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Research Summary Table: Access to PSE

Selected Highlights of research results
developed as background for the Report

**Getting There and Staying There:
Low-Income Students and Post-Secondary Education**

A Synthesis of Research Findings

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This Synthesis Report has been prepared under contract with
Human Resources and Skills Development Canada
and Alberta Human Resources and Employment

Author(s), Date	Document Reference	Data Used	Highlights of Results	Acknowledged Limitations Comments
Barr, Nicholas (2005)	“Financing Higher Education: Commentary on the 2004 UK Higher Education Act”, in <i>Higher Education in Canada</i> , edited by Charles M. Beach, Robin W. Boadway and R. Marvin McInnis, John Deutsch Institute for the Study of Economic Policy, Queen’s University. Montreal: McGill-Queen’s University Press.		<ul style="list-style-type: none"> • Along with Crawford, has campaigned for a 3 leg strategy to introduce: variable fees across the university system to increase revenue and improve quality; adequate and universal income contingent loans; active measures to promote access, identifies financial poverty and information poverty as two causes of exclusion • Informational problems to access among students from lower income families which may contribute to debt aversion must be addressed in an environment of higher fees – grants have a role to play in improving access by students from low-income families • Information action must start young – “The saddest impediment to access is someone who has never even thought of going to university” 	
Barr-Telford, Lynn, Fernando Cartwright, Sandrine Prasil and Kristina Shimmons (2003)	<i>Access, persistence and financing: First results of the Postsecondary Education Participation Survey (PEPS)</i> . Education, Skills and Learning – Research Papers No. 007, Cat. no. 81-595. Ottawa: Statistics Canada.	<ul style="list-style-type: none"> • Postsecondary Education Participation Survey (PEPS) 	<ul style="list-style-type: none"> • No single factor can account for access • Final year HS grades: positively related to participation • 70% of children with at least one postsecondary educated parent go on to PSE, compared to 57% of children with parents who had not taken any PSE • 67% of children with parents who expected them to go to PSE and 34% of children whose parents did not expect them to go to PSE actually went on to some form of PSE • 83% of youth from families with incomes over \$80,000 went on to PSE; 2/3 of youth from families with incomes between \$55,000-\$80,000 and 1/2 of youth from families with incomes lower than \$55,000 went on to PSE • 53% of 18-24 year olds had some savings put aside for their postsecondary education either by themselves, their parents or others. 74% of those with some savings participated in PSE compared to 50% of those without • 80% of youth who put aside their own savings went to PSE compared to 70% of youth who had savings put aside from someone else • When asked to cite barriers to PSE, those who had not taken any PSE cited financial reasons (39%) and lack of fit (22%) • 86% of 18-24 year old PSE participants started before age 20 (variation in delay varies by province) • Provincial variation in types of PSE pursued is small, except for Quebec and Ontario, usually 50% of PSE participants ages 18-24 cited university as most recent or current PSE program • 90% nationally had not taken any of current or most recent program through distance education, 1/3 took programs with on the job experience included 	<ul style="list-style-type: none"> • Parental income: occupational status gathered and used to derive mean earnings (wages and salaries before tax) from 2001 Census data • “Lack of fit” includes answer categories such as not having enough interest or motivation, the program is too long, not being sure what they want to do • Regression would help to determine relative impact of factors • Spending and sources of funding reflect the characteristics of the current student body – breakdown by income is needed to determine which factors increase access and persistence for students from low income families

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			<ul style="list-style-type: none"> • 56% of 18-24 year olds with some PSE had never taken government student loans, 44% applied and 79% of those who applied received loans (youth living in Atlantic Canada more likely to apply and receive) • Persistence: 18 months after starting PSE in Sept 2000, 3/4 are still in school, 7% had graduated, 16% left prior to completion; 50% of dropouts cite lack of fit (includes not enough interest, not sure what they wanted to do, or wanted to change programs/program didn't fit with interests), 29% cite financial reasons (financial situation, could not get loan, wanted or needed work) • Expenditures: F/T university students spend more on education and non-education costs – living with parents relates to a median non-education spending of \$4200 less than that of students not living with parents – over 1/3 of current F/T students did not live with parents while attending PSE – F/T college and university students living away from home had similar non-educational costs • Sources of funding for Full Time (F/T) students aged 18-24, for the current academic year – 77% of cited employment earnings earned prior to school year, 64% cited using employment earnings while in school year; 58% report non-repayable money from family; 26% cite money from government loans during current year; 14% borrow from private institutions - smaller median amounts from resources such as family and non-family non-repayable than from government and private repayable 	
Bowlby, Jeffrey and Kathryn McMullen (2002)	<i>At a Crossroads – First results for the 18 to 20-year-old cohort of the Youth in Transition Survey.</i> Ottawa: Human Resources Development Canada and Statistics Canada.	<ul style="list-style-type: none"> • Youth in Transition Survey (YITS) 1999 	<ul style="list-style-type: none"> • Sharp decrease of HS dropout rate from 18% in 1991 SLS to 12% in 1999, particularly large average decrease in Atlantic Canada, and larger decrease for males • HS grads more likely to live in 2-parent families through most of HS than drop-outs (who are more likely to live with single parent) • Dropouts less likely to have university educated parent (11% vs. 30% of HS grads), more likely to have parents who had not completed HS (26.9% vs. 8.7% of HS grads), more likely to have parents with HS diploma or less (70% vs. 40% of HS grads) • Mothers of dropouts are more likely to be working in sales and service. Mothers and fathers of HS dropouts are more likely to be working in primary, processing, manufacturing and utilities occupations or transport and equipment operators. Mothers of HS grads are more likely to work in social science, government, arts, culture and recreation; management; finance, and; administration. • Lower overall HS grades by dropouts – however, half of dropouts had grade average 70-79 or higher and 1/3 had average of 60-69 – only 3.6% of 	

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			<p>dropouts reported grades under 50%</p> <ul style="list-style-type: none"> • HS dropouts 5 times more likely to have repeated a grade in elementary school (33% vs. 5.9% of HS grads) • HS dropouts less likely to report that they completed homework on time, report that they got along well with teachers most of the time, or participate in school-based extra-curricular activities, and more likely to report they spent fewer than 3 hours a week on homework in their last year of HS • HS dropouts less likely to have a job and more likely to work more than 30 hr/wk when employed • Dropouts (particularly females) were more likely to be living with a partner in 2000 and more likely to have dependent children (51% of female dropouts with children were single) • Dropouts were less likely to have “most” or “all” of friends planning to attend PSE and more likely to display negative behaviour such as skipping class, and using alcohol and drugs • Greater percentages of HS grads (65.7%) aspired to university degrees compared to dropouts (22.9%). 49.1% of dropouts aspired to some PSE courses, university certificates, CEGEP, trade, vocational and business school programs, compared to 26.7% of HS grads. Only 4.3% of dropouts said they aspired not even to complete high school • 59% of dropouts had stopped attending HS one time prior to dropping out completely • School related reasons were most often cited for leaving HS, with the most important of these being “bored or not interested” – females were more likely than males to cite family reasons (caring for a child) while males were more likely than females to cite work-related reasons (wanting or needing to work) • 45% of dropouts were “sorry” and 30% “had mixed feelings” about having left HS • HS dropouts with no PSE were more likely than HS grads with no PSE to have lived in single parent families in HS – PSE were most likely to come from 2-parent nuclear family (both biological parents) 	
Bushnik, Tracey, Lynn Barr-Telford and Patrick Bussière (2004)	In and out of high school: First results from the second cycle of the Youth in Transition Survey, 2002. Education, Skills and Learning – Research Papers No. 014, Cat. no.	<ul style="list-style-type: none"> • Youth in Transition Survey (YITS) 	Factors observed in 15 year-olds in 2002 related to drop-out by age 17: <ul style="list-style-type: none"> • Little difference in drop-outs by gender (Bowlby and McMullen, 2002, find higher dropout rates by 20 year-old males vs. females) • School related reasons most frequently cited as cause of dropout and reasons vary by gender – consistent with 1991 SLS and 2000 YITS findings among 20 year-olds • Higher proportion of drop-outs lived with single parent than continuers and 	<ul style="list-style-type: none"> • Continuers and graduates are grouped together to compare to HS drop-outs • Further investigation needed within drop-out population, significant numbers of drop-outs do not report factors like

