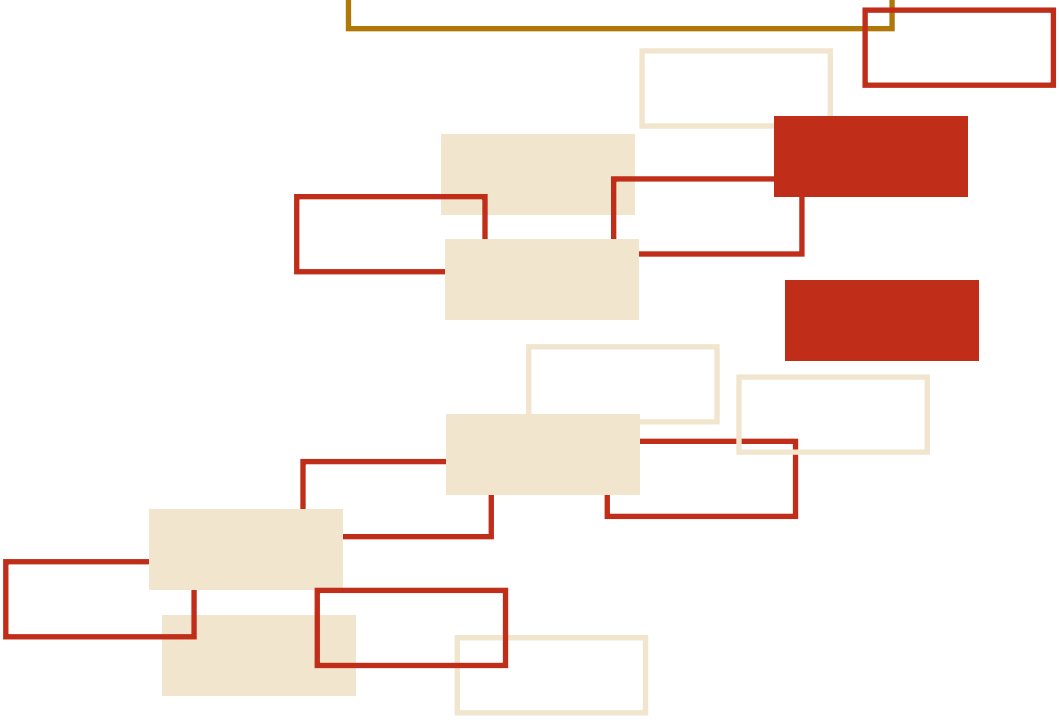
2001 BC University Baccalaureate Graduate Survey

Report of Findings



The Class of 1996 Five Years After Graduation

THE University Presidents' Council OF BRITISH COLUMBIA

BRITISH COLUMBIA
Ministry of Advanced Education

ceiss RESEARCH & IT SOLUTIONS

2001 BC University Baccalaureate Graduate Survey

Report of Findings

The Class of 1996 Five Years after Graduation

Prepared for
The University Presidents' Council
Of British Columbia

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National Library of Canada Cataloguing in Publication Data
Main entry under title:
2001 BC university baccalaureate graduate survey

Co-published by British Columbia Ministry of Advanced Education, and Centre for Education Information Standards and Services.
Part of BC University Student Outcomes Project. Cf.
Available on the Internet.
"Prepared for the University Presidents' Council of British Columbia by Walter Sudmant ... [et al.]"
ISBN 0-7726-4906-5

1. College graduates - British Columbia - Statistics. 2. Universities and colleges - British Columbia - Statistics. I. Sudmant, Walter, 1954- II. University Presidents' Council of British Columbia. III. British Columbia. Ministry of Advanced Education. IV. Centre for Education Information Standards and Services. V. Title: Class of 1996 five years after graduation. VI. Title: BC University Student Outcomes Project.

LB2362.C3T85 2003 378.711'02'1 C2003-960020-3

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EXECUTIVE SUMMARY

There is much research to support the educational, social, and economic value of a university education. Nevertheless, ongoing evaluation is necessary to ensure that our universities are providing students with knowledge and skills relevant to the workplace. Evaluative data also provides fundamental information on problems, bottlenecks in the labour market, supply and demand issues, and educational practices as they relate to the workplace and student lives. As well, prospective students can find the process of selecting a post-secondary program overwhelming, particularly as they try to form connections between their academic interests, an extensive range of university programs, and the specific jobs to which their degrees may lead. Occupational outcomes information is essential to assist students in making these very important decisions.

