they first enter post-secondary education. This reflects the CMSF’s mandate to support the first stage of post-secondary education.

This Background Paper has been drafted to generate discussion among the participants at CPRN’s February 1, 2001, Research Workshop on Post-Secondary Access and Student Financial Aid.

This Workshop is actively involving experts and practitioners in the identification of the research questions and approaches that would best advance the mandate of the CMSF – making post-secondary education more attainable for a broader range of Canadians.

GUIDING THEMES AND QUESTIONS

Our literature review and the paper's development were guided by discussions with officials of the Canadian Millennium Scholarship Foundation about the major policy-relevant research issues and questions in the broad areas of access to post-secondary education and student financial assistance. As we worked our way through the literature, these issues and questions crystallized as follows.

Part I examines the research on post-secondary access using the following issues and questions:

- *Plans* for participation in post-secondary education:
 - 1) What is the process of decision-making about post-secondary plans and goals, including choice of institution and program, and what are the major factors that explain variations in this process across different groups of students?
 - 2) What are teenagers' main sources of information about career and further education options, how accurate are these sources, and at what ages and in what contexts do specific information sources have the greatest effect on career decision-making?
- *Participation* in post-secondary education:
 - 1) What are the major barriers, both objective and perceived, to participation in post-secondary education, and how do these barriers vary by type of program and institution, and across different socio-demographic groups?
 - 2) Among students who do not enter post-secondary programs immediately following high school, what factors influence these delayed-entry patterns, and is there any evidence that this delayed entry makes a difference to educational or career success?
- *Adjustment* to post-secondary programs and institutions:
 - 1) What are the main personal, social, and institutional factors associated with successful completion and non-completion of post-secondary programs?
 - 2) What factors influence when, where and why post-secondary drop-outs return to complete a post-secondary program?

Part II examines the research on student financial aid and is organized around these issues and questions:

- *Sources* of financial aid to students:
 - 1) What are the major financial sources that students rely on to pay for their post-secondary education, and what are the key trends in this regard?

- 2) Which socio-demographic groups are most and least likely to rely on specific sources of financing?
 - *Costs of post-secondary education:*
 - 1) What are the total costs for full-time students of various types of post-secondary programs?
 - 2) How is the overall cost of post-secondary education related to participation rates and enrolment patterns?
 - *Student perceptions and information about sources of financial aid and costs:*
 - 1) To what extent does the perceived cost of post-secondary education affect plans and enrolment?
 - 2) How well informed are secondary and post-secondary students about post-secondary education costs and financial support, and do they have adequate personal budgeting and financial management skills?

Part III briefly summarizes ‘what we know’ based on the research reviewed. The major policy information gaps that future research must address are then itemized.

THE CONTEXT

As a starting point, it is useful to summarize the main trends in post-secondary education enrolment and student financial aid that can be extracted from major national data sources.

Canadians' educational attainment is the highest among OECD nations. High school completion rates increased during the 1990s, and by 1995, 65% of high school graduates went directly to post-secondary education. However, despite this high educational attainment, university participation rates and enrolment numbers showed little change in the 1990s, after several decades of more or less steady increases. Demographics plays a key role in this regard, given that the relative and absolute size of the youth cohort has been declining. Between 1992/93 and 1998/99, the number of part-time undergraduate students fell by about 25%, while enrolment in full-time undergraduate studies remained relatively steady. Trade-vocational institutes have seen a slight drop in full-time enrolments since the late 1980s, while part-time enrolments rose and then fell, showing a small overall increase. Colleges experienced a similar trend in part-time enrolments, while full-time enrolments rose more substantially (Statistics Canada & Council of Ministers of Education, Canada [CMEC], 2000; Statistics Canada, The Daily, 9 March 2000; Butlin, 1999).

A complex set of social, demographic, economic, and political factors influenced post-secondary enrolment patterns in the 1990s. Their relative importance and interactions are not well understood. Nonetheless, a composite overview of access and financial assistance trends can be gleaned from national databases (Statistics Canada & CMEC, 2000; Statistics Canada, The Daily, 30 July 1999, 9 March 2000; 28 August 2000; Butlin, 1999):

- Women have made significant gains in terms of overall access to post-secondary education. For example, women between 18 and 24 years of age were the only group of full-time undergraduates to experience rising enrolment. Women received 58% of university diplomas and degrees in 1997. Yet key fields – particularly science, engineering and technology – remain male dominated.
- There now is concern about the academic performance of certain groups of male students, given the fact that compared with females, male teenagers have lower literacy levels and high school completion rates.
- Generally, mother tongue (i.e., the first language a person spoke at home) is not a barrier to educational attainment. However, high school graduates in the 1990s whose mother tongue is French were somewhat less likely than individuals whose mother tongue is English to attend university (other relevant factors taken into consideration).
- There are provincial and rural-urban variations in post-secondary participation rates. For example, Ontario high school graduates are more likely to attend university, while Quebec students had the highest college participation rate (because of the CEGEP system). High school graduates from rural areas are less likely than are urban graduates to participate in university education.

- Aboriginal persons have significantly lower educational attainment compared with the non-Aboriginal population.
- Declining public funding for post-secondary institutions during the 1990s resulted in large tuition increases in most jurisdictions. For example, tuition in Arts undergraduate programs increased by 126% since 1990-91, much faster than inflation or the consumer price index. Compared with 1980s university graduates, slightly higher proportions of 1990s cohorts relied on student loan programs and those with loans had much larger debt loads at the time of graduating and took longer to pay off these debts. Student debt loads grew because of higher tuition, rises in other education-related costs, and changes in the availability of financial aid.
- Young people from high socio-economic status (SES) families are far more likely than low or middle SES families to attend university. However, some evidence suggests that enrolment increased faster among middle SES students than lower SES students in the early 1990s, raising concerns about the barriers that rising post-secondary costs may impose on the latter group.

In sum, these trends reveal a mixed picture. Relatively high overall post-secondary participation stands in contrast with persistent and emerging inequalities based on socio-economic status and other socio-demographic characteristics. These trends must be viewed against a backdrop of unknown effects of the rising costs of post-secondary education for growing numbers of students.

PART I – ACCESS

A. Plans for post-secondary education

There is abundant information on factors affecting young people's plans for post-secondary education. Much of this research comes out of the sociological and educational literature on status attainment and, more recently, research on the life course. The educational aspirations and expectations of youths are important topics in their own right. But they also are important to an understanding of educational policy issues because educational plans constitute one of the main predictors of actual educational outcomes (Newfoundland, 1998).

Some youth fail to complete the high school prerequisites for admission to post-secondary education. Statistics Canada's School Leavers Survey (cf. Gilbert et al., 1993) examines these students in some detail. Other students complete high school but do not apply for any post-secondary education. This self-selection process eliminates many qualified students, often on the basis of family background or other characteristics over which they have no control. It is important to examine factors affecting educational plans in so far as this helps us to identify specific groups of students who may need to be targeted for policy interventions.

Background factors affect educational aspirations and expectations in two ways. One way is the effect on the *level* of education planned – that is, whether or not one plans to pursue any post-secondary studies, as well as how much education one plans to pursue, *viz.*, undergraduate degree versus post-graduate studies. The other effect has to do with the *type* of education planned (Maritime Provinces Higher Education Commission, 1997). “Type” here refers to both the type of institution (trade-vocational school, community college, or university) and the field of study. Most studies look at the effects of background variables on level of education attained, while a few explicitly examine factors that affect the field of study.