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	81-595. Ottawa: Statistics Canada.		<p>graduates, have lower average household incomes, smaller proportion have PS educated parent</p> <ul style="list-style-type: none"> • According to the Programme for International Student Assessment (PISA) 2000, on average drop-outs performed at one reading proficiency level below continuers and grads – as marks for both groups rise beyond 60, gap between reading levels of drop-outs and graduates/continuers widens even when both groups have the same reported marks • More than 1/3 drop-outs have marks of 70 or above at age 15 • Drop-outs report lower levels of self-efficacy, self-esteem, self-mastery • 59% of drop-outs had aspirations to college or university compared to 87% of continuers and graduates; 27% of drop-outs reported at 15 that HS or less was their highest educational aspiration; 74% reported they planned to stay in school until graduation while 20% said they didn't know if they planned to stay in school • Drop-outs more likely to underestimate their parents' view of the importance of education and less likely to report that friends placed value on education • Drop-outs have expressed less confidence in their ability to do well in PSE and less likely to acknowledge importance of education to career goals • Drop-outs more likely to have broken rules at home, school and have friends who display similar behaviour • Drop-outs much less academically and socially engaged in school at age 15 (less likely to engage in non-school sports, arts, drama, non-school clubs and volunteering) and more likely to have negative opinion about the school environment (fairness of discipline, friendliness) • Drop-outs more likely to work over 20 hours a week and less likely to work between 0 and 10 hours/week • Female drop-outs more likely to aspire to PSE and report that their parents thought PSE was important, less likely to report having trouble in school, less likely to report negative school related behaviour by friends, had higher reading scores, grades and were more engaged in school than male dropouts • Of the 11% of 18 to 20 year olds in 1999 who left HS without diplomas, 14% had returned to HS two years later, an even proportion of male and female drop-outs returned and over half who returned were from Quebec. Higher educational aspirations of the drop-outs and parents having a PSE certificate or diploma were related to return to HS by drop-outs 	<p>negative school attitudes, grades, low educational aspirations</p> <p>Additional Comments:</p> <ul style="list-style-type: none"> • Presents a picture of dropping out as a process • Importance of uncertainty about educational future as a predictive variable of non-participation • Communication by parents of the importance they place on educational achievement needs more exploration
Butlin, George (1999)	"Determinants of postsecondary participation". <i>Education Quarterly Review</i> , Cat. no.	<ul style="list-style-type: none"> • School Leavers Survey (SLS) 1991 • School Leavers 	<ul style="list-style-type: none"> • Effect of predictor variables on odds of PSE participation are highly dependent upon type of PSE examined – use of a dichotomous variable (PSE participation vs. no participation) will distort specific effects • Parental education has strong impact on university participation and college 	<ul style="list-style-type: none"> • Only the highest level of PSE participation is recorded for students who had participated in more than one type.

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	81-003, Vol. 5, no. 3. Ottawa: Statistics Canada.	Follow-up Survey (SLF) 1995	<p>participation vs. no participation even when controlling for other factors</p> <ul style="list-style-type: none"> • Nearly 80% of students who were HS graduates by 1995 participated in PSE (of all graduates, 40% to university, 30% to college, 7% to trade/vocational) • 70% of students with university educated parents attended university, 43% of students with trade/vocational trained parents attended university, 30% of students with parents with HS or less attended university • Non-PSE participation rates decrease as level of parental education increases • Students with university educated parents were 3.5 times more likely to have participated in university versus no participation compared to students whose parents had HS education, and 3 times more likely to participate in university than college when compared to students with HS educated parents • Having university educated parents did not affect the odds of college level participation and reduced the odds of pursuing trade training versus no PSE participation • Having parents with college, CEGEP, or trade/vocational education increased odds of university participation by 2.2 compared to students with HS educated parents • No difference between students with HS educated and less than HS educated parents in terms of odds between different types of PSE versus no participation • HS graduates in Ontario had 1.5 higher odds of participating in university (versus no participation) when compared to graduates in Quebec • Constructed odds ratios which did not control for other predictors – found that only students from Atlantic provinces and Prairie provinces had higher odds of university vs. college participation when compared to Quebec • Controlling for other factors, French speakers had slightly lower odds (.81) of university participation vs. no participation when compared to English speakers, but had higher odds of college participation (1.4) and trade/vocational participation (2.1) versus no participation. This finding supports convergence and growing equity between Anglophone and Francophone university participation • Controlling for other factors, HS grads from rural areas had lower odds (.71) of participating in university vs. no participation when compared to those who attended HS in urban area. This factor had no effect on college or trade participation • Controlling for other variables, family type did not affect odds of participation at any level of PSE versus not participating. Without multivariate controls, students from two-parent families had increased odds of participating at university (1.6) and college (1.2) versus not participating 	<p>Additional Comments:</p> <ul style="list-style-type: none"> • Cites Looker (1997) who found students from rural Nova Scotia less likely to attend university compared to students from Halifax • Cites McGrath (1996) who notes community attachment by youth in rural Newfoundland • Looker (1997) reported lower educational attainment for students with dependent children when controlling for other factors

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			<p>when compared to graduates from lone-parent families</p> <ul style="list-style-type: none"> • Men had lower odds of participating in both university (.83) and college (.8) versus no participation when compared to women – there were no gender differences in odds for university versus college participation – 1.4 odds of men to participate in trade/vocational training versus no participation compared to women • Canadian born HS graduates had lower odds of participating in university (.59) and trade/vocational training (.63) versus no participation, compared to HS grads born outside of Canada • Effect of place of birth remains when controlling for parental education which indicates other factors are also at work (effect cannot be explained by Stats Can data which shows higher proportion of immigrants held university degrees) • HS grads with dependent children in 1991 (compared to those without dependent children) and HS grads with activity limitations (compared to those without activity limitations) had strongly reduced odds of university participation vs. no participation but had no differences in odds for college or trade/vocational training • Students who had never left HS (by 1991) had dramatically higher odds (7.5) of university participation and college participation (2.1) vs. no participation compared to students who were HS leavers in 1991 • Average grades in HS, absence of difficulties with HS math and English, not failing a grade in elementary school, are strong predictors of university participation compared to no participation while holding parental education level and other variables constant • Students who attended HS in a rural area had lower odds of attending university compared to those who attended HS in an urban area, holding other factors constant 	
Christofides, Louis, Jim Cirello and Michael Hoy (2001)	“Family income and postsecondary education in Canada”, <i>The Canadian Journal of Higher Education</i> , Vol. XXXI, No. 1.	<ul style="list-style-type: none"> • Survey of Consumer Finances (SCF) 1975, 1977, 1979, 1981, 1982, 1984-1993 	<ul style="list-style-type: none"> • Strong degree of convergence in PSE attendance rates between children from higher income families and lower income families • From 1975 to 1993, the proportion of children in the 18 to 24 year-old cohort attending PSE rose from 33% to 54%, while the participation rate for children from the lowest income quintile increased more than that of children in the highest quintile (18% to 44% vs. 53% to 71%) • Without significance testing, the effect of income on PSE participation is positive for most income levels but diminishes as income rises (qualitative income effects are consistent with convergence) • Evaluation of changes in PROP occurring between 1975 and 1993 and due solely to changes in family income show that the lowest quintile average real income growth was associated with lower increases in PROP than 	<ul style="list-style-type: none"> • Attendance, measured as the proportion of children aged 18 to 24 years in an economic family who attend PSE on a full-time or part-time basis in the reference year (PROP), is used as the dependent variable in OLS regression and Probit model (taking a value of 1 if the family has at least one child in PSE and 0 otherwise). A Poisson count

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			<p>average real income growth in the highest quintile (quantitative effects of income on PROP are essentially negligible and cannot account for convergence in participation rates witnessed)</p> <ul style="list-style-type: none"> • The education of the family head is positively associated with PROP, with university degree associated with highest positive effect (relative to incomplete high school) • Families living in urban areas (as opposed to rural) are associated with higher proportions of children attending PSE • Real tuition is significant and negative at a 5% level of significance in a two-sided test • Coefficients of provincial dummies are significant and range from -.010 in Alberta to .110 in PEI, relative to BC • Re-estimating the pooled OLS regression and allowing for interaction between year and quintile effects, it is apparent that after 1983 and relative to the base year (1975) the two lowest quintiles begin to display higher values of PROP, with the greatest effect occurring in the lowest quintile. All quintiles show consistent increases in PROP after 1986 • The Poisson and Probit models produce qualitatively similar results as the OLS regression - the growth in income alone cannot account for increases in probability of at least one child in PSE within lowest income quintile families witnessed between 1975 and 1993. Once the 1993 time effect is taken into account, a greater proportion of the witnessed increase in PSE participation is captured. • Real income continues to be a significant nonlinear influence on both CAS and the probability of having at least one child in postsecondary education. The year effects in successive SCF surveys increase in both the Poisson and Probit specifications, indicating growth over time in attendance at postsecondary institutions. • Since real tuition increases did not occur until 1991 it is possible that the weak witnessed performance of the Tuition variable is due to the inclusion of provincial and time effects. However, in sensitivity tests tuition does not appear to have a useful role, while the time trend variables continue to be important. 	<p>data model is used to study the number of children at school (CAS)</p> <ul style="list-style-type: none"> • The definition of attendance does not include 18-24 year olds who have already graduated from PSE • The definition of economic family excludes 18-24 year olds who have left their family to set up permanent households of their own • OLS regression of PROP using independent variables (including Income, Square of Income, and time effects) cannot be subjected to hypothesis testing because of the non-normality of the error term • Uses Statistics Canada definition of household head • Income is the sum of incomes of both head and spouse • Tuition variable (real tuition) is measured by nominal tuition fees in Arts programs at each province's largest university, deflated by the CPI in the province's largest city • Concept of convergence based on ratio of participation rates, rather than simple difference