In 2001, The University of British Columbia, Simon Fraser University, the University of Victoria, and the University of Northern British Columbia, together with The University Presidents' Council and the BC Ministry of Advanced Education (who funded the study), partnered to survey the 1996 graduates five years after they had completed their bachelors degrees. The study consisted of a comprehensive telephone survey, to which 88% of the 5,400 individuals reached responded. The survey questions focused primarily on overall academic experience, further education beyond the bachelor's degree, funding and debt load, respondents' experience in the labour market (e.g., earnings, relevance of skills), and their civic involvement (e.g., volunteerism, community involvement, and charitable donations). This same cohort had been surveyed in 1997, one year after graduation, allowing researchers to compare results longitudinally.

This survey—the BC University Baccalaureate Graduate Survey—was part of the BC University Student Outcomes Project, which is an

ongoing research program that has been gathering and disseminating graduate outcomes information since 1995.

According to the survey results, 91% of graduates felt that their life was different today as a result of their university experience. Ninety-five percent were satisfied with their university education, a positive evaluation shared by graduates of all four universities. While some variation existed based on the academic program studied, on average over 91% of graduates from all programs were satisfied with their education.

Despite their high levels of satisfaction, only 77% of respondents indicated that they would take the same program again based on their experiences since graduating. Responses varied greatly according to the academic program taken, suggesting the importance of a degree program's relatedness to an individual's occupation and income after graduation. The reasons most often cited for not choosing the same program again were *little or no career opportunities* (28.5%) and *changed interests* (22.1%). Virtually no respondents spoke of *poorly taught courses* (1.2%) or *not [liking] the institution* they had attended (0.3%).

Ninety percent of respondents had taken some form of further education, of whom 49% had enrolled at a university and 17% at a college, university college, or institute. Graduates of professional or applied programs, such as Natural Resources, Law, and Education, were somewhat less likely to have continued with their education (86-87%) than liberal arts or general program graduates (90-95%). Most respondents cited employment-related reasons for pursuing further education (62%).

Another important issue explored by the survey was student debt load and means of financing a university education. Seventy-three percent of the 1996 cohort worked while attending university, a primary source of funding for 33% of respondents, and a secondary source for a further 40%. Other common sources of funding were family/friends (44% of respondents) and student loans (43% of respondents). Sixty-nine percent of student loan recipients also had to work to finance their education and indicated that their loans had covered 75% of their education expenses.

Somewhat surprisingly, over half the graduates (53%) had incurred no debt by the time they completed their bachelors degree. Of those who had accrued debt, the average amount owing was $15,000, with the greatest percentage of respondents owing $5,000-$9,999 (18% of graduates with debt) or $10,000-$14,999 (19% of graduates with debt). Over half the graduates who had incurred student debt had paid it off within five years of completing their degrees.

Compared to an average national unemployment rate of 7.6%, only 2.8% of the university graduates surveyed were unemployed. Of this group, over 1/3 were taking further education. Graduates of applied and/or professional programs, such as Business, Health Professions, Law, and Education, had higher employment rates (92-95%) than those in more general programs such as Physical Sciences; Humanities; Health, Fitness and Kinesiology; Fine and Performing Arts; and Life Sciences (all under 85%). In addition to employment rates, the survey data also revealed that significantly more women (18%) than men (8%) were employed part-time, likely a reflection of child-rearing and other familial obligations. In contrast, more men (10%) than women (6%) indicated that they were self-employed. Although self-employment may be the result of limited employment opportunities, it's also likely that some individuals prefer working for themselves, particularly in view of the fact that the median salary of full-time, self-employed respondents was $15,000 higher than that of full-time paid workers ($60,000, compared to $45,000).

The mean annual salary of full-time, employed university graduates was $8,000 higher than the Canadian average. Skill level may account for this discrepancy, with most graduates (70%) working in professional occupations, compared to 1% in labouring and elemental occupations. Incomes varied widely by program, with graduates of Law ($80,000) and Computing Science ($70,000) enjoying the highest mean salaries, and graduates of Fine and Performing Arts ($38,500), Education ($43,000) and Humanities ($43,000) the lowest. A significant gender difference emerged, with full-time employed women earning $6,000 less annually than their male counterparts. This discrepancy was most

obvious for graduates of male-dominated programs such as Engineering, Computing Science and Physical Sciences, with women earning mean salaries approximately $5,000-$22,000 less than their male counterparts. A comparison of the 2001 data with that of 1997 showed that the gender disparity in incomes had become even larger over time, with men enjoying a $6,000 advantage after five years compared to a $2,000 advantage after one year.