A number of key variables have been identified in the literature as affecting plans for post-secondary education. They include socio-economic status (SES) and gender. Other variables, most of which are what Henshey (1998) calls “individual level variables,” have received somewhat less attention in the research literature, yet they have also been found to affect youth educational plans. These will be reviewed in turn.

Socio-economic status of the parents of students is perhaps the most well-researched factor affecting educational plans. Measures used to classify SES include some or all of parental education, parental occupational status, and parental income. The different components of parental status are captured by the terms social and cultural capital. Social capital refers to the resources available because of connections to others; cultural capital includes a range of the non-economic assets that come from high levels of education and exposure to middle and upper class values and attitudes.

Most of the research documents the fact that *the higher the parental status/capital, the higher the youth's educational plans will reach. That is, those from higher status homes are more likely*

than lower status youth to pursue post-secondary education; when they do go on to post-secondary studies, higher SES youths are more likely to attend university rather than other forms of post-secondary; higher SES youths are also more likely to pursue post-graduate degrees.

Canadian studies that confirm these effects of parental education include Looker (1994, 1997), Perron (1996) and research by the Manitoba government (2000), although many others concur (see references in Butlin, 1999). There is a wealth of data from the U.S. confirming the same pattern (e.g. Issac et al., 1992; Mortenson, 1995; Shepard, 1992). Andres and Krahn (1999) shows the persistence of the effects of parental occupational status on youth plans, despite the changes that have taken place in the occupational structure of Canada in the last few decades.

Other studies focus on the effects of parental income on these plans. Looker (1997) documents the effect on level of education plans; Delaney (1998) looks at how parental income affects the types of education the student plans to pursue. Income also affects access to information technology (Gladieux and Swail, 1999) and, therefore, information on and access to fields of study that require this type of expertise. Trusty et al. (2000) examines the effect of a composite measure of socio-economic status on type of education. Lowe et al. (1997) examines a more composite measure and its effects on levels of educational expectations.

Parental income affects plans because of the perceived high costs associated with post-secondary schooling. *A recent study of perceived barriers to future plans* (Manitoba, 2000) *showed that “not having enough money” was ranked as a barrier for more students than any of: a lack of information on available jobs and careers; not finding a job that matches interests; grades; lack of personal contacts; not being accepted by the university or college of choice; family obligations; being a parent; or discrimination.*

Gender has also received a lot of attention in the research on youths' educational plans. This literature documents that the effects of gender on education are very complex. On the one hand, in most western industrialized nations females do better than males in high school, they like school better, and are more likely to plan to pursue a university degree (Looker, 1993; Lowe et al., 1997; Manitoba, 2000; Newfoundland, 1998). Males are more likely to withdraw before completing high school and are more likely to withdraw at a younger age than female students (Gilbert et al., 1993; Thiessen and Looker, 1999).

On the other hand, gender stereotyping persists in youth choices of field of study – despite the rising educational and occupational aspirations of young women (Andres and Krahn, 1999). For samples of Canadian youth, Maxwell et al. (1996), and Thiessen and Looker (1999) consider the effects of gender on the field of study (finding it very closely associated with youths' occupational plans). US studies that concur include those reported by Ahola and Naomi (1997); Pearson and Jenkins (1997); Sharpe (1996); and Trusty et al. (2000).

Other research focuses on how gender affects participation and performance in science and mathematics, and/or exposure to and comfort with computers (Nachmias et al, 2000.; Young et al., 1997; Canadian Congress for Learning Opportunities for Women, 1991; Industry, Science and Technology, Canada, 1991). Some research suggests that males do better in these courses at high school, and that is why they are more likely to choose areas of post-secondary study with a science or mathematics focus. However, see Whitely (1997) and Crombie and Armstrong (1999)

for the implications of having single sex classes, and Dugdale et al. (1998) for the effects of computer use in the classroom as ways of countering potential gender effects.

The effects of **language** on youths' educational plans has been the subject of some research (e.g. Canadian Education Statistics Council, 1996; Manitoba, 2000; Quebec, 1998), although this is an area that is not as explored as deeply as one might expect in a country with two official languages. Some additional information will emerge on this and other topics relating to youth plans and attainments when data from the new Statistics Canada Youth in Transition Survey (YITS) becomes available, as well as when the long-standing National Longitudinal Survey of Children and Youth (NLSCY) extends to cohorts in their late teens and early twenties.

Clearly, additional research on the impact of language on educational plans is needed.

Francophones inside Quebec have a range of post-secondary institutions to choose from if they wish to study in their own language. Those outside Quebec are more limited: university options include the Collège Ste. Anne in Nova Scotia, the Université de Moncton in New Brunswick, the University of Ottawa and Laurentian University as bilingual institutions, as well as specific colleges at some institutions (Faculté St. Jean, University of Alberta; Collège Alfred, University of Guelph; Glendon at York University), and the distance education provider Réseau d'éducation à distance de l'Ontario.

What is more, the organization of post-secondary education is different in Quebec than elsewhere in Canada, given the requirement for study at a CEGEP (Collège d'enseignement général et professionnel) prior to admission to a Quebec university. *The effects of the educational structure in Quebec need to be examined separately from the effects of language on student plans.*

In general, since education is a provincial jurisdiction in Canada, **province of origin** is likely to have an impact on both educational plans and attainments (Andres and Looker, forthcoming; Andres and Krahn, 1999). Some provinces have formal systems of articulation between community colleges and universities. This could make post-secondary education more accessible to those in rural areas who have access to a community college but not a university – but more research is needed to document this. *The structure of education at both the secondary and post-secondary levels vary sufficiently from province to province to warrant further examination of how these structures affect the plans of students in general, as well as of particular subgroups.*

There is also only limited information on **ethnicity and/or immigrant status** (Canadian Education Statistics Council, 1996; Maxwell et al., 1996). Hurtado et al. (1997) examines this issue in the United States. Ethnicity can have an impact because different cultures can have different attitudes towards and differential access to information about the Canadian educational system. There may also be issues relating to discrimination and intolerance and/or levels of teacher sensitivity to cultural differences. Recent immigrants may not be eligible for scholarships even if they are aware of their existence. According to Maxwell et al. (1996), *at least some recent immigrants have higher aspirations than native-born Canadians. Again, we need more information on how these two related variables affect student post high school plans.*

For some students, their visible minority status is more salient than ethnicity *per se*. There is a wealth of research on **race** in the U.S. (e.g., Carnoy, 1994-95; Dai, 1996; Freeman, 1997, 1999; Horvat, 1996; Karraker, 1992; McDonough et al., 1996; Sharpe, 1996), reflecting the country's high concentration of African-Americans. Blacks consistently have lower educational plans than do Whites. *Much of the research on racial issues in Canada focuses on Aboriginal peoples (e.g. Steinley, 1995), and most of it looks at educational attainments rather than plans. Again, the pattern is one of minority group members having lower aspirations and expectations than others.*

The issue of racial differences in educational plans is important for Aboriginal peoples, partly because of the different system of schooling provided for those with official First Nations status. More generally, if members of certain visible minorities are more likely (as with those of Asian descent – Maxwell et al., 1996; Mortimer, 1996) or less likely to plan to pursue post-secondary education, this has implications both for the future prospects of those groups and for the country as a whole.