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Coelli, Michael (2004)	<i>Tuition Increases and Inequality in Post-Secondary Education Attendance.</i> Paper presented at the Annual Meeting of the Canadian Economics Association, University of Toronto, June 4-6, 2004.	<ul style="list-style-type: none"> Survey of Labour and Income Dynamics (SLID) (panels 1 and 2, 1993 to 2001) 	<ul style="list-style-type: none"> Tuition increases have increased inequality of attendance at universities in Canada, but not altered inequality of attendance at other PSE (college etc.) level Larger cohort sizes were associated with lower PSE participation after controlling for individual characteristics, with a stronger impact on youth from low-income backgrounds Rationing may cause some of observed inequality in university attendance Low-income youth may have lower measured achievement during HS, perhaps as a consequence of lower parental support, reducing the probability of acceptance at university Average education and income levels of neighbours were significant predictors of attendance probabilities Both college and university tuition levels have large negative impacts on university attendance for low income youth, but not for youth from middle and high income backgrounds In terms of marginal effects, the positive effect of being female on other PSE participation is confined to middle and high income youth. Being female has a negative impact on other PSE participation for low-income youth Large positive impact of immigrant parent status and negative impact of family size on other PSE attendance for high income youth only High impact of university-provided financial aid on other PSE attendance for high income youth only (perhaps some link between merit-based scholarships and the academic performance of youth from wealthier families) Positive impact of parental education on university attendance is much smaller for youth from low income families Must separate demand and supply effects related to tuition fees in future research 	<ul style="list-style-type: none"> Raises question as to support provided by institutions to low-income students To test whether tuition increases have led to increased inequality in PSE attendance, multinomial logit models were estimated separately for youth from the three parental income groups. Marginal effects presented are the impact of each covariate on the probability of attending other PSE and university respectively. The effects were constructed as the predicted change in the appropriate probability from turning each indicator variable from zero to one. For continuous variables, the marginal effects reflect a one standard deviation increase in each variable from the sample mean level
Corak, Miles, Garth Lipps and John Zhao (2003)	<i>Family income and participation in post-secondary education.</i> Analytical Studies Branch research paper series No. 210, Cat. no. 11F0019MIE. Ottawa: Statistics Canada.	<ul style="list-style-type: none"> General Social Surveys, 1986, 1994, 2001 Survey of Consumer Finances 	<ul style="list-style-type: none"> Tuition fees for credit courses at universities are significantly different between provinces and have increased at different rates (Nova Scotia students have highest fees and largest increases) University participation rate grew in the 1970s and 1980s to a peak of 24% in 1993. A 2 percentage point drop occurred between 1993 and 1994. The university participation rate has remained flat at 22% to 23% between 1994 and 1997 In terms of university participation by gender, university participation declines steadily for men between 1993 and 1997. The temporary fall in university participation experienced by women in the early 1990s turns to steady increases after 1995 and until 1997 	<ul style="list-style-type: none"> Data limitations: few surveys contain information on parental income and PSE participation of children Participation is defined by combining information on the highest level of PSE attained and current attendance in PSE Excludes 18-24 year olds who have left their family to

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			<ul style="list-style-type: none"> • College participation rates increase in 1970s, 1980s and at a slower rate in 1990s. Increases steadily for men after 1993. Temporary increase in participation by women in early 1990s followed by steady decline. 2002 university and college participation rates for women are even • No evidence that the correlation between family income and PSE participation has increased during the latter half of the 1990s (increased in early 1990s, weakened thereafter). Costs have shifted onto students through higher borrowing. Individuals from higher income families are much more likely to attend university. The participation gap between students from the highest and lowest income families has in fact narrowed • Decreases witnessed in participation rates at upper and middle family income levels, as well as increases for those from lower income families 	<p>set up permanent households of their own</p> <ul style="list-style-type: none"> • Annual income for one year is the measure used as permanent income. Annual income fluctuates and does not reflect true financial resources available to support children's education at any point in time. Using annual income as a measure of permanent income will lead the correlation between family income and PSE to be understated. Authors do not expect the bias to change much through time even though there has been a tendency for the variability of income to increase through time, particularly after business cycle recessions. • Uses male GSS respondents between the ages of 40 and 60 to represent fathers of 18 to 24 year olds. This information is used to predict permanent parental incomes for the group of 18 to 24 year olds in the data using the information they provide on the occupation and education of their fathers (occupation at the time the respondent was 15 years old)

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Drolet, Marie (2005)	<i>Participation in post-secondary education in Canada: Has the role of parental income and education changed over the 1990s?</i> Analytical Studies Branch research paper series No. 243, Cat. no. 11F0019MIE. Ottawa: Statistics Canada.	<ul style="list-style-type: none"> Survey of Labour and Income Dynamics (SLID) 	<ul style="list-style-type: none"> Young people from more privileged backgrounds are more likely to pursue university education than other youth, and this relationship remained constant between 1993 and 2001, in contrast to Corak, Lipps and Zhao (2003) The gender gap did not change in a statistically significant way between 1996 and 2001, in contrast to the findings of Finnie, Laporte and Lascelles (2004), but there is some evidence that the positive correlation between university participation and parental income began to fall for women after 1998 There is no evidence to suggest that the influence of parental income and education has changed over this period, in contrast to Finnie, Laporte, and Lascelles (2004) College participation is not as closely tied to parental income as university participation as the college participation rates are much more similar across parental income groupings When accounting for both parental education and parental income, participation in university is more strongly associated with education than income When parental income and education are interacted, the simultaneous presence of parental education and income does not reinforce the individual effects of these attributes (the interaction coefficient is not statistically significant but is left in the model to prevent specification bias) The gap in university participation rates for youth living in couple families and lone-parent families did not change in a statistically significant way between 1993 and 2001 (no gap exists for college participation) After assigning parental income to youth no longer residing at home based on parental income information provided two years before the reference year, there were no qualitative differences between the estimates of all SLID respondents and all SLID respondents who were also living with parents in the reference year 	<ul style="list-style-type: none"> Compares 2 samples of SLID: all SLID respondents 18-24 who were no longer in either elementary school or HS during reference year; and SLID respondents 18-24 who were no longer in elementary school or HS and who were living with at least one parent (including birth, step, or foster parents) during the reference year Excluding respondents who were not living with at least one parent during the reference year amounts to excluding about 43-49% of the sample of youths aged 18-24
Finnie, Ross and Christine Laporte (2003)	<i>Family Background and Access to Post-Secondary Education: What Happened in the 1990's.</i> Working Paper 34, School of Policy Studies, Queen's University.	<ul style="list-style-type: none"> School Leavers Survey (SLS) 1991 Youth in Transition Survey (YITS) 2000 	<ul style="list-style-type: none"> Disparity in PSE participation by parental education level has increased over time - participation rate increases were smaller or negative for some lower parental education categories, especially for males - in contrast to Corak et al 2003 Linear model shows mother's and father's education have independently strong statistically significant effects on access - each year of father's education raises any PSE - decreasing effect of years of mother's education on female university participation between 1991 and 2000 - Concludes importance of father's education rises over time in all four models and that this perhaps points to an increased role of financial 	<ul style="list-style-type: none"> University is included in variable "any PSE" which decreases the magnitude of difference likely to be observed between the two variables Regression is not run with family income, so family education effects may include some income effects if