Another way of assessing the merits of a university education is by comparing the extent to which skills obtained match the requirements of the workplace. To this end, 66% of respondents indicated that their employer had required them to have a bachelors degree to perform their primary job. Respondents also indicated that communication skills were the most frequently used at work, particularly verbal expression of opinions/ideas (81% *to a great extent*), resolving issues/problems (77%), and working collaboratively (77%).

With research showing that education is the best predictor of civic participation (Ehrlich, 2000), this survey sought to explore the extent to which graduates were socially engaged, including their volunteerism, charitable donations, and community involvement. On average, the university graduates volunteered 31% more than other Canadians; however, in direct contrast to national trends, the higher graduates' incomes, the less likely they were to volunteer. The data also revealed that donation rates were no higher for university graduates than the Canadian public. Most graduates were involved in a work-related organization (67%) or sports or recreational organization (44%), and those individuals belonging to groups or organizations were more likely to donate or volunteer.

The report also includes a matrix of occupations for graduates surveyed. This matrix includes the 10 most common job titles for each academic discipline and the median salaries for graduates in each occupation.

INTRODUCTION

BC's university graduates are uniquely qualified to assess the success of their baccalaureate education. They have entered the job market and know if their university studies have prepared them for the rigours of their chosen career. They have undertaken post-graduate education, thus applying their undergraduate knowledge towards further study in their field. They have gone into the larger world, carrying a broadened point of view and a wealth of knowledge. So now, five years after graduating, are they satisfied with their undergraduate education?

This report presents a summary of findings from the University Baccalaureate Graduate Survey. In 2001, over 5,400 graduates of baccalaureate programs who had graduated from BC universities in 1996 were surveyed. The results can provide general indicators of accountability to government, give useful feedback to universities, and inform current and prospective students.

The University Baccalaureate Graduate Survey is part of the BC University Student Outcomes (USO) Project, which is an ongoing research program that gathers student outcomes information for BC's public universities and the Province of British Columbia. Since 1995, the USO Project has been tracking the outcomes of baccalaureate graduates, both two and five years after graduation.

While there are many publications providing evidence of the excellent prospects for university graduates in the labour market, students, parents and counsellors need specific information. Students face difficult choices about what programs to study and need information about where their studies might lead in terms of jobs, income, further education, and general satisfaction with their studies.

The results show, for example, that after five years the median full-time annual income of graduates is $45,680; that Humanities students earn only slightly less ($43,000), while those with Computer Science degrees

now earn a median income of $70,000. Students with a major in the Social Sciences may be reassured to learn that the unemployment rate for Social Science graduates is 4%, far below the provincial average for their age group.

The report has also taken into account the comments of career counsellors who suggested that students want to know what specific jobs graduates from their program obtain. Thus the report lists, for every discipline, the 10 most common job titles, along with the median salary for those in each occupation.

This report is unique in that it provides an opportunity to look not only at outcomes at a point in time, as in the traditional outcomes literature, but also changes over time. By examining graduates responses to questions both one and five years after graduation, we can learn about stability and change in the outcomes we observe. Are graduates views of their education constant and consistent over long periods of time? Do they revise their views on their education with increasing experience, and if so, in which direction? Do they continue to progress in their careers and personal lives? A university education is an education for life, and this survey gives us an opportunity to look at the continuing long term impact of their education.

The survey results show the long-lasting impact of a university education on careers and income. Graduates were first surveyed one year after graduation, and again five years after graduation. Over the four-year period, the median income of the graduates increased by over 27%, and 90% had taken some form of further education – usually more university level education.

The survey is the result of a collaboration between the BC universities, The University Presidents' Council and the Ministry of Advanced Education. This report was made possible by The University Presidents' Council, who are committed to providing British Columbians with relevant and accessible information about BC universities, and the BC Ministry of Advanced Education, who funded the project.