Other factors that influence students' educational plans include:

- **Family structure:** *children of single-parent families have lower educational aspirations and expectations than those from dual-parent families* (Horn, 1997; Kennedy et al., 1999; Lillard et al., 1999; Magee, 1998). However, it is not clear whether this has more to do with the family structure itself or with the low incomes of many single-parent (usually single mother) households (Magee, 1998).
- **Rural versus urban location** also matters: *fewer rural youths plan on attending post-secondary institutions* (Knisley, 1993; Looker, 1993; Legutko, 1998; Shepard et al., 1992; Young et al., 1997). In most cases, rural youths have to leave both the parental home and their home community to pursue post-secondary education. In contrast, most urban youths have at least one post-secondary institution in the community in which they live, as well as public transportation that allows access to such institutions (Looker, 1993). However, other factors can contribute to this rural-urban difference, including access to a variety of courses and counseling resources, as well as perceptions of the usefulness of post-secondary education for obtaining employment. See Corbett (2000) for an insightful analysis of students from one rural fishing community.
- **Disabilities of various kinds** affect educational outcomes, according to some literature — as will be shown in the next section of this paper. However, there is little available literature on how physical or learning disabilities affect youths' educational plans (but see Hill, 1996). Clearly this is an area where more research is needed.
- **Access to information and counseling services** also affects student plans (British Columbia, 1997; Choy, 1999; Hamrick, 1996; Hossler and Maple, 1993; Johnson, 1991, 1994; Libsch et al., 1995). *If students are unaware of the variety of post-secondary options open to them, they are less likely to plan to attend certain institutions, and may make inappropriate choices.*

- **Counseling** that is available in many Canadian schools, according to at least some research, is ineffective (Rosenblum et al., 1996), or it targets those who need it least (Mackinnon and Looker, 1999). McDonough *et al.* (1996) documents *the importance of student-teacher contact, particularly for students from disadvantaged groups, in terms of their making post high school plans that reflect their levels of academic ability.*
- **Students' attitudes** shape educational plans, in part through access to information or counseling services. Dai (1996) documents the positive effects of self-esteem and religiosity on the level of post high school plans. Lowe et al. (1997) examines the high value placed on education by most grade 12 students, and the effects of this perspective on the students' plans. The Manitoba government report (2000) examines several attitudes and goals, documenting their importance to educational plans. It is perhaps surprising that few students say their peers affect their educational choices (Looker, 1994), although this issue has not been extensively researched.
- **Parental attitudes** are another factor that has received considerable attention from researchers (Beyer *et al.*, 1991; Hossler and Maple, 1993; Legutko, 1998; Looker, 1994; Manitoba, 2000; Pearson and Jenkins, 1997; Powlette and Young, 1996; Sharpe, 1996; Shepard et al., 1992; Wanat et al., 1992). These attitudes include their preferences for their child, as well as various forms of encouragement for the pursuit of post-secondary education. Not surprisingly, the higher the parental preferences and expectations, the more likely the teenage child is to plan to attend a post-secondary educational institution. These parental attitudes, while correlated with the parents' own levels of education, have a separate effect on the student's educational decisions. The more parental encouragement, the more likely the student is to see post-secondary education as a viable alternative and one they plan to pursue. It tends to be mothers more than fathers who play an active role in the child's education, with mothers being the ones who attend information sessions and initiate contact with school officials (Looker, 1994). *Given the importance of parents to youths' plans, it may be important to consider how information about post-secondary options can best be made available to the parents of students completing high school.*
- **Academic ability**, and related skill levels, have been extensively researched with respect to educational plans (Harrington et al., 1999; Horn, 1997; Looker, 1994; Rosenbaum, 1997; Manitoba, 2000). Academic performance is, of course, one of the factors that is *supposed* to affect educational plans and attainments since post-secondary institutions use high school grades and types of courses completed as explicit criteria for admission. One would expect such measures, and related ones such as academic stream, (Andres and Krahn, 1999) to affect both plans and attainments.

B. Participation in post-secondary education

As important as educational plans are, the critical policy issue is *what young people actually do*. This broad issue can be recast in terms of the following questions:

- **Who attends Canadian post-secondary institutions?**
- **What types of institutions do they attend (trade/vocational, college, or university)?**
- **What factors affect whether or not they will participate? and**
- **What sub-groups are more or less likely to attend?**

A brief overview of participation trends was presented above, in the section on “Context.” These trends and patterns can now be examined in more detail. Many of same variables identified in the last section, regarding plans, also affect access and participation rates. What is important is that many of these variables have an impact on access separate from and *in addition to* their effect on plans.

As was the case with educational plans, the impact of parental **socio-economic status** (SES) is a major focus in the participation literature. In terms of participation, parental income rather than parental education seems to be the basis for identifying those who are advantaged, although many studies also document the importance of parental education in this regard (e.g., Andres and Krahn, 1999; Choy, 1999; Clift et al., 1997; Butlin, 1999). Students from poorer families are not only less likely to undertake post-secondary education, there is some indication that the gap between richer and poorer students may be growing (Statistics Canada, *The Daily*, 2000). A University of Alberta study (2000) shows that *young people from lower income families have less access to the university system and that, as tuition costs increase, their access decreases*. Similarly, Newfoundland (1998) has documented the importance of economic barriers to starting post-secondary studies, especially for women (see also American Association of University Women, 2000).

Studies in the U.S. (Choy, 1999; Schaprio et al., 1990) and Ireland (Lynch and O’Riordan, 1998) reach similar conclusions about the deterrent impact of low income, although Lynch and O’Riordan also point to cultural and educational barriers that lower-status students face. Berkner (1992) argues that much of the effect of parental income is indirect, via its impact on youth plans, but it is important nonetheless. Gladieux and Swail (1999) suggest that *distance education, far from making education more accessible, widens the gap between high and low income families*.

Given the pervasive impact of **gender** on youth transitions, it is not surprising that gender exerts a strong influence on rates of participation in post-secondary education. Not only do *young women have somewhat higher aspirations than their male counterparts, they also pursue post-secondary education in higher numbers, although males still dominate at the post-graduate level* (Butlin, 1999; Clift et al., 1998; Quebec, 1999). The proportion of females attending post-

secondary institutions has increased in recent years in both Canada (O’Heron, 1997) and the U.S. (Baker and Vélez, 1996). Also see Cloutier (1984) on the interaction between gender and race.

Moreover, gender has an even greater impact on choice of field of study and/or type of institution attended. Despite various policy initiatives, both males and females still tend to pursue gender-stereotyped fields of study – women in education, arts and humanities, and males in the physical and applied sciences, trades, and technical fields (Andres and Krahn, 1999; Butlin, 1999; Looker, 1994; Mandell, 1993; O’Heron, 1997). Women are also more likely than men to pursue their post-secondary studies on a part-time basis (Clift et al., 1997), which has implications for their eligibility for financial aid.

There is only limited information on the impact of **language** as a factor affecting educational decisions. Statistics Canada data (Butlin, 1999) show that students whose mother tongue is English are more likely than francophones to attend university. Those whose mother tongue is French are more likely to attend a college-level institution (including Collège d’enseignement général et professionnel - CEGEP). Since francophones are concentrated in Quebec, and since Quebec universities require completion of CEGEP, the overall difference between language groups may simply reflect these differences in provincial requirements. Nevertheless, *given the centrality of language to Canadian policy issues, this topic clearly warrants further study.*

The same analysis (Butlin, 1999) documents the impact of **immigration status** on post-secondary participation rates. *Individuals born outside of Canada are more likely than native-born individuals to participate in university and in trade/vocational programs.* However, there is no difference by immigration status in the rates of participation in the college system in Canada.

Information on the impact of **race** on access comes mostly from the United States, as was the case with the research on educational plans. It indicates that African-Americans and members of other *minority racial groups have lower rates of participation in post-secondary institutions than the dominant group* (Baker and Vélez, 1996; Darden et al., 1997; De Oliver, 1998; Freeman, 1997; Jun and Tierney, 1999; Lee, 1997; Mendoza, 1996; Nettles and Millett, 2000).