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			<p>resources in determining PSE, since family income is more strongly related to father's education than mother's</p> <ul style="list-style-type: none"> • Family type is a strong indicator of PSE participation, with convergence over time and increases in participation rates for individuals with mother only families exceeding growth rates for two parent families, holding when broken down by parents' education, e.g. individuals from university educated lone mother families had same university participation rates as those from two parent families • Appears to be no relationship between any PSE and university participation and tuition rate policies according to inter-provincial comparisons • In regression, co-efficient estimates for parental education are stronger in the YITS samples than the SLS - conclusion is that effect of parental education increases over the 1990s • In regression, coefficient estimates for family type effects are not statistically significant, and effects are quantitatively small 	<p>correlation between higher income and higher education exists</p> <ul style="list-style-type: none"> • Interaction between family type and parental education - if single mother family types have increasing participation rates, is it due to higher education by the mother, increasing income, increased availability of student loans?
<p>Finnie, Ross, Éric Lascelles and Arthur Sweetman (2004)</p>	<p><i>Who goes? The direct and indirect effects of family background on access to post-secondary education.</i> Analytical Studies Branch research paper series No. 237, Cat. no. 11F0019MIE. Ottawa: Statistics Canada.</p>	<ul style="list-style-type: none"> • School Leavers Survey (SLS) (1991) • School Leavers Follow-up Survey (SLF) (1995) 	<ul style="list-style-type: none"> • Family background appears to have an enduring effect on the determination of PSE participation, even among students who appear to be equally qualified, and perhaps equally motivated • A substantial proportion of family background effects operate through influence on other pre-postsecondary factors (HS marks, attitudes toward higher schooling, propensity to work while in HS, etc) - total effects were about 50% larger than direct effects, therefore, 37-43% of effects of parental education operate through indirect effects of intermediate variables • Family type effects are stronger in total effects than in direct effects – for girls, university access is 40% higher in two-parent family while the direct effect model shows positive 25% difference • Father's education seems to have stronger effect on sons than daughters, while mother's education has a much greater influence over daughters than sons – between 37 and 44 % of these effects are indirect, the rest remain after controlling for intermediate outcomes (direct) {data only for two-parent families} • Province of residence can have indirect effects up to 48% of the total effects – provinces associated with positive intermediate factors appear to have an additional direct effect on participation (a positive effect in addition to having strong students – perhaps capturing effect of policy priority on education at all levels, underlying population characteristics, or labour market opportunities) • Living in rural area during HS has a statistically significant negative effect on university participation (not stat. significant for “Any PSE”) - Being male 	<p>Methodological notes:</p> <ul style="list-style-type: none"> • Block recursive technique • Short model identifies total effects of measures of family background (parental education, family type, place of residence, language, ethnicity) on PSE participation • Long model gives the effects of family background once other intermediate factors (elementary school success, HS academic outcomes, school-related behaviour, attitudes towards school of the individual, peers, and parents, outside work during school) • Comparing coefficients of family background variable between two models breaks the total effects of family background into indirect

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			<p>has indirect and direct effects in the same direction - Being female has indirect effects which favour access but direct effects are negative which means that the total effects model misses the fact that females in rural areas have high HS outcomes and other factors which should predispose them to attend PSE while they actually attend at rates lower than these characteristics would suggest</p> <ul style="list-style-type: none"> • Levels of educational attainment have increased for everyone regardless of the educational background of their parents, with the largest increases being in the lowest categories of parental educational attainment • Speaking a minority language does not have a statistically significant effect on access, except for Francophone females outside of Quebec who attend at a higher rate than their Anglophone co-residents in “Any PSE” (but not university) model • Ethnicity has indirect effects for Asians, Southern and Eastern Europeans in particular, through intermediate factors (good grades etc) which account for a substantial portion of their overall higher rates of participation • Though not presented, data indicate effects of parental education on college participation are both positive and negative: having highly educated parents is related to higher PSE participation at some level (positive) and a greater chance of going to university rather than college among those who do go (negative) – substantial number of children, especially females, with less educated parents manage to make it into college and trade vocational system • Agreement with Frenette (2002, 2003), students from urban areas higher rates of “any PSE” and university participation • Asian women are not as likely as Asian males to attend university (47% vs. 75%) though still the most likely female ethnic group to attend university • Pre-PSE educational experiences of girls were more positive in terms of marks, not repeating grades, class attendance, interest, participation, getting along with teachers, less difficulty in English • Failing an elementary school grade has negative effects on PSE participation even after HS grades and other intermediate factors are accounted for 	<p>effects (operate through individuals’ observed HS outcomes and other intermediate outcomes) and direct effects (after taking other influences into account)</p> <ul style="list-style-type: none"> • Some intermediate outcomes such as HS grades are themselves determined by family background • Family income is not available, likely bias of parental education coefficient (appears larger without taking income into consideration) • Parental education captured by “years of parental education” (derived) and categorical variables
Finnie, Ross, Saul Schwartz, and Eric Lascelles (2003)	“Smart Money? Government Spending on Student Financial Aid in Canada.” In <i>How Ottawa Spends 2003–2004: Regime Change and Policy Shift</i> , edited by Bruce Doern. Toronto: Oxford University Press.		<ul style="list-style-type: none"> • Changing structure of government spending on student financial aid, an increased proportion of direct student aid is not based on student need • Extent of access effects of debt remission and debt reduction in repayment are unknown, as well as effects of student loan interest tax credit, these programs would improve access if they were a part of the long-run cost estimation of students considering PSE • Needs-based loan programs remove barriers for low and middle income families, needs-based financial aid increases access because it provides qualified student with immediate financial support and may increase schooling 	<ul style="list-style-type: none"> • PSE is defined as any schooling that would qualify students for a loan from the Canada Student Loans Program • Costs of tuition freeze and transfers to universities are not counted as costs • Study does not address the

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			<p>options even for those able to afford some level of PSE without support</p> <ul style="list-style-type: none"> • Significant cost of tax credits as a portion of government spending on student financial aid (37%) , tax credits provide no assistance in the absence of a tax liability, do not reach low-income students or families • Important financial role of recent federal programs in overall spending on student financial aid, especially in terms of grants – many provinces reduced provincial grant programs in response to federal presence, exceptions are Quebec, Alberta, BC 	<p>definition of “need”</p> <p>Additional comments:</p> <ul style="list-style-type: none"> • A program can be said to improve access only if it results in participation by an individual who would not have participated without the support
<p>Foley, Kelly (2001)</p>	<p><i>Why Stop after High School?: A Descriptive Analysis of the Most Important Reasons that High School Graduates Do Not Continue to PSE.</i> Montreal: Canada Millennium Scholarship Foundation.</p>	<ul style="list-style-type: none"> • School Leavers Survey (SLS) (1991) • School Leavers Follow-up Survey (SLF) (1995) 	<ul style="list-style-type: none"> • Majority of individuals in SLS report non-financial reasons as most important reason for not pursuing PSE, with the most popular non-financial reasons including “wanting to take some time off from studying,” “couldn’t decide what to do,” and “no interest in pursuing further education” • Respondents whose father did not have a high school diploma are three times more likely to have “no interest” as most important reason for not pursuing PSE compared to those whose fathers had completed high school • High school graduates with incomes of less than or equal to \$10,000 in previous year are less likely to have “no interest” as most important reason for not pursuing PSE • HS grads who never participated in PSE were more likely to report “did not have enough money to continue” and “had a good job” as most important reason for not pursuing PSE compared to HS grads who entered PSE but left – PSE leavers were more likely to cite “other” reasons for not pursuing PSE, including “wanted to raise a family,” “no program of interest was offered close to home,” “wanted vocational training,” “illness” and “applied but was not accepted at school” • Female HS graduates more likely to go on to PSE than male counterparts • HS grads who went to PSE were slightly older than HS grads who did not pursue PSE • Students who graduated from HS in New Brunswick, Alberta, and BC were less likely to go to PSE • HS grads who did not pursue PSE were more likely to have an income of more than \$10,000 in the preceding year and more likely to have worked while in school • Parents of HS grads who pursued PSE had higher levels of education than parents of HS grads who had not pursued PSE • For HS grads who did not pursue PSE, mothers 10 percentage points less likely to have university experience, fathers 16 percentage points less likely to have university experience compared to parents of HS grads who did pursue PSE 	

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Frenette, Marc (2003)	<i>Access to college and university: does distance matter?</i> Analytical Studies Branch research paper series No. 201, Cat. no. 11F0019MIE. Ottawa: Statistics Canada.	<ul style="list-style-type: none"> • Survey of Labour and Income Dynamics (SLID) 	<ul style="list-style-type: none"> • In his 2002 study, Frenette found that the students most likely to be disadvantaged in accessing university as a result of commuting distance are those from lower income families • Distance to school is more of an issue for potential university students because only 3.4% of students live more than 80km from college vs. 17% living away from a university • For students from the top income tier, college participation remains the same whether the student lives near both university and college or only near a college • Students from middle income tier are far more likely to attend college when they live near college only (relative to students from the same income tier living near both university and college) • PSE participation rates do not change substantially for students from low and middle income tiers whether they live near college only or near university and college • College attendance is lower for students who live beyond commuting distance (80 km) to college regardless of income, though this negative effect is felt far more among students from lower income tier (though not statistically significant) • All PSE is not equal, since labour market mobility may be lower among college graduates due to close relationship between college curriculum and local labour market • Finnie(1999) finds lower mobility by college graduates compared to university graduates 2 to 5 years following graduation 	<ul style="list-style-type: none"> • Income divided into three tiers within standard area sizes of residence and adjusted for family size to account for differences in cost of living; income values encompassed by tiers are not revealed
Frenette, Marc (2005)	<i>Is postsecondary access more equitable in Canada or the United States.</i> Analytical Studies Branch research paper series No. 244, Cat. no. 11F0019MIE. Ottawa: Statistics Canada.	<ul style="list-style-type: none"> • U.S. National Longitudinal Survey of Youth (NLSY97) • Survey of Labour and Income Dynamics (SLID) 1997 	<ul style="list-style-type: none"> • When college participation is conditional on non-university participation, rates of college participation vary by income group (not as much as in university participation), with variation between income groups larger in the US • When non-university participants are observed, college access issues begin to resemble university access issues on a smaller scale – having a parent with a university degree and being female are two factors associated with college participation, and members of visible minority group are as likely to attend college as non-visible minorities • Econometric results show statistically significant differences in university participation between top and bottom income quartiles (21 and 42 percentage points respectively in Canada and the US), between bottom and second income quartiles in the US (but not in Canada), between students whose parents did not attend PSE and those whose parents did (difference between countries is not significant), between males and females (no statistically significant difference between countries) 	