SURVEY POPULATION AND RESPONSE RATES

This report looks at the 1996 BC baccalaureate graduates five years after graduation and compares this data to the results from the survey conducted one year after graduation. Graduates were from four universities in BC: The University of British Columbia (UBC), Simon Fraser University (SFU), University of Victoria (UVIC), and University of Northern British Columbia (UNBC). Each student was classified into one of 13 programs: Fine and Performing Arts; Computing Science; Engineering; Education; Law; Health Professions; Health, Fitness and Kinesiology; Business; Natural Resources; Social Sciences; Humanities; Life Sciences; or Physical Sciences (see Appendix B for mapping of specific programs at each university to these 13 fields).

The survey group consisted of 8,613 graduates, of whom 2,432 could not be reached; international students, Medical and Dental students (conspicuously different and also much-studied elsewhere), and students living outside of North America were excluded. The response rate for those contacted was 88%, with 732 graduates refusing to be involved or failing to complete the survey. Smaller universities had higher response rates:

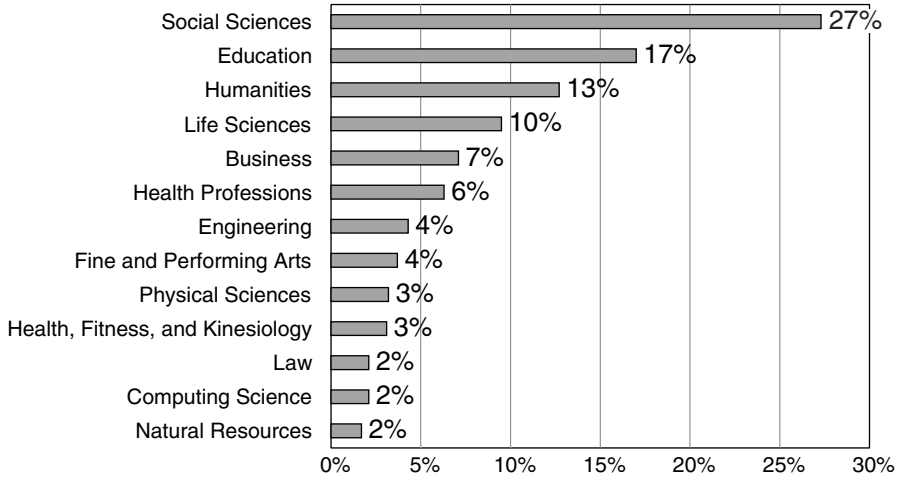
	UBC	SFU	UVic	UNBC	Total
Intended:	4,135	2,219	2,199	60	8,613
Reached:	2,779	1,692	1,661	49	6,181
Completed:	2,409	1,472	1,522	46	5,449
Refused/Incomplete:	370	220	139	3	732
Response Rate (% of Intended)	58.3%	66.3%	69.2%	76.7%	63.3%
Response Rate (% of Reached)	86.7%	87.0%	91.6%	93.9%	88.2%

DEMOGRAPHICS

PROGRAM

The distribution of graduates by field of study is shown in Figure 1. Over half of the graduates came from one of three programs: Social Sciences (27%), Education (17%), or Humanities (13%). The smallest programs, with only 2% of the graduate population in each, were Law, Computing Science, and Natural Resources.