Most Canadian research on racial issues focuses specifically on Aboriginal peoples. Despite policy interventions and equity programs (see the British Columbia’s (2000a) discussion of bridging programs), First Nations students still have much lower rates of participation in post-secondary studies than other Canadians (Clift et al., 1997; Cloutier, 1984; British Columbia, 2000a; Sarkar and Stallard, 1997; University of Alberta, 2000). *More research is needed to examine the resources and support available for Aboriginal students, and the unique problems it is likely that they encounter when participating in post-secondary education.*

There is a need for more Canadian-based research on other racial and ethnic minorities as well. Financing and costs also can affect post-secondary retention and overall student outcomes. *There is evidence that rising costs may be especially difficult for students from racial minorities, for neither they nor their families have the same financial resources as non-minority students* (Grayson, 1995).

Students with **disabilities** comprise another target group under Canadian equity policies. The limited research on this group shows that they face considerable barriers to accessing post-

secondary education, which results in low participation rates (Clift et al., 1997; Horn and Berkthold, 1999; Butlin, 1999; Riddell, 1998; Sarkar and Stallard, 1997; Ticoll, 1995). Hill (1992) concludes that *while participation rates have increased, students with disabilities are still under-represented in Canadian post-secondary institutions, despite efforts by many institutions to increase accessibility. Interestingly, smaller institutions, which have fewer resources formally targeted to students with disabilities, boast of higher rates of participation than larger institutions.*

Hill also notes that those with physical disabilities require different types of support than those with other disabilities (namely, learning disabilities), although more supports are available for the former group. Canadian research has not examined how disabilities affect student transitions to post-secondary education (for other countries see Halpern et al., 1995; Tisdall, 1997). Unlike the United States, Canada does not have specific legislation requiring the accommodation of students with disabilities.

Other factors that also can affect participation rates in post-secondary studies include:

- ◆ **Region** of the country (Andres and Looker, forthcoming; Butlin, 1999; Doherty-Delorme and Shaker, 2000) as well as **rural versus urban** locations (Looker and Dwyer, 1998; De Oliver, 1998; Looker, 1993; Butlin, 1999; University of Alberta, 2000) affect participation significantly. Having different systems of post-secondary education in the different provinces means that there is considerable variation in the number and type of institutions available, tuition policies, admission criteria and student support — all of which can affect participation rates. For example, rates of participation in university are highest in Ontario. Rural students tend to have lower levels of post-secondary participation, and are more likely to attend non-university institutions.
- ◆ **Family structure**, particularly whether or not one is from a dual- or a single-parent home, can influence participation rates. Those from single-parent families tend to have lower rates of participation than others (Furr, 1998; Butlin, 1999; cf. Magee, 1998).
- ◆ A student's **age** can affect the likelihood of pursuing post-secondary studies (Baker and Vélez, 1996; Bamber, 1999; Canadian Education Statistics Council, 1996; O'Heron, 1997). Those in the traditional age group for attending post-secondary institutions (i.e., those who attend directly after secondary school) have higher rates of attendance and completion than older students who return after time away from formal education. These older students, who often attend part-time, often have work and family demands that can reduce their involvement in and success at post-secondary studies.
- ◆ Little is known, in general, about how the **type of program** or **type of institution** affect participation rates. For example, apprenticeship programs attract relatively few students (and more males than females), despite persistent skill shortages in some skilled trades. While total apprenticeship registrations increased by 10% between 1987 and 1997, the number of apprenticeship programs dropped slightly (Statistics Canada, *The Daily*, 4 August, 1999).
- ◆ Finally, research shows the importance to participation rates of **access to information** about post-secondary institutions, their requirements and procedures (Baum, 1994; British

Columbia, 1997; Looker, 1996). Those with less access to relevant information (including the sub-groups identified above as facing barriers to post-secondary participation) are less likely to apply and less likely to be accepted into programs at the post-secondary level. While some institutions place an emphasis on various ratings (such as the *Maclean's* rating of universities), there is little systematic research on how such ratings affect students' decisions about what institution to attend (but see Smith and Matthews, 1991; Stronsnider, 1999; Wright, 1998).

C. Adjustment to post-secondary education

This section looks at what happens when young people get to post-secondary institutions. What barriers and supports inhibit or facilitate their transition to tertiary education, and within the post-secondary system? What factors are associated with failure to complete a program versus successful graduation?

(i) Factors affecting adjustment to post-secondary institutions

A central issue in the research reviewed so far is that a student's background exerts a strong influence on both plans and participation rates. The literature on transitions and retention of students focuses less on these background factors and more on the situation of the student and the facilities provided by (or missing from) post-secondary institutions.

Gender is one "background" factor that *does* affect adjustment and retention. However, here the issue is less whether males or females are more likely to complete a post-secondary program (females are – Fenske et al., 2000; Krahn, 1996; Statistics Canada and CMEC, 2000) than on how the barriers faced and supports needed differ by gender. Women's transitions into and out of post-secondary institutions affect them much more than men. In particular, relationships (especially marriage and/or parenting) affect how women adjust to their post-secondary studies and the challenges they face in successfully completing them (Avis, 1997; Betts, 1999; Conway, 1996; Lake Snell Perry and Associates, 1999; Erwin, 1996; Hiebert and Tomlinson, 1996; Looker, 1996, 1997; Wyn, 1996).

Andres and Krahn's (1999) comparison of Alberta and British Columbia students finds that while similar proportions of males and females successfully complete a degree, diploma or certificate, they tend to complete different types of post-secondary programs. Also see Hesch's (1994) detailed analysis of how family responsibilities create complications for aboriginal women in a teacher education program. Women are also more likely than men to utilize post-secondary programs via distance education (Statistics Canada, 1998).

Rural youths also face special problems adjusting to post-secondary programs (Looker and Dwyer, 1998; Sharpe, 1996). This includes problems associated with living away from home and coping with city life — including such basics as dealing with public transportation systems, which takes time and costs money. Survival in the city can also require complex skill sets – such as finding suitable housing — which many rural youths lack. These challenges can lead to problems completing a certificate or degree program, and/or increased likelihood of a transfer to a "lower status" program (Liljander, 1998).

Living away from home can, in general, cause adjustment problems for students, whether or not they are from a rural area (Donaldson, 1996; Grayson, 1997). In addition to the cost of living away from the parental home, students lack the social support that parents provide, a support that can be important to their successful adjustment to post-secondary studies.

Part II, below, outlines how **finances** can affect student adjustment (Choy, 1999; Donaldson, 1996). *Rising tuitions can affect some students more than others.* For example, Kaltenbaugh et al. (1999; see also Fenske et al., 2000) finds that African-American students were much more responsive than others to tuition discounts. Student aid can ameliorate some of these problems. However, as Perna (1998) shows, not all aid programs have the same effect on student retention. What is more, certain students — such as those who are returning after some time out of the educational system (Hube, 1996) — may be ineligible for certain types of aid.

Employment is one source of additional income for students. There is a fairly rich literature on the effects of part-time work for students (Krahn, 1996; Lowe and Krahn, 1992). However, *a number of issues need to be addressed with respect to this employment.* One is *access* to jobs. More difficulty in getting jobs is experienced by certain students — such as those with few local connections, those from minority groups, those with disabilities (Donaldson, 1996; Looker and Dwyer, 1998; Tisdall, 1997). Another issue in this connection is *the effect of work on the young person's studies* (Choy, 1999; Gleason, 1993). While there is some disagreement (see Curtis, 1991) about how many hours a student can work without that work having a negative impact on study time and performance, it is clear that there is a limit.