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			<ul style="list-style-type: none"> • In Canada, members of visible minorities hold a 20 point advantage over non-visible minorities in university going. In the US this difference is 4 points and is not statistically significant (pointing to differences in observable socioeconomic characteristics such as parental education and income) • When the choice to attend college is modeled among students who chose not to attend university, there is weak evidence than income has some influence – Canadian students in the top income quartile have a 13 percentage point advantage over students in the bottom quartile (just failing a 10% significance test) – American students in the top income quartile have a 26 percentage point advantage over students in the bottom quartile (significantly different from zero but not significantly different than the Canadian gap) – the relationship between college-going and having a university educated mother is stronger than that between university going and university educated mother when the normal model of college and university choices are used • Using Armed services Vocational and Aptitude Battery test scores in the NLSY97, the addition of test scores (a proxy for ability) reduces the income access gap among American students but the gap that remains is still larger than the income access gaps observed in Canadian data. It is likely that that larger income access gap in the U.S. is not entirely attributable to a stronger relationship between abilities and household income. • Suggests visible minority university access gap differences in Canada and the U.S. are explained to a large part by compositional differences in the visible minority populations 	
Hemingway, Fred and Kathryn McMullen (2004)	<i>A family affair: The impact of paying for college or university.</i> Montreal: Canada Millennium Scholarship Foundation and Ottawa: Canadian Policy Research Networks.	<ul style="list-style-type: none"> • Literature Review 	<ul style="list-style-type: none"> • Indirect evidence (declining family net worth, lack of PSE family savings, reliance on part-time employment by students and increasing use of private student loans) suggests some parents may not be in a position to meet parental contribution expectations under student assistance programs [middle-class issue] • Research by EKOS (2003), HRDC (1997), and Hemingway (2003) point towards shortfall between costs and assistance limits, and EKOS reports 1/3 of students with government loans also have private supplemental loans, averaging \$9100, and 41% of full-time students surveyed reported they could have completed studies faster if they did not have to work 	

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Ipsos Reid (2001)	<i>Post-secondary Accessibility Study.</i> Prepared for Alberta Learning. [http://www.advancededucation.gov.ab.ca/news/2001/May/report.asp] , accessed on January 7, 2005]	<ul style="list-style-type: none"> • Telephone surveys of 1999/2000 graduates from Alberta high schools; also 34 focus groups with 248 individuals 	<ul style="list-style-type: none"> • Early decision to attend PSE is a characteristic of PSE students: 75% of those who made the decision to attend before junior high school were enrolled in PSE • One-on-one contact between students and other individuals, including high school teachers and counsellors, peers and friends, and parents, were PSE information sources used most often • The internet, government sponsored information sources were used less often • Priority information needs regarded employment opportunities after graduation, prerequisites needed for admission, and total direct costs of attending • Recent high school graduates: over-estimated the direct costs of all types of PSE, with those not enrolled in PSE, those from middle income households and those not in close proximity to a post-secondary institution most likely to over-estimate costs; average student loan/debt was also over-estimated; knowledge of students loans and scholarships was higher than for grants and bursaries • Discrepancy between reasons cited for not attending and perceived barriers to PSE with those enrolled more likely to view PSE costs and eligibility criteria as barriers; those not enrolled put more emphasis on not knowing one's interests, not wanting to accumulate debt, and lack of information about PSE as barriers • Most popular reasons for continuing to PSE included PSE increased chance of getting a job, increased potential of earnings, and PSE required to get desired job • Among most important reasons for the choice of institution, proximity to home and programs offered were the most important reasons identified by the greatest proportion of students 	<ul style="list-style-type: none"> • Focus group participants were not randomly selected; most were high school or PSE students – little information about the characteristics of the focus group participants
Johnson, David and Fiona Rahman (2004)	<i>The impact of rising university tuition on university enrolment: a study using the Canadian Labour Force Survey 1976-2003.</i> Paper presented at the Annual Meeting of the Canadian Economics Association, Toronto, June 4-6, 2004.	<ul style="list-style-type: none"> • Labour Force Survey (LFS) 1976-2003 	<ul style="list-style-type: none"> • No measurable effect of higher tuition on the probability of enrolment as a full-time university student when increasing return to a university education, a reduced opportunity cost of university attendance and a rising level of education in the previous generation are considered • If province-specific fixed effects and province-specific time trends are the only variables in the model in addition to the level of real tuition, there is evidence that the increases in real tuition slightly reduce the probability of university enrolment from a trend value – any reduction is small compared to the overall increase in the university participation rate 	<ul style="list-style-type: none"> • No data on family background or income

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Knighton, Tamara and Sheba Mizra (2002)	"Post-secondary participation: The effects of parents' education and household income", <i>Education Quarterly Review</i> , Cat. no. 81-003, Vol. 8, no. 3. Ottawa: Statistics Canada	<ul style="list-style-type: none"> Survey of Labour and Income Dynamics (SLID) 18 to 21 year olds in 1998 who no longer attend HS 	<ul style="list-style-type: none"> Children with families in upper income quartile are twice as likely to pursue university than children from families in the bottom quartile (39% and 17%) - compared to 75% vs. 50% from the top and bottom quartile who pursue PSE overall Family income has less of an impact on college participation – 1/3 of respondents were enrolled in college whatever the income of their family College is the most common choice for those from the two lowest quartiles, while university is the most common choice for those from the highest quartile – more than twice as many young Canadians from the lowest quartile attend college than university (30% vs. 17%) – those from the highest quartile are more likely to attend university than college (39% vs. 31%) Parental education plays major role in choice of university over college – young adults with university educated parents are three times more likely to attend university themselves than those from parents with HS or less (49% vs. 17%) 88% from parents with university education, 68% from parents with college diploma, and 52% from parents with HS or less participate in PSE Parental education seems to have a larger effect on PSE participation than family income – within income quartiles, those with PSE educated parents were significantly more likely to attend PSE than those from non-PSE participant parents In regression, university education by parents is more strongly associated with PSE participation than income – parental education is also more strongly related to whether children choose college or university 	<ul style="list-style-type: none"> The addition of income to parental education in regression does not statistically improve the prediction of university participation in comparison with college participation
Kwong, Jeff C., Irfan A. Dhalla, David L. Streiner, Ralph E. Baddour, Andrea E. Waddell, Ian E. Johnson (2002)	"Effects of rising tuition fees on medical school class compositions and financial outlook." <i>Canadian Medical Association Journal</i> 166 (8) 1023-1028.	<ul style="list-style-type: none"> Internet survey of all Canadian medical schools outside of Quebec between January and February 2001 	<ul style="list-style-type: none"> Increase of self-reported family income between 1997 and 2000 among students Proportion of Ontario respondents reporting family income of less than \$40000 declines from 22.6% to 15% The overall rise in family income among Ontario students was not statistically significant when compared to control group (non-Ontario students) No temporal trends in family income or mean neighbourhood income Increased expectation of graduating with debt among Ontario students between 1997 and 2000 (reverse pattern in control group) Ontario expected debt increases between 1997 and 2000, no increase in control group Debt upon entry to medical school similar between Ontario and control group 	<p>Methodology notes:</p> <ul style="list-style-type: none"> Response rate of 68.5% of 4368 medical students, in 12 medical schools outside Control group is all respondents not from Ontario Used respondents' postal code in last year of HS to determine median income of neighbourhood as a proxy for socio-economic status 5-point Likert scale used to rate importance of financial considerations on choice of

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			<ul style="list-style-type: none"> • Twice as many first year students felt financial considerations would be a major influence on their choice of specialty compared to fourth year students (all in Ontario) – this is significantly different from that observed among control respondents • In Ontario, those who started in 2000 were more likely than those who started in 1997 to report financial considerations would be a major influence on practice location and more likely to report their financial situation was very or extremely stressful (the control group of 2000 entrants were less likely than 1997 entrants) – change observed for Ontario is significantly different than that observed in control group 	<p>specialty and geographic practice location as well as the level of stress they were experiencing as a result of their financial situation</p> <ul style="list-style-type: none"> • Students who entered in 1997 were compared to those who entered in 2000 <p>Limitations:</p> <ul style="list-style-type: none"> • Cannot determine if we are observing increased financial worries related to tuition increases over time • Response rate lower among control schools and senior students – data not weighted • No information on residency choices actually made
Lambert, Mylène, Klarka Zeman, Mary Allen and Patrick Bussière (2004)	<i>Who pursues postsecondary education, who leaves and why: Results from the Youth in Transition Survey.</i> Culture, Tourism and the Centre for Education Statistics – Research Paper No. 026, Cat. no. 81-595. Ottawa: Statistics Canada.	<ul style="list-style-type: none"> • Youth in Transition Survey (YITS) 2000 and 2002 	<ul style="list-style-type: none"> • 53% PSE participation by 18-20 year olds in 1999 compared to 70% by 20-22 year olds in 2001, the gap between participation rates by females and males appears after HS and remains constant as the youth age • Statistically significant factors related to university participation: gender, marital status, children, visible minority (positively related), type of community (rural or urban), family structure while in HS (2parent biological) • Statistically significant factors related to college participation: gender (female higher participation), children, visible minority (less likely to attend) • Parental education: greater impact on university participation than college; positively related to PSE participation overall • Parental opinion: twice as many students whose parents think PSE is important go to PSE (compared to those whose parents do not think PSE is important) • Interactions in HS: 20% of eventual PSE participants reported being very engaged in HS overall, compared to 9% of those who did not pursue PSE, very high academic engagement more likely reported among eventual university participants than eventual college participants, but as likely to have very high levels of social engagement 	<ul style="list-style-type: none"> • Somewhat surprising that difference between PSE drop-outs and continuers on any one factor are not greater – points toward interaction between factors