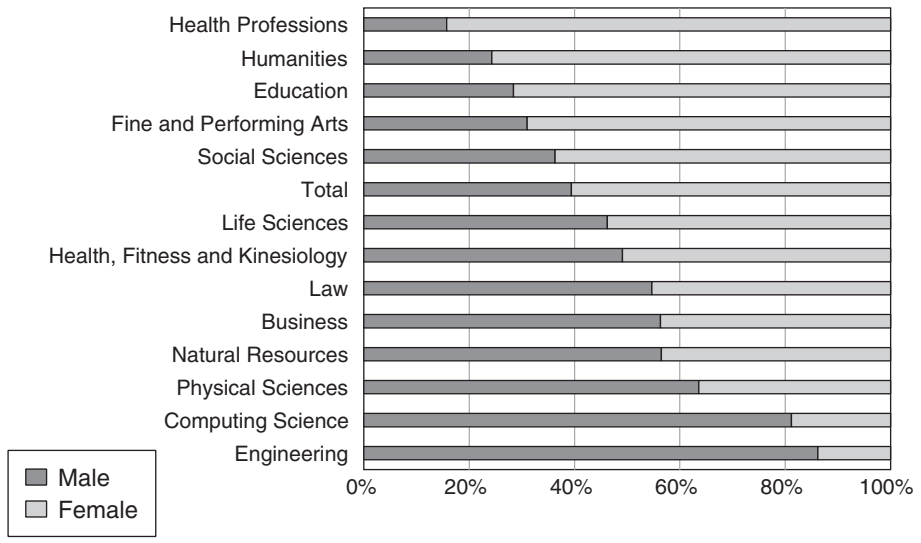
Figure 1: Graduates by Program



GENDER DISTRIBUTION

Figure 2 looks at programs by gender. Very few programs are equally balanced between male and female students, with the most variance being found in female-dominated Health Professions (with Medicine excluded, most of these graduates are nurses) and male-dominated Engineering and Computing Science. The majority of graduates were women (61%). The differences in gender proportions by program are important to note as they affect graduate outcomes such as employment status and income levels.

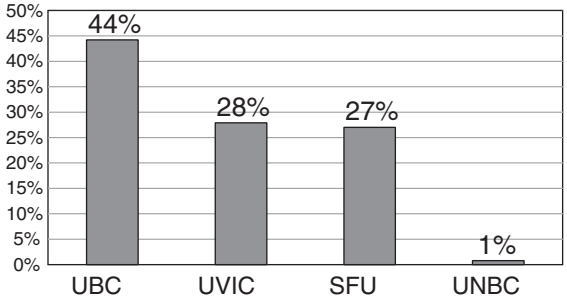
Figure 2: Program by Gender



RESPONDENTS BY INSTITUTION

Reflecting institution size, almost half of the graduates were from UBC (44%). As shown in Figure 3, there were similar numbers of graduates from UVIC (28%) and SFU (27%), and only a small number from UNBC (1%).

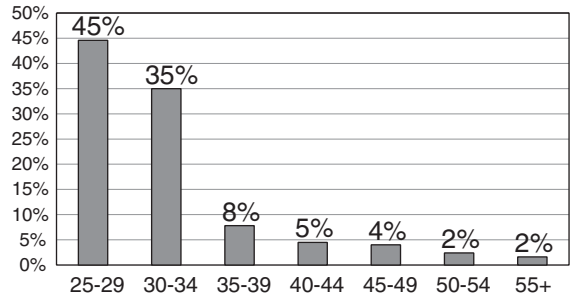
Figure 3: Respondents by Institution



AGE OF RESPONDENTS

At the time of the survey, graduates ranged from 24 to 83 years old, with the majority of graduates between the ages of 25 and 34 years (80%). Only 21% of the graduates were over 35 years old, with 2% over 55 years old.

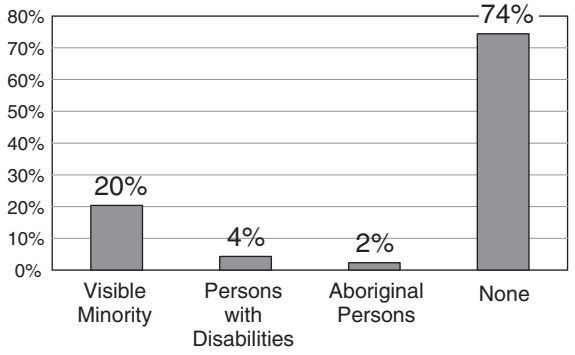
Figure 4: Age of Graduates



EQUITY GROUP MEMBERSHIP

Equity group membership of graduates, which is self-identified, is shown in Figure 5. Twenty percent are visible minorities, 4% are persons with disabilities, and 2% are Aboriginal persons.

Figure 5: Equity Group Membership of Graduates



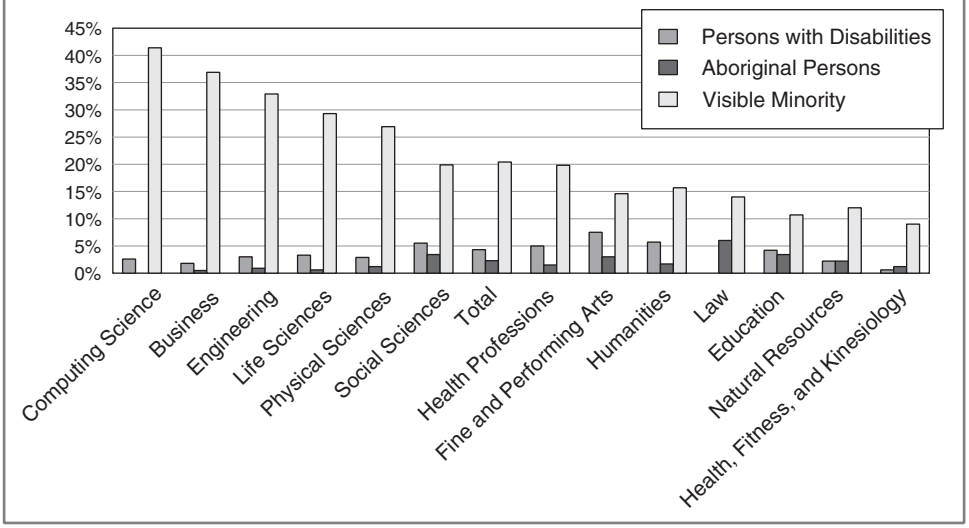
Note: a person can be in more than one equity category