The factors affecting the adjustment of students with **disabilities** are examined by a separate body of literature — about both learning disabilities (Evelo, 1991; Dukes and Shaw, 1998) and physical disabilities (Gartin et al., 1996; see also the British Columbia government, 2000a and Hiebert and Tomlinson, 1996). Students with disabilities face a number of unique challenges as they move into post-secondary studies. *Many of these students had special supports provided for them in their secondary school; they may have less access, or less information on available supports in a large post-secondary institution.* Individuals with disabilities most likely rely more heavily on a wider range of financial support than other students (Centre for Educational Information, 1999: 9). The barriers facing youth with disabilities at many post-secondary institutions in Canada include: poor academic preparation (given their exposure to “modified” academic programs at the secondary school level); lack of clear policies; division of responsibilities across different offices; institutional inflexibilities; various types of physical barriers; and, in general, a lack of the supports they had been provided (Hill, 1996).

Youth leaving care form another sub-group that faces special transition issues as they move into post-secondary education. As Coles (1996) and Martin (1996) note, these youths no longer have a parent or parent substitute to whom they can turn. Once they reach a certain age, they are no longer the responsibility of the State. *The supports that parents routinely provide to other students are therefore denied them. Institutional supports are needed to facilitate the transition into their programs of study and to ensure their successful completion.*

Other research focuses on the effects of specific programs, for example for **Aboriginal students**. Archibald et al. (1995), Hesch (1994), Vogageur (1993) and Wright (1998) all look at both the barriers that Aboriginal students face, and the ways that different institutions have tried to

develop supports to help them overcome these barriers. However, special programs can be double-edged swords (Hesch, 1994) — on the one hand giving Aboriginal students their own space to work out their adjustment problems with others who share their experiences and cultural traditions. On the other hand, this “separateness” can ghettoize these students and reinforce the view that they could not make it in a regular program. Among the problems faced by First Nations students at university are lack of funding and experiences of racism (Archibald et al., 1995).

There is little Canadian information on the transition experiences of other racial or ethnic groups. Marsiglia (1998) documents some of the challenges facing Latino youths in the U.S. and the need for more cultural sensitivity on the part of college personnel.

Part-time students face unique challenges as they undertake post-secondary studies (Avis, 1997; Horn and Carroll, 1996). They have fewer connections with other students, and are less familiar with institutional personnel and resources. They often are ineligible for various types of financial aid. Many of them are returning to their studies after being out of school for a while (Kempner and Kinnick, 1990; University of Alberta, 1997). Part-time students pursuing their studies via distance education face additional challenges (Confederation College, 1987; Statistics Canada, 1998). *We know little about the factors that influence students to undertake part-time study or those that affect completion rates by these students.*

We know even less about the impact of the expanding provision of distance education, via the internet or through more traditional media, despite the fact that 12% of distance education students are pursuing their “initial, uninterrupted full-time studies” (Statistics Canada, 1998:8).

There is very little information on differential retention rates for different **types of institutions** and/or different programs of study. For example, we know that retention rates in apprenticeship programs in Canada are low (Economic Council of Canada, 1992) but it is not clear how this compares to retention in other types of programs.

Other **student characteristics** that affect post-secondary success include their level of preparation for (Hill, 1996; Sharpe, 1996) and information about the post-secondary system (Gray, 1995). Some researchers argue that part of the problem arises from the increasing tendency for post-secondary institutions, especially community colleges, to have an open admission policy (Choy, 1999; Gray, 1998; Rosenbaum, 1997). As a result, many students lack the academic background to be able to succeed in post-secondary studies.

Certainly, past academic performance (Johnson and Buck, 1995) and related skills (such as reading and mathematics: Harrington and Sum, 1999) affect retention rates in post-secondary education. Similarly, these outcomes are affected by a student’s self-concept (House, 1992) and related attitudes (Avis, 1997; Dietsche, 1990; Johnson and Buck, 1995; Steinley, 1995; Zuker, 1997-98) as well as their involvement in and commitment to their studies (Johnson, 1994).

Different provinces and institutions have instituted various **intervention programs** to facilitate the adjustment of students in general or members of certain sub-groups in particular, to post-secondary studies. Fenske et al. (1997) reviews US interventions for low income and/or minority

youth. Others look at case studies of specific interventions or promotional efforts by particular programs (Hardy, 1992; Hart, 1993-94; Marable, 1999; McCormick, 1995).

Thiessen and Looker (1999) examine a particular intervention program in Nova Scotia and develop several policy recommendations for school-to-work programs. Two strengths of this particular analysis are the longitudinal nature of the data (before and after the intervention) and the presence of a comparison group. This type of careful evaluation research (in Canada, see, e.g., publications by the Social Research and Demonstration Corporation) is invaluable to understanding the effectiveness of policy and program interventions.

(ii) Transfers within the post-secondary system

Transfers within and between post-secondary institutions also affect students' adjustment to them. One type of transfer involves going from the first one or two years at a community college to a university for degree completion. This transfer process is obviously quite different in those provinces, such as Alberta and British Columbia, which have a formal system whereby university credit courses are offered at community colleges and a formal articulation agreement exists among the institutions (Andres and Krahn, 1999). Transfers in these provinces expanded considerably in the 1990s, reflecting these policy initiatives. Other forms of transfer include changing field of study within an institution.

Much of the research on transfers within the post-secondary system deal with the first issue – transfer from a community college to a university, and much of it is descriptive (Bach et al., 2000; Bragg, 1999; Eimers, 1997; Luanan, 1999). There is some evidence that the system of transfer between community colleges and universities is not a simple linear one, but rather that students move back and forth between the institutions, sometimes attending a university and then a community college (Bach et al., 2000; Looker and Dwyer, 1998). Andres and Looker (forthcoming) provides an overview of the literature on transfers between community colleges and universities, documenting the types of barriers that students in B.C. face before, during and after such transfers.

There is considerably less information on other forms of transfer within post-secondary institutions. *There is clearly a need for more information on various forms of transfers within the post-secondary system.*

PART II – STUDENT FINANCIAL AID

A. Sources of student financial aid

This section assesses what the literature shows about the major sources that students rely on to pay for their post-secondary education, the key trends in this regard, and which socio-demographic groups are most and least likely to rely on specific sources of financing. Student financial aid for post-secondary education can come from a wide range of sources, including **student loans** through the Canada Student Loan Program (CSLP); bursaries and other forms of loans; family financing through gifts, investments (e.g., a Registered Educational Savings Plan), or loans; self-financing through paid work; personal loans; and, for a small minority, scholarships.

As important as it is to continue monitoring CSLP utilization patterns, this will only tell part of the financial aid story. For example, a study of 1994 graduates from Alberta universities found that 52% had these student loan debts, while another 18% reported other education-related debts upon graduating (Krahn and Lowe, 1998). However, Canada lacks a consolidated source of information on all these other types of loans – not to mention other forms of financial support.

In contrast, US research offers a more complete picture of the changing importance of different sources of financial support (e.g., Choy, 1999). US researchers have examined in detail the nature of **family financial support** to students (e.g., Flint, 1997; Reisberg, 1999; Miller, 1996). Parental ability to finance their children's post-secondary education is a major source of intergenerational inequality, which should make the topic a policy question of higher priority. One of the key issues addressed in US studies is the role of parental planning and behaviour for the further education of their children (Miller, 1996; also see Muffett, 1990). Such research is facilitated by the availability of good US data, such as the National Education Longitudinal Study. Some Canadian evidence suggests that the level of financial support received from families will vary by student characteristics (e.g., age, gender) and type of institution attended (University of Alberta, 1997).