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			<ul style="list-style-type: none"> • HS marks: 90% of students with overall HS averages of over 80% go on to PSE (60% of these go to university – 35% go to college) – 12% of youth who did not pursue PSE had 80% + averages • Stopping out: persistence chances vary by reason for leaving; 47% of those who left to change programs return; 28% of those who left to work return; 29% of those who left because of grades return; 32% of those who left because of lack of money return • No conclusive evidence that any reason for leaving creates any greater barrier against return • Dropping out: 2001, 15% of youth who went to PSE left without completing, 38% of drop-outs as of 1999 returned by 2001 – drop-outs more closely resemble those who did not go to PSE • Youth drop-outs were more likely to be male, living with a partner or spouse, have children, less likely to report being very academically engaged in HS • 50% of PSE leavers and 42% of PSE continuers reported, in 1999, barriers to going as far in school as desired ; 34% of leavers report financial barriers compared to 29% of continuers • Reasons for dropping out do not match barriers cited in 1999; 32% of leavers report not liking PSE or that it wasn't for them; 11% cite financial reasons; 9% cite change of program • PSE leavers more likely to report: trouble keeping up with workload most or all of the time; often missing deadlines; difficulty relating courses to future; feeling like a number most or all of the time; thinking about dropping out; lower confidence in their ability to do well; first year did not find idea of future plans or gain skills for use in job market; not sure of type of work desired for the future • PSE leavers less likely to report PSE grade average of 80%+ (18% of leavers vs. 34% of non-leavers) and less likely to feel that they had found the right program 	
Lavallée, Laval, Bert Pereboom and Christiane Grignon (2002)	<i>Funding for post-secondary education: Results from the Youth in Transition Survey.</i> Report prepared for the Canada Student Loans Program, Human Resources Development Canada,	<ul style="list-style-type: none"> • extract of YITS used to produce Bowlby and McMullen (2002) 	<ul style="list-style-type: none"> • Students more likely to rely on parents for PSE as highest level of parental education increased • Loan recipient parents are more likely to have only HS diploma and less likely to have university education • In regression, students who have student loans over other financial instruments: are from other family types; more likely in Atlantic Canada; parents more likely to have only HS diploma; fathers less likely to be in health or management; mothers less likely to be in management 	<ul style="list-style-type: none"> • Education and occupation are not controlled for in regression analysis of each variable (?) – it is difficult to separate education and income effect • Occupation groups may be correlated with income but it is not clear what magnitude

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	Ottawa.		<ul style="list-style-type: none"> • Students who use grants: more likely to be in Alberta and BC, less likely in Ontario; parents more likely to have less than HS diploma; more likely to have worked 10 to 19 hours/week while in HS • Students who received only family support: more likely to come from 2-parent family; more likely to attend university or college; more likely in BC, less likely in Atlantic Canada; parents more likely to have PSE; fathers more likely to be in management; mothers more likely to be in management and less likely in health; more likely not to have worked while in HS • PSE leavers are proportionally more from fathers with HS diploma or less than HS diploma, and proportionally less from fathers with university degree • Proportionally more PSE grads are from fathers in trades and primary manufacturing • PSE leavers are proportionally more from fathers in primary, manufacturing, and utilities and less from fathers in management • Proportionally more PSE grads are from mothers in sales and service and primary, manufacturing, utilities, trades 	<ul style="list-style-type: none"> • each effect may have in isolation • “Pure-effects” analysis produces conclusions of limited significance since the majority of students use more than one type of financing mechanisms
Neill, Christine (2004)	<p><i>Tuition Fees and the Demand for University Places</i>. Paper presented at the Annual Meeting of the Canadian Economics Association, University of Toronto, June 4-6, 2004 [http://www.chass.utoronto.ca/~cneill/research/Paper1.pdf], accessed on February 10, 2005]</p>	<ul style="list-style-type: none"> • Labour Force Survey (LFS) 1979-2002 	<ul style="list-style-type: none"> • Ordinary Least Squares estimates suggest little impact of tuition fees on demand for university places though Instrumental Variables (IV) suggest that there may be substantial effects on demand • Estimates of impact variable that differ at the individual level yield significant results – having at least one member of the family unemployed reduces the probability of enrolment by 4.5 percentage points even after controlling for parental education • Higher unemployment rate of HS graduates and university graduates are both estimated to increase enrolments • Minimum wages are not estimated to have large effect on enrolments (statistically significant only in group living away from home) • Only for individuals living away from home are fees estimated to have negative effects on enrolments (and only when $p=.10$) • Student support per capita estimated to have positive effect on enrolments, \$1000 increase in support raises enrolment by 3.4 percentage points • Children from families where highest level of education is some PSE are significantly more negatively affected by fee increases than children from families where highest level in university • But no group sees an overall negative impact from fees according to OLS results • Small number of institutions and low substitutability of college and 	<ul style="list-style-type: none"> • Costs do not include accommodation or meals

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			<p>university education in Canada suggest need for supply-side factors in estimating effect of fees on demand for places</p> <ul style="list-style-type: none"> • In regressions, cohort size is negatively associated with per capita spending • IV estimates are consistently more negative than OLS estimates, which is to be expected if the instruments do correct for endogeneity of fees, when student support per capita is added the observed significance improves from 10% to 5% • Largest effect observed through IV is for those whose parents have some PSE but not university where a \$1000 increase in fees reduces enrollment rates by 4 percentage points – a large effect given base enrollment rate for this group is 20% over the entire period • Costs and benefits lagged to the year the individual turned 18 (or 19, depending on provincial system) match with expectations that increase in the unemployment rate for HS grads increases PSE participation and increase in unemployment rate for university grads reduce enrolments – suggests positive increase in PSE participation in periods of high unemployment for university grads could be due to current students delaying exit from university 	
Rivard, Maud and Mélanie Raymond (2004)	<i>The Effect of Tuition Fees on Post-secondary Education in Canada in the late 1990s</i> . Working Paper 2004-09. Ottawa: Department of Finance.	<ul style="list-style-type: none"> • Youth in Transition Survey (YITS) 	<ul style="list-style-type: none"> • Considering only the decision to enrol in PSE for the first time and only those who directly enrolled following HS graduation, PSE choices were not particularly sensitive to either tuition fees at their current level or to family earnings at the time of enrolment • Once controls for high school GPA are added, tuition fees no longer have a significant effect on PSE entry • The choice of program (university vs. college) is nowhere affected by tuition fees • The difference in university participation between first and last quintiles vanishes once other individual, familial and labour market characteristics are controlled for • Living in a non-metropolitan area does not seem to affect the probability of enrolling in PSE but does negatively and significantly reduce the probability of attending university, consistent with Frenette (2003). As more controls are added, the impact and significance of this effect increases • Parental education and academic preparation were critical in determining whether students enrolled in PSE and which type of program they used • Tuitions does not have an impact on PSE pursuit of students with GPAs in the 70s or in the 80s, but students with GPAs in the 80s and from the top quintile are significantly more likely to pursue PSE than their counterparts in the three bottom quintiles (may indicate difference of preferences rather 	<ul style="list-style-type: none"> • Ontario and Quebec are excluded • Income is imputed from occupation using 2001 Census summary earnings tables for 45-54 year olds • Sum of family earnings is computed for the first two parents (from up to 4 parents/guardians that can be reported)