Figure 6 illustrates how equity group membership differs considerably by program. Visible minorities were far more likely to enrol in Computing Science (41%), Business (37%), or other sciences. The programs with the lowest proportions of visible minorities were Health, Fitness, and Kinesiology (9%), and Education and Natural Resources (12%).

Programs with the highest percentages of Aboriginal persons were Law (6%), and Education, Social Sciences, and Fine and Performing Arts (3%). There were no Aboriginals in Computing Science and less than 1%

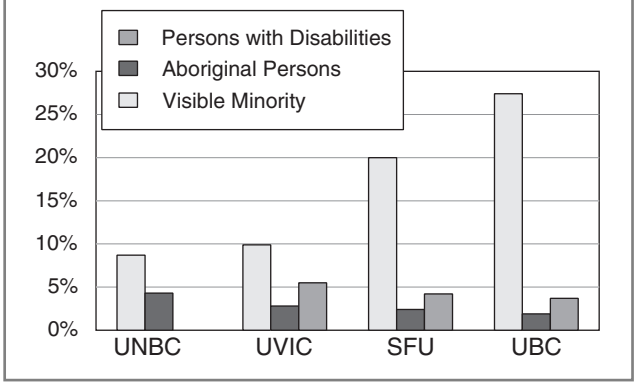
in Business, Life Sciences, and Engineering. Despite Aboriginals making up 4% of the BC population (Statistics Canada), they are underrepresented at universities (only 2% of our sample).

Figure 6: Equity Group Membership by Program



Graduates with disabilities were defined as those who had "a long-term physical or mental health condition that limited the kind of activity that they could perform on a daily basis." These graduates were most likely to be in Fine and Performing Arts (8%), Social Sciences (6%), Humanities (6%), or the Health Professions (5%). Very few persons with disabilities were in Health, Fitness, and Kinesiology (0.6%), most likely due to physical limitations, and no one in Law claimed to have a disability.

Figure 7: Equity Group Membership by Institution



Equity group membership also varied by institution

(Figure 7). The more urban the university, the higher the proportion of visible minorities: compare UBC (27%) and SFU (20%) to UVIC (10%) and UNBC (9%). A reverse trend is seen when looking at the proportion of Aboriginals, with more from UNBC (4%) and UVIC (3%) than SFU (2%) and UBC (2%). Persons with disabilities were most likely to be found at UVIC (6%), SFU (4%), and UBC (4%) rather than at UNBC (0%), whose small sample size may have been a factor.

CURRENT PLACE OF RESIDENCE

As seen in Table 1, most graduates reside in urban areas, especially in the Lower Mainland (61%). This is particularly true for Physical Sciences (68%), Engineering (66%), and Business (66%). Graduates in Natural Resources and Law were least likely to settle in the Lower Mainland, with 54% of them living elsewhere. Quite a few graduates