Employment is a major source of financial support before and during post-secondary education, although students faced increasing difficulties finding jobs during most of the 1990s (Statistics Canada, 1999). Due to the lingering effects of the recession, many students stayed in school longer, or returned to full-time education, in response to declining job opportunities – despite reduced opportunities for self-funding through paid work. For example, the percentage of 17 to 19 year-olds with no paid work experience jumped threefold, to 26%, between 1989 and 1998. Summer work for students became difficult to find in the first half of the 1990s. Overall, youth labour force participation rates recovered somewhat toward the end of the 1990s, but not to 1980 levels. *While a broad influence of labour market conditions on post-secondary enrolment trends seems clear enough, this influence lacks good micro-level data that reveals how individual youths factor into their educational plans the availability of part-time or summer work.* And,

among post-secondary students, it is important to understand the relationship between educational costs and patterns of paid employment.

Coming at student employment from another angle, we find ongoing debates regarding the impact of **part-time employment** during the high school term on teenagers' academic performance and career trajectories (Lowe and Krahn, 1992). It is generally agreed that moderate amounts of paid work experience do not affect academic performance and may help to prepare young people for the world of work. Yet excessive work hours – generally considered to be 20 or more hours per week – negatively affect grades, attendance, and future plans.

It is important to explore the implications of these findings for student financial aid. Which students with the potential to attend university work excessive hours during their senior high school year? And is this work behaviour motivated by the need to save for post-secondary education? Work-Study Programs that pay high school students a wage have been proposed as a means for helping lower SES students make a successful transition to post-secondary education (e.g., British Columbia, 1998; Saskatchewan, 1997), but only rigorous evaluations of such programs can determine their effectiveness.

Turning now to how specific groups of students utilize different sources, or are affected by changes in funding programs, it is useful to consider how the provinces have responded to the post-secondary funding/tuition squeeze in the 1990s. Some with provincial policy and program initiatives raise further research issues about funding sources.

Take, for example, the changing balance between different **forms of financial assistance** for students. In the Maritimes, the total amount of student assistance increased from 1992-93 to 1995-96. However, bursaries were cut by transforming them into repayable loans (Maritime Provinces Higher Education Commission, 1997:8-9). Debt levels rose among those from lower SES backgrounds who would have relied on bursaries. What remains unknown is how this trend affected post-secondary decision-making among this group. This underscores the importance of tracking the impact of changing regulations and provisions at both the federal and provincial levels.

Another issue is the **mix and design of financial support** programs available. Governments have a wide array of policy options for dealing with student aid needs in ways that ensure that equity goals are met (Association of Universities and Colleges of Canada, 1997; O'Heron, 1997). Furthermore, from all indications, the level of institution-based financial support — based either on merit, need, or some combination of them — has grown substantially. Yet, since little systematic information is available on this form of support, it is important to monitor and report how these funds are being allocated, on what basis, and to whom.

This raises two central policy questions:

- **What is the best mix of programs to meet the diverse financial needs of students at different stages of their education?, and**
- **What forms of flexibility need to be designed into programs to ensure these needs are met?**

Answering these questions requires current comprehensive assessments of the specific financial needs of specific groups. Currently, there is no comprehensive source of information that can be used for monitoring the needs of students, how these are changing, and how financial aid programs actually go about assessing these needs. *Creating such an information system is clearly a priority.* As British Columbia's (1998) report on secondary to post-secondary transitions suggests, it is especially important to assess the needs of specific groups: namely, students with dependants; those who must relocate for post-secondary programs; equity groups (who often face a labyrinth of funding sources); single parents; and students with high levels of accumulated debt.

*A much better **information** system than is currently available is required to understand the diversity of financial needs among students and prospective students. Ideally, researchers should be able to track component costs and students' financial resources and needs at the provincial level. A start would be to create comparable provincial databases with information on the background characteristics and specific needs of applicants for student assistance (British Columbia, 1998).*

There have been recent concerns voiced about the **groups excluded** from student loan programs. The CSLP and provincial loan programs are available to Canadian citizens and permanent residents who meet certain provincial residency requirements. Convention refugees are excluded, and this has led to proposals to expand the definition of a 'qualifying student' in the Canada Student Financial Assistance Act (Brouwer, 2000; also see the federal private members bill Bill C-487 of June 2000). Also, foreign students already studying at Canadian universities face tuition premiums and are ineligible for student loans. The limited financial aid many foreign students receive undoubtedly imposes hardships, which may be a factor in non-completion – but these issues are not well documented.

In projecting future demand for CSLP and other forms of student financial aid, it is crucial to factor in **demographic trends**. Immigration and refugee flows are certainly part of this projection, albeit a minor part. More crucial are the small absolute increases projected nationally – with provincial variations – for the 15-19 and the 20-24 year-old cohorts between 2001 and 2011 (Statistics Canada and CMEC, 2000: 179-180). The consequent rise in demand expected over this period will affect the ability of student assistance programs to meet it.

In short, it is important to recognize that student financial aid is part of a much larger and complex set of post-secondary education policy issues. As Finnie and Schwartz (1996: 81-82) argue with respect to CSLP reforms, these were forged in response to problems in the old CSLP. Thus, larger questions about access to post-secondary education, the pricing and funding of post-secondary education, and who should pay were side-stepped. Our ability to address these bigger questions depends, in large part, on the quality and timeliness of the research and information systems available to policy makers and other stakeholders.

B. Costs of post-secondary education

The total cost for full-time students in various types of post-secondary programs will now be considered, as well as how costs are related to post-secondary participation rates and enrolment patterns.

In Part I, the powerful influence of **family socio-economic status** (SES) on educational attainment was documented. Striking inequalities persist: students from the highest SES quartile are more than twice as likely to go to university as their counterparts in the lowest SES quartile (Statistics Canada & CMEC, 2000:107). Rising post-secondary participation rates during the last several decades meant greater opportunities for all socio-economic groups. But some evidence suggests that this changed in the 1990s, to the disadvantage of lower SES groups, so it is important to conduct careful empirical analyses of changes in the SES mix of the post-secondary participants.

The Council for Ministers of Education Canada (CMEC) links the post-secondary participation gap between lower- and middle-SES students to stagnant family incomes, rising economic inequality and declining grants-based student funding. According to the CMEC, this gap:

...demonstrates the importance of ensuring that rising costs are matched by the availability of funding, through grants, loans, bursaries, or other means, for individuals from low-income backgrounds. Without such funding, inequities may result from financial circumstances, regardless of the ability of the student. (Statistics Canada & CMEC, 2000: 105).

Current data to document these trends are needed. But to be useful, such data must enable researchers to examine how a student's SES interact with their gender, ethnicity, Aboriginal status or disability – personal characteristics traditionally associated with educational disadvantage (Clift et al., 1997: 7).

With continuously rising **tuition costs**, a major research issue has been the effects of this trend on enrolment patterns. Canadian (Statistics Canada & CMEC, 2000) and American (Wellman, 1996) evidence indicate that individuals from low-income families are most sensitive to costs, while moderate tuition rises may not be barriers for students from middle- and high income families. But not all researchers agree with this. Some economists argue that, in theory, these tuition increases should not deter enrolment because a university education remains a very good personal investment, a fact that should be taken into account in enrolment decisions (Stager, 1989).