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			<p>than financial constraints since university choice was not related to higher family earnings in the GPA model)</p> <ul style="list-style-type: none"> • When students with average grades (GPAs 70 to 89%) are intersected with family earnings in the second and first quintiles, only relocation costs associated with living in non-metropolitan area matter for program choice, and having a parent with a university diploma increases PSE studies and university attendance, whether it is the father or mother holding the diploma • Living in a non-metropolitan area is not a significant determinant of the choice of program within the first and second family earnings quintiles alone • Mother's education has a positive influence on the pursuit of PSE for students from both first and second income quintile- father's education has a positive influence for PSE pursuit by students from second income quintile but a negative influence on PSE pursuit for students from the first quintile. For the second quintile, parental education influences program choice only when parents have university education 	
Rounce, Andrea (2004)	<i>Access to post-secondary education: does class still matter?</i> Saskatoon: Canadian Centre for Policy Alternatives – Saskatchewan	<ul style="list-style-type: none"> • Literature review 	<ul style="list-style-type: none"> • Though participation in PSE has remained strong while up-front costs to individuals have increased, some groups of people are not well represented in some aspects of PSE • Research definitions of access have traditionally been narrow (defined as enrolment) • Focus traditionally on university attendance (regarded as a first choice by some researchers) and full-time status • Little is understood about how socio-economic status (class) interacts with choice of institution and discipline • Last 15 years can be characterized as volatile with respect to the PSE environment: governments decreased funding to public institutions; upfront costs to individuals rose; participation among full-time students increased; participation among women increased; participation among Aboriginal peoples increased; participation among lower income families increased, decreased, and increased back to early 1980s level; participation among middle income families remained steady and may currently be on the decline; participation among high income families remained strong • More research needed on the links between socio-economic status and race/ethnicity, Aboriginal status, gender, disabilities, and family structure 	

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Shipley, Lisa, Sylvie Ouellette and Fernando Cartwright (2003)	<i>Planning and preparation: First results from the Survey of Approaches to Educational Planning (SAEP) 2002.</i> Education, Skills and Learning – Research Papers No. 010, Cat. no. 81-595. Ottawa: Statistics Canada.	<ul style="list-style-type: none"> • Survey of Approaches to Educational Planning (SAEP) 2002 • Postsecondary Education Participation Survey (PEPS) 	<ul style="list-style-type: none"> • 95% of kids expected to finish at least HS had parents who thought PSE and good grades were important – 64% of parents discussed educational future with children often/very often – expectations for female children higher than for males – expectations increase as parents’ own educational level increases • 93% expected to finish at least HS had parents who also expected some form of PSE • Parental aspirations for child’s university participation decrease as child ages, suggesting adjustment in response to academic interests and abilities • 82% of children in grades 1 or higher were reported with at least a 70% average, 73% perceived by parents to like school, 53% of parents believed children were working to their full potential at school • Half of children expected to complete at least HS had parents who were currently saving for PSE (up from 41% in 1999) – children between 0 and 18 had twice as much set aside for PSE in 2002 than in 1999 (32 vs. 17 billion) • 30% had parents who planned to start saving in the future • 19% had parents who were non-savers – no access to parental savings upon eligibility to PSE • Lack of money most frequent reason for non-saving • Number of parents working matters more to saving than family type • Increases in non-savers by age group offset by decreases in future savers – parents who intend to start may run out of time – 40% of 13 to 18 year olds expected to complete college and 25% expected to complete university would have no savings at the time of PSE eligibility • Parental beliefs about PSE and child’s academic performance strong effect on parental saving • 52% of parents who believed education after HS was important were current savers – current savers decrease as belief in importance of PSE decreases • 57% of children with grade averages of 90% had current saver parents falling to 29% of those with grades below 60% • Parental contributions other than from savings were common (86% of 13 to 18 year olds) • 90% of children 13 to 18 expected to make contributions – 29% of SAEP parents of 13 to 18 year olds expected children to receive grants/bursaries, 40% expected scholarships/awards – only 15% of PEPS respondents (18 to 24 year old full-time PSE students) received grants/bursaries in current academic year, 15% received scholarships/awards for current PSE costs – loans from family and friends were higher in PEPS respondents than SAEP expected usage (27% vs. 11%) 	<ul style="list-style-type: none"> • First results only, no regression analysis • SAEP looks at expected financial strategies over entire PSE program - PEPS looks at strategies for current academic year; particular strategies may vary by year and age – some difference between SAEP and PEPS should therefore be expected, with SAEP expectations being higher than PEPS realities • Limited analysis for smaller provinces; Northern Territories excluded

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			<ul style="list-style-type: none"> • Between various combinations of financial strategies only 1% of children 13 to 18 had no financial plans in place for PSE • Amounts saved varied by child's age and household income – median amounts increase as child ages and triples between lowest and highest income groups • Majority of current savers hoped to set \$20,000 or less aside (2 years or less of PSE costs) – household incomes under \$25,000 expect to save 1 year of costs before PSE began – highest income levels expected to save 2 years of PSE costs • Few children has parents who expected to save enough to cover costs of 4-year undergrad degree • Distribution of low-income quintile is less varied than higher income quartiles, meaning that more parents in this group plan to save similar amounts, mostly at around \$10,000 – differences in savings expectations between three lowest income groups are not proportional to increases in income 	
<p>Statistics Canada (2001)</p>	<p><i>Survey of Approaches to Educational Planning 1999</i>. The Daily, April 10, 2001. Ottawa: Statistics Canada.</p>	<ul style="list-style-type: none"> • Survey of Approaches to Educational Planning (SAEP, 1999) 	<ul style="list-style-type: none"> • Variation in parental PSE expectations by income such that 80% of those with incomes less than \$30,000 expected their children to go to PSE compared with 95% of those with income of \$80,000 or more • Gap between aspirations and savings behaviour widest in households at the lowest end of income scale • Parental expectations about the need for student loans highest among parents in lowest income group • Potential demand for student loans highest in New Brunswick, Nova Scotia, and PEI • 94% of all children expected to take loans were expected to take government student loans as opposed to bank loans or loans from family members • Education savings were four times higher by households in which at least one parent had a graduate degree (60.5%), compared to households in which parents had less than HS completion (16%) • Saving was most likely to begin when students were under 5 years of age, with RESPs as the most commonly reported vehicle (40%) – use of RESPs highest in BC (45%) and Newfoundland (44%) and lowest in PEI, Saskatchewan and Alberta (33% approx.) among children for whom there were educational savings • Median savings declined as number of children in household increased, and increased as household income and age of child increased • 70% and 86% of parents expected their children to work while attending HS and PSE respectively 	

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Tomkowicz, Joanna and Tracey Bushnik (2003)	<i>Who goes to PSE and when: pathways chosen by 20 year-olds.</i> Education, Skills and Learning – Research Papers No. 006, Cat. no. 81-595. Ottawa: Statistics Canada.	<ul style="list-style-type: none"> Youth in Transition Survey (YITS) (2000) 	<ul style="list-style-type: none"> Compares characteristics of students in three PSE pathways: right-awayers (go to PSE within 12 months of HS graduation), delayers (wait more than 12 months after HS graduation before entering PSE), no-goers (those out of HS for more than 12 months and have not yet enrolled in PSE) Contrary to previous research, gender, having dependents, and parental education and influence were not important predictors of delay (in regression analysis) Hearn (1987, 1992) and Eagle and Schmidt (1990) found HS grads who delay PSE entry were more likely to be male, come from lower socio-economic status families, to be enrolled in a non-academic HS program, and have lower tested ability and lower school grades (US studies) Not receiving scholarships, bursaries or grants (after accounting for low grades), province of residence, HS grade average below 79%, and lower social engagement were associated with delaying entry to PSE Quebec students least likely to delay entry to PSE (likely because of CEGEP system) – Residence in Newfoundland, Manitoba, and Alberta predicted delay (when compared to Ontario) 75% of delayers enter PSE within 12 to 24 months after HS graduation and most are 20 years of age – this relatively short delay helps to explain why delayers are more like right-awayers than no-goers Agreement with previous research was found in comparisons of no-goers and right-awayers – being male, having dependents, having parents with lower levels of education, having few friends planning to attend PSE, or having low grade average in HS were significant predictors associated with not going to PSE Because some no-goers will become delayers in the future, the predictive factors of both categories will change No-goers were more likely to have attended a career planning course and to have taken a course with a work/employment component 	
Tomkowicz, Joanna, Lisa, Shipley and Sylvie Ouellette (2003)	<i>Perception of Barriers to Education in a Group of 18 to 20 year-olds: For whom does money matter?</i> Research paper presented at the Education, Schooling, and Labour Market Conference, Ottawa, May 29-30, 2003.	<ul style="list-style-type: none"> Youth in Transition Survey (YITS) 	<ul style="list-style-type: none"> HS graduates more likely to perceive financial barriers than PSE continuers Similar to HS graduates, PSE continuers who received more "free" money from families were less likely to perceive financial barriers (amount matters) Source of money matters more than total actual amount received in perception of barriers As amount of total personal income increased, those perceiving no barrier increased relative to those perceiving a financial barrier - opposite to HS graduates - authors acknowledge possibility that once commitment and investment to PSE is made, education may become the priority - thus the more money one has, the easier it is to fund PSE and fewer barriers are 	<ul style="list-style-type: none"> Two groups for separate analysis: 1) HS graduates with no PSE but who aspired to some PSE, 2) PSE continuers; not considered: HS leavers, HS continuers, PSE leavers, PSE graduates To test Brunson et al (2001) and MPHEC (1997) conclusions that those who