Table 1: Residence and Program

	Lower Mainland	Van-couver Island	Other areas in BC	Other Canadian Prov-inces	Ontario	Alberta	USA	Total
Fine and Performing Arts	56.3%	24.0%	5.2%	2.1%	5.7%	3.6%	3.1%	100%
Computing Science	62.9%	19.0%	4.4%	0.9%	3.4%	3.4%	6.0%	100%
Engineering	65.9%	7.0%	8.7%	1.7%	6.1%	3.9%	6.6%	100%
Education	60.4%	11.6%	21.9%	1.2%	1.4%	2.7%	0.8%	100%
Law	45.6%	16.7%	9.6%	4.4%	16.7%	4.4%	2.6%	100%
Health Professions	59.6%	19.2%	12.0%	2.1%	2.4%	2.1%	2.7%	100%
Health, Fitness & Kinesiology	62.8%	9.8%	12.8%	2.4%	4.9%	5.5%	1.8%	100%
Business	65.6%	11.1%	6.6%	0.3%	6.1%	5.6%	4.8%	100%
Natural Resources	46.2%	6.6%	40.7%	3.3%	1.1%	1.1%	1.1%	100%
Social Sciences	59.7%	19.2%	9.5%	1.5%	4.0%	3.8%	2.3%	100%
Humanities	64.4%	14.3%	9.8%	1.8%	3.7%	3.0%	3.0%	100%
Life Sciences	59.1%	14.3%	13.1%	2.0%	3.3%	5.1%	3.1%	100%
Physical Sciences	68.0%	8.9%	6.0%	4.1%	5.9%	3.0%	4.1%	100%

live on Vancouver Island (15%), including a high proportion of Fine and Performing Arts graduates (24%). Approximately 12% of those surveyed lived in other parts of BC besides the Lower Mainland and Vancouver Island. As expected, a very large proportion of graduates in Natural Resources moved to other parts of BC (41%). Of those choosing to live outside of BC, 4% lived in Ontario, 4% in Alberta, 2% in other Canadian provinces, and 3% moved out of Canada to the United States. The proportion of graduates moving out-of-province was quite consistent across programs, with the exception of Law, in which 17% of graduates moved to Ontario.

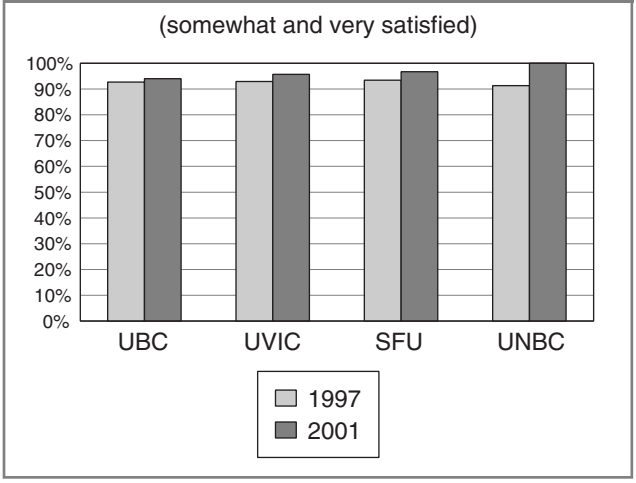
Only 3% of graduates have moved to the United States, suggesting that the feared "brain drain" of educated Canadians may only be a nominal concern. Engineering and Computing Science had the highest percentage of graduates moving south (7% and 6% respectively), followed by Business (5%) and Physical Sciences (4%). Those in Natural Resources (1.1%) and Health, Fitness, and Kinesiology (1.8%) were least likely to move to the United States.

PROGRAM EVALUATION

The majority of graduates surveyed (95%) were very satisfied or somewhat satisfied with their education. This high level of satisfaction remained quite constant across programs, with over 90% of graduates from all programs satisfied. Engineering (99%) and Business (98%) graduates were the most satisfied with their education. Although still very high, the lowest levels of satisfaction were in Education (91%) and Physical Sciences (92%). Graduates in equity groups also had high satisfaction rates, with the exception of persons with disabilities, who were 5% less satisfied with their education than other graduates. Contrary to popular opinion, there was only a very weak positive relationship between satisfaction level and income level ($r = 0.07$, $p < 0.0001$); that is, many respondents with lower earnings were equally satisfied with their education.

Figure 8 shows satisfaction by institution, with at least 94% of graduates from all of the institutions satisfied with their education. All of the graduates from UNBC (100%) were satisfied (again, note the smaller sample size). Satisfaction rates at larger institutions such as UBC and UVIC were 94% and 96% respectively. This is consistent with previous research that has shown higher satisfaction rates at smaller institutions.

Figure 8: Satisfaction with Education, by Institution



From one year to five years after graduation, the levels of satisfaction increased slightly. This may be due to the four year time period in which graduates had time to reassess the benefits of their bachelor degree and recognize its potential.

PROGRAM ASSESSMENT

Based on their experiences since graduation, respondents were asked if they would take the same program again. Seventy seven percent indicated that they would take the same program again. Results varied considerably among programs, with Computing Science (96%), Education (87%), Law (87%) and the Health Professions (81%) having the highest proportions of graduates who would take the same program again. Graduates from Engineering (76%), Business (76%), Fine and Performing Arts (76%), and Health, Fitness and Kinesiology (75%) provided mid-range responses. It is apparent that graduates from the professional programs were more likely to take the same program again, revealing the importance of the relatedness of education to one's job, as well as the significance of income. As graduates' jobs were more related to their program, they were much more likely to take the same program again ($r = 0.82$, $p < 0.01$).

Figure 9: Percentage Who Would Take the Same Program Again, by Discipline and Years Out

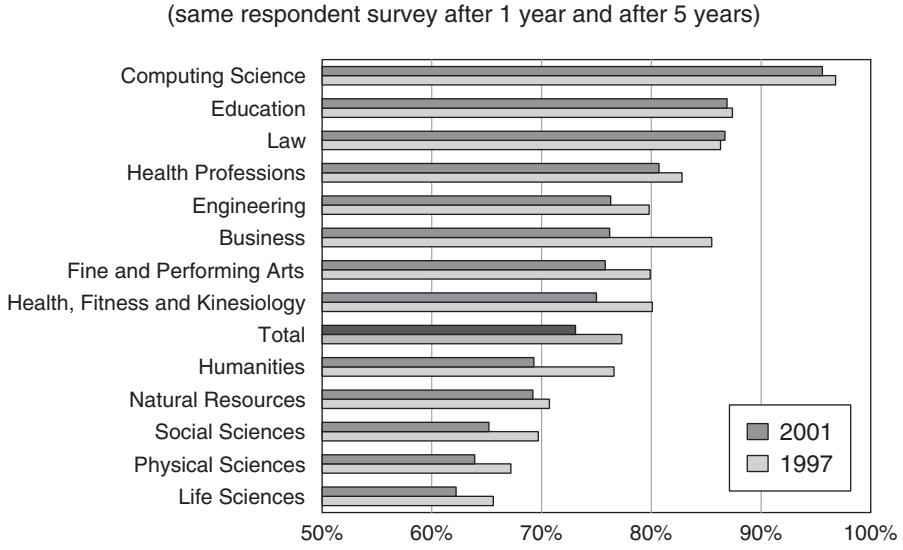
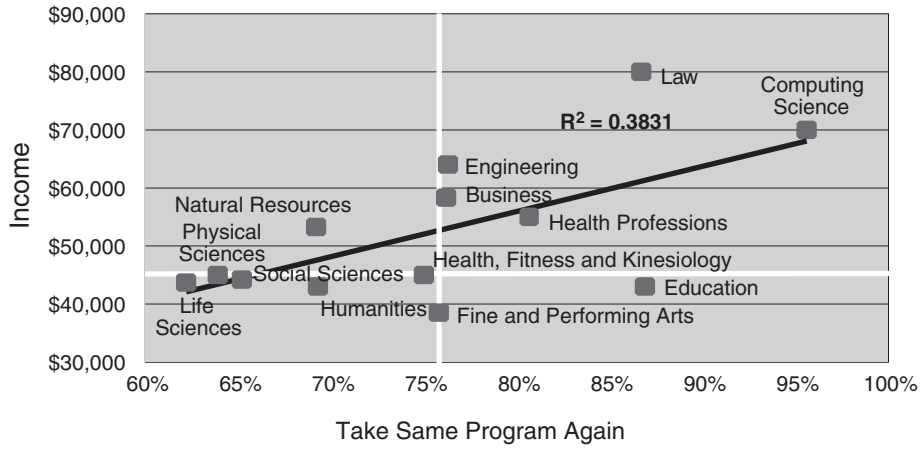


Figure 9 also examines the change in the proportion of graduates who would take the same program again when surveyed one year after graduation and five years after graduation. With the exception of Law, graduates surveyed in 2001 were on average 4% less willing to take the same program again than they had been when surveyed in 1997. This was especially true in Business and Humanities where there was a decrease of approximately 10% in both programs.

In addition to job relatedness, income was positively related to the proportion of graduates wanting to take the same program again ($r = 0.62$, $p = 0.03$). As shown in Figure 10, professional or applied programs are in the upper right quadrant of the chart with high incomes and a high level of graduates that would take the same program again: the average Law, Computing Science, Engineering, Business, and Health Professions graduate received higher than