US studies make two relevant points: First, some suggest that rising tuition costs in the absence of offsetting increases in financial aid for capable students with limited means reduce the likelihood that these students will apply for, never mind attend, a post-secondary institution (Paulsen, 1998; Smith and Matthews, 1991). The concern is how costs affect the educational decision-making process for high school students. Second, because the American post-secondary 'market' has many institutions competing for students within a much wider price range, there is considerable analysis of how students respond to tuition increases (Heller, 1997;

Hossler et al., 1999). Generally, there is a direct relationship between price and enrolment in post-secondary education, with a tuition increase of \$100 producing an enrolment drop of between 0.5 and 1% — with similar effects in the other direction found for financial aid.

Reflecting on this US research, a broader comparative approach would enhance our understanding of the impact of different levels of tuition on students' post-secondary decisions and participation. Internationally, the US has the widest variation in tuition, thereby providing a clear and well-documented point of reference. It also would be useful to compare how recent changes in tuition policies affected participation patterns in other countries. For example, Britain has introduced tuition fees, Australia has moved from no tuition to single-rate tuition to tiered tuition, and Ireland introduced free tuition. Against this background, research could then examine the impact of jurisdictional differences in Canada, particularly the effects of tuition freezes in BC and Quebec compared with provinces where fees increased steeply.

Another area of research addresses the impact of rising costs on students' loan utilization and **debt loads**. The CSLP is available to full-time students who meet financial need requirements in degree, diploma or certificate programs at designated institutions. CSLP data for 1990-1 and 1995-6 show that rising debt loads impose financial hardships on graduates, which become evident in rising default rates (Plager and Chen, 1999). Analysis of borrowing and debt repayment trends in the 1980s and early 1990s have identified important gender differences (Finnie and Garneau, 1996). *A wider range of socio-demographic characteristics need to be considered, as does the effect of inter-provincial differences in tuition levels and increases.*

Other pressing issues include the **socio-demographic characteristics of defaulting students**, (e.g., Volkwein et al, 1998), the influence of **field of study** on repayment problems, and comparisons of defaulting students who successfully completed their program with those who did not (Plager and Chen, 1999: 28). Analyses of CSLP data (Plager and Chen, 1999; Finnie and Garneau, 1996) need updating to reflect the impact of tuition fee hikes and changes to the CSLP and other forms of student financial assistance.

Tuition is only one component of the overall cost of post-secondary education. And student loans are only one source of financial aid available to students. All the same, *Canada lacks time-series data on the **total direct costs** of post-secondary education: tuition, housing, food, books, transportation, relocation and other education related expenses such as computers* (Andres, 1993; Clift, 1997; Canadian Association of University Teachers, 1999). *Housing costs need specific attention, especially in cities with tight housing markets.*

Few studies are specifically designed to assess the impact of finances on post-secondary **student attrition**. Attrition (or persistence) research is more fully developed in the US. The dominant theoretical models of student attrition include financial factors, and their influence is minor — although such effects are based on limited measures (Cabrera et al., 1993; Johnson, 1994; Dietsche, 1990). However, other research found that grants and fellowships have a positive influence on minority students' access to and persistence in college and university, while loans do not (Baker and Vélez, 1996). *As Canadian institutions increase their efforts to monitor attrition, it will be important to include good indicators on financial issues.*

In conclusion, financial aid alone will not redress deeply embedded inequalities in access to post-secondary education. Indeed, future research should help to determine the combinations of financial aid and other supports that benefit the most disadvantaged students in the educational system, that is, those who lack social, cultural and psychological resources associated with higher educational attainment (Lynch and O’Riordan, 1998).

C. Perceptions and knowledge about financial aid and costs

Students’ perceptions and knowledge about the sources and costs of financial aid will be examined in this section. We are especially interested in what the research can tell us about how the perceived cost of post-secondary education affect plans and enrolment, how well informed students are about post-secondary education costs and financial support, and their levels of personal budgeting and financial management skills.

Much of the discussion on the impact of financing on **student plans** is covered in the research on the effects of family income, above. However, there is growing Canadian evidence that the perceived cost of post-secondary education as is a barrier for high school students from lower SES families (Looker, 1997; Lowe et al., 1997; Manitoba, 2000; Newfoundland, 1998). Jordan and Plank, 1999 and McPherson and Shapiro provide similar conclusions for the United States, although several other researchers (Legutko, 1998 and by St. John, 1994) argue that perceived costs do *not* act as a deterrent to post-secondary plans. *For Canada, a comparison of perceived and actual costs would be useful information for students for both policy makers and students making educational plans.*

This raises the larger question about the **role of perceptions** in educational and career decision making. Whether accurate or not, perceptions do influence decision-making. Thus, if a high school student, and her/his parents, believe that the cost of post-secondary education is beyond their means, or have incomplete information on the rates of return to specific post-secondary programs, this misinformation gets built into their decision-making.

Career development researchers have documented the role of perceived barriers to students’ career decision-making (Albert and Luzzo, 1999). These social-psychological theories could be adapted to study financial barriers to education, getting us closer to the decision-making process than the pervasive economic ‘price-response’ models of post-secondary enrolment decisions (e.g., Hossler et al., 1999; Heller, 1997). Particularly useful in this regard is an individual’s sense of efficacy in overcoming barriers and the role counsellors can play in helping students to confront perceived barriers.

Also important to consider is the **stage** at which students begin ‘processing’ information about costs and financing, and forming impressions about the subject in relation to these decisions. American researchers (Hossler and Gallagher, 1987) locate cost or financial factors at the formative stage of educational and career decision-making, when students are developing a

predisposition that subsequently affects choices and behaviours. Post-secondary plans are formulated as early as grade 9, with knowledge and perceptions about costs and financial aid part of the process (Hossler and Maple, 1993). Recent studies in this vein have examined students' 'sensitivity' to tuition in choosing a college and how this interacts with family characteristics and available student aid (Hossler et al., 1999).

An alternative view argues that the decision-making process is more individualized, contextualized and conditioned by often contradictory belief systems (Andres, 1993). To illustrate, Canadian studies of high school students confirm a strong 'educational ethic' – a belief in the value of higher education as a means to personal and economic success (Lowe et. al., 1997; Andres, 1993). Yet the decision-making that flows from this belief is both constrained by circumstances, and likely does not mirror the economists' assumptions of rationality. As Andres (1993) finds, students tend not to calculate rates of return on their hypothetical education, while claiming that their decision-making was 'rational.'

*Clearly, more Canadian research is needed to understand to what extent, and how, **financial information** of various types (tuition costs, other educational costs, rates of return, family finances, etc.) actually shapes the decision to pursue post-secondary and the later choices of institution and program. One US survey suggests that students consider predictions about the future state of the economy and job market when making college decisions (DYG, Inc and Lake Snell Perry and Associates 1999). A reason that financial aid programs do not adequately redress inequality in post-secondary access is that students in the greatest need have the least information about funding support available. Students with more information about financial aid (often students with highly educated parents) are able to make more informed post-secondary decisions (Clift et al., 1997: 12; Hossler and Maple, 1993).*

It would be useful for Canadian universities to consider expanding the scope of their student or graduate experience surveys. While these are useful evaluation tools, the focus on how students experience the learning process and the institutional environment overlooks another crucial dimension of their experience – finances. Including financial questions would open up new policy issues for scrutiny. For example, Hesketh's (1999; also see Hira et al., 1992) interviews with British undergraduate students illustrate how their financial experiences, directly influenced by government policy, can shape the entire educational experience.

PART III – RESEARCH GAPS

This section of the paper briefly summarizes ‘what we know’ through the research reviewed above. The major policy information gaps that future research could usefully address will then be itemized. First, however, we will raise some general issues that we believe are important to consider when planning future research.