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			<p>perceived - however for middle income groups (\$4,745 to \$13,036), the percentage of PSE continuers perceiving financial barriers is higher than those perceiving no barriers (56.4% to 50.2)</p> <ul style="list-style-type: none"> • 77% of group who did not report barriers did not have student loan, 60% of those who reported financial barriers did not have a student loan (positive relationship between debt and perception of barriers) • Amount of money owed (used to fund PSE) was positively related to perception of financial barriers • conclusion is that among those who perceive financial barriers, receiving more money in the form of scholarships, prizes, grants and bursaries does not decrease the number perceiving barriers • In regression, when "total 1999 income", "Total owed to different parties", "total received from scholarships, awards, prizes, grants and bursaries" were considered, only "total owed" was a significant predictor of perception of financial barriers. When demographic, family background etc. variables were added to financial resources variables, the odds of perceiving financial barriers among students who owed money increased as compared to debt-free students. These non-financial variables improved the predictive power of the model to 74% correct classification of cases. • Amount of total income in 1999 did not significantly affect perception of financial barriers to education among HS graduates with no PSE or among a sub-population of PSE students - income is only one financial resource and may therefore not accurately reflect relationship between availability of financial resources and perception of financial barriers 	<p>have never attended PSE and those who are PSE students have different perceptions of financial barriers</p> <ul style="list-style-type: none"> • Selected predictor variables measuring accessibility of financial resources shaped results - more research and new data from YITS cycle 2 in 2002 are needed • Other financial resources (such as indirect family support), if considered, may produce a different pattern in relationship between amounts of money available and perception of financial barriers to PSE • Caution with results involving scholarships, prizes, awards, grants, bursaries because of small numbers
Usher, Alex (2003)	<i>Information, Perception and Decision-Making.</i> Presentation to the Conference <i>Pathways to Access</i> . Montreal: Canada Millennium Scholarship Foundation.	<ul style="list-style-type: none"> • Ipsos Reid Poll (2003) 	<ul style="list-style-type: none"> • Canadians with low income are more likely to overestimate the cost of undergraduate university tuition • Canadians with low income are more likely to underestimate the average salary of a university graduate 	
Usher, Alex (2004a)	<i>Who Gets What? The Distribution of Government Subsidies for Post-Secondary Education in Canada.</i> Canadian Higher Education Report Series. Toronto: Educational Policy	<ul style="list-style-type: none"> • Junor and Usher (2002) – “The Price of Knowledge” 	<ul style="list-style-type: none"> • \$4 billion spent on transfers to individuals by governments in Canada for the purpose of PSE – system of expenditures is only slightly progressive • Spending split between need-based loans and grants, and universal benefits to which all are entitled (tax credits, Canada Education Savings Grants) • In analysis by income quartile, needs-based loans and grants have lightly progressive effects, with 40% of spending going to families above the median income level. The net effect of the independence criterion redirects an amount from younger, low-income students to older students from higher 	

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	Institute.		<p>income backgrounds</p> <ul style="list-style-type: none"> • Among universal benefits, 62% of costs are spent on student above the median income level. Tax credits favour upper income quartiles on aggregate as aggregate data is a function of the proportions in which young people actually attend PSE by income quartile • Distribution of transfers per capita within quartiles shows that students in lower income quartiles are more likely to receive financial support 	
Usher, Alex (2004b)	<p><i>Are the Poor Needy? Are the Needy Poor? The Distribution of Student Loans and Grants by Family Income Quartile in Canada.</i> Canadian Higher Education Report Series. Toronto: Educational Policy Institute.</p>	<ul style="list-style-type: none"> • Finnie, Schwartz, Lascelles (2003) • Junor and Usher (2001) • de Broucker (2001) 	<ul style="list-style-type: none"> • Incremental change to definition of “high need”, divergence between high need and low income • Family income is only part of the definition of high need, including: Student own income/resources - According to CMSF panel survey, no correlation between employment earnings (while in school) and family income, therefore penalty for working in needs-assessment, student resources = .8(total student income - \$1500) - author concludes penalty for working affects students from all backgrounds equally (but creates different outcomes); Cost of Program – students from higher income families are already more likely to attend university over college – regressive influence; Cost of living – increases for those who move away – regressive effect; Dependence/Independence – benefit to “independence” increases with family income – regressive effect of dependence/independence criterion • Argues shares of loan recipients mirrors make-up of student population (biased to students from higher income families) • Student loan expenditures are lightly progressive (students from above median income families account for 42% of expenditures) • Students from higher income backgrounds more likely to receive grants because independent students comprise a greater percentage of grants recipients than loan recipients • Overall, according to aggregate data, over 40% of total expenditures are made on students from upper two income quartiles • Per-student expenditures show that students from lowest quartile are two times as likely to receive needs-based assistance as highest quartile • Concludes needs-based system spends money on the wrong clients • Grants, in particular, are rewarding students who do not act “thrifty” to reduce the costs of education • Independence rule helps to qualify people who would not even be eligible for loans (because they come from higher income families) 	<ul style="list-style-type: none"> • Uses de Broucker (2001) for stats on percentage of student body shares by family income quartile using 18-21 year olds – author assumes this covers dependent students – no administrative or survey data available to determine social background of “independent students” • CMSF 2003 panel study gathers parental income reported by students and find little difference between incomes reported by dependent and independent students • No data on what percentage of students by parental income quartile receive loans • Assumes no systematic difference by family income between assessed need and student loan take-up rate • Argues loan take-up rate of independent students is independent of family income – but this is dependent upon application rate • Argues distribution of loan costs mirrors distribution of borrowers • No data on how loan default

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Willms, J. Douglas and Patrick Flanagan (2003)	<i>Ready or not? Literacy skills and post-secondary education.</i> Montreal: Canada Millennium Scholarship Foundation.	<ul style="list-style-type: none"> • International Adult Literacy Survey (IALS) 1994 • Programme for International Student Assessment (PISA) 2000 	<ul style="list-style-type: none"> • Cites previous research to highlight the distinction between aspirations (formed early and influenced heavily by parents and family) and expectations (influenced by aspirations, perceptions of own ability, experience at home and school, and opportunity structure) • Appears to be a threshold between the second and third quintile for prose literacy and between the third and fourth quintile for quantitative literacy where big jumps in participation rates occur • Half of students in the top quintiles of both literacy scores do not proceed to PSE • Odds of youth enrolling in PSE almost double if one parent has completed a university degree • Correlation between reading performance and participation is stronger than the correlation between reading performance and sense of belonging – both belonging and participation cut across levels of academic achievement • Suggests a curvilinear relationship between reading performance and low sense of belonging – sense of belonging can be high in those who perform very well or very poorly • Disaffected students comprise about 1 in 7 Canadian students (according to PISA data) that have relatively low scores on reading, math, sense of belonging and participation – most prone to dropping out of school and should be the focus of efforts to help them graduate from HS • 1/3 of 15 year olds have above average academic skills but are disaffected from school, with either a low sense of belonging (19.5%) or low participation in school-related activities (14.6%) – affects particularly males • Premium associated with quantitative literacy skills among students who have equal prose 	and interest relief measure costs are distributed
Zeman, Klarka, Tamara Knighton and Patrick Bussière (2004)	<i>Education and Labour market pathways of young Canadians between age 20 and 22: an Overview.</i> Education, Skills and Learning – Research Papers No. 018, Cat. no. 81-595. Ottawa: Statistics Canada.	<ul style="list-style-type: none"> • Youth in Transition Survey (YITS) (1999 and 2001) 	<ul style="list-style-type: none"> • 2001 HS dropout rate by age 22 is 11%, but decreases to 9% when second-chance system at PSE level is considered (majority go to college) • Newfoundland and Alberta had the largest decreases in dropout rates for 22 year olds when PSE participation by dropouts is taken into consideration (also the provinces with the highest chances of PSE delay, see Tomkowicz and Bushnik, 2003) • 11% leave PSE without graduating but 35% of PSE leavers at age 20 return within two years • 64% of youth retain the same PSE status between age 20 and 22 (24% remain in PSE, 24% have not participated at all, 5% were graduate) 	<ul style="list-style-type: none"> • Good figures illustrating complexity of PSE pathways and proportions of students who pursue each option, particularly Figure 3.1 • Impact of school-work combinations on academic performance and long-term integration to employment will be observable in future

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			<p>continuers, 5% were PSE leavers) – 36% of youth undertake at least one PSE status change, 19% graduate from PSE</p> <ul style="list-style-type: none"> • Variety of school-work transitions between ages 20 and 22 – most common was from school to full-time work (12% of youth) • Part-time employment seems to be a temporary activity as 86% of those working P/T at age 20 were not doing so 2 years later (41% moved to F/T work, 24% went back to school, 21% stopped working) • 85% of the 3% of youth neither in school nor working did not have a PSE diploma • 58% of 20 year olds and 61% of 22 year olds were working while enrolled in school 	YITS cycles