Better mechanisms are needed in Canada for sharing measurement tools and information about issues related to access and financial aid. At the national, provincial and institutional levels significant resources are expended collecting and processing this information. For example, many provinces have conducted surveys of grade 12 students and most universities survey student experiences. However, *there is inadequate attention to how greater cost efficiencies and higher quality data could be obtained through cooperation. Now may be a good time to establish a national clearing-house for the growing number of provincial and institutional data collection initiatives, surveys, pilot programs, and so on.*

There also would be considerable benefits to greater collaboration between academic researchers, post-secondary institutions and governments, especially in the design or research and the analysis of results. Academics could benefit from new research venues, and public policy outcomes would be improved through state of the art conceptualization and analysis.

Many of the research gaps we note below could be approached from different perspectives. There is great value in doing this, as a multi-disciplinary perspective can only enhance the resulting policy insights and options. For example, questions about the educational decision-making process have been addressed in the literature using theories from economics, sociology, and social-psychology – all offering complementary findings.

A. Plans for post-secondary education

What we know

- Socio-economic status, especially parental education, exerts a strong influence on a student’s educational aspirations and plans.
- Post-secondary plans, including the decision whether or not to attend and the choice of institution and program, also vary according to gender, parental attitudes and encouragement, and family structure.
- A student’s school performance, academic ability, and attitudes about education are key factors influencing decision-making about further education.
- Access to information about post-secondary programs and counseling services also influences the planning process and choices made.

What we need to know

- Further research on the above topics is needed to obtain more comprehensive and updated analyses of the processes of educational planning, and the influence exerted by combinations of factors at different stages of the process. This approach will also help to assess the impact of changing social and economic contexts upon student decision-making.
- More research is required on the effects of the following factors on student plans for post-secondary education: language; race; ethnicity and immigration/refugee status; physical and/or learning disabilities; region and provincial location; rural versus urban locale; and peer group influences.
 - More conceptual work is needed on how to measure ‘plans.’ Much of the existing research on educational plans looks narrowly at the *amount* of education students plan to get after high school — that is, whether or not they plan to pursue any post-secondary education, and, if so, whether this would involve university or some other type of program. A broader compass should also capture the type of program and institution, location, timing or sequencing of study, and life-long learning, and related issues.
 - More analysis is required about why students plan to attend certain types of institutions. Building on the detailed research regarding gender and fields of study, a wider range of factors also needs to be examined.

B. Post-secondary participation

What we know

- We know that the following factors affect rates of student participation in post-secondary education: parental SES, especially income; gender, both in terms of level and type of education; disabilities, and the presence or absence of supports for students with disabilities; and family structure.
- There is adequate descriptive data on rates of post-secondary participation and how these vary by sub-group and/or over time, provincially and nationally.

What we need to know

- A more comprehensive understanding of how SES interacts with gender, ethnicity, Aboriginal status and disability to influence participation.
- Additional information on the effects of the following factors on participation in post-secondary education: language; immigrant status; province/region; rural versus urban location; racial or ethnic background (especially Aboriginal status).

- How participation is influenced by access to information about post-secondary programs, financial aid and student supports services (a gap also identified below, under student financial aid).
- How age and/or part-time status affect post-secondary participation. These two variables are often conflated, so future research must examine their separate effects and possible interactions.
- How characteristics of secondary and post-secondary institutions affect student decisions. Some post-secondary institutions are beginning to conduct this sort of research, which presents an opportunity to develop shared national protocols for information gathering so inter-institutional comparisons can be made.
- Students' choices of institution and program, as well as the timing of their participation, are affected by broad economic and social forces — globalization, trade liberalization, shifts in demands for different occupations, expansions of the “knowledge-based industries,” immigration policies, employment opportunities for youth, new information and communication technology.
- The impact of new information and communication technology on access to educational programs, and on barriers posed by geography, cost, and special needs.

C. Student adjustment in post-secondary institutions

What we know

- How gender is related to post-secondary adjustment, especially the situation for women.
- The transition experiences of First Nations' peoples in undergraduate programs.
- Challenges facing students with disabilities during the transition to post-secondary institutions, and while in their program.
- Descriptive information is available about completion rates.

What we need to know

- How, and under what circumstances, the following issues affect student transitions to post-secondary institutions: the move from a rural area to urban post-secondary institutions; living environment (at home, on campus, off campus); employment; finances and student aid; part-time study and/or distance education.
- How the same factors affect students' adjustment, persistence, and overall educational success.
- The role of student performance and education-related attitudes in the adjustment process.

- How institutional and program characteristics affect retention and student adjustment at different stages of a student's educational career.
- Analysis of the key determinants of transfers within the post-secondary system, including transfers within the same institution or type of institution, and transfers between community colleges and universities.
- A more systematic tracking system that identifies the demographic, socio-economic, and academic factors associated with successful completion (or non-completion) of various types of post-secondary programs.

D. Sources of student financial aid

What we know

- Student loans and self-funding through paid employment are the best documented source of financial support in Canada.
- The financial needs of students are diverse, and change over their educational career.
- Student loans, bursaries and other forms of government or institutional support have changed in their levels and regulations.

What we need to know

The roles played by other sources of financial support, especially families and institution-based financial aid programs.

- The effects of high school student employment, including through Work-Study Programs, on post-secondary plans and enrolment.
- The impact of changes in student financial aid programs (loans, bursaries, scholarships) on participation by different groups of students, especially those from disadvantaged backgrounds.
- The changing financial needs of students over time, how these vary by student characteristics, and how financial aid programs assess these needs.
- Regularly updated data, covering a wider range of socio-demographic and educational characteristics, regarding who applies for student loans and bursaries.

E. Post-secondary costs

What we know

- Rising costs have reduced access for students from lower SES families.
- For students from higher SES families, tuition increases may be less of a barrier, or no barrier at all.
- Rising tuition costs can be offset by increases in available financial aid.
- Rising educational costs are imposing greater financial hardship, as measured by debt loads and CSLP defaults, on certain groups of students.

What we need to know

- The extent to which rising costs have contributed to the widening of a participation gap between lower SES and middle SES students.
- The component costs (tuition, related fees and program costs, living costs) of post-secondary education, and how these change over time.
- The unique costs born by specific groups, such as students with disabilities, single parents and rural students.
- Up-to-date trend data on how the major component costs of post-secondary education affect plans, participation and attrition/completion across socio-demographic groups.
- Current data covering a wider range of socio-demographic and educational characteristics, student loan borrowing, and debt-repayment trends.
- Monitoring the impact of changes in student loans, bursaries and other forms of financial aid on post-secondary planning, participation, retention and success.
- The impact of different tuition policies, across Canadian jurisdictions and internationally, on student participation rates.

F. Perceptions and knowledge about student finances

What we know

- Perceptions of costs affect the post-secondary planning process, and therefore access.
- Knowledge about sources of student financial varies by student SES, and influences post-secondary decision-making.

What we need to know

- Generally, research on the educational and career-planning process needs to integrate cost and financial considerations more centrally.
- How, and at what stage, do perceptions and knowledge about costs and financial aid influence decision-making.
- How students' perceptions of costs compare with actual costs.
- What personal factors and institutional supports may moderate, or help students to overcome, perceived financial barriers early in the planning process. The role of school counselors, teachers, peers, and parents would be especially important in this regard.
- Student experience surveys conducted by post-secondary institutions would be a useful means to gather information about the financial problems and the 'financial experiences' of students.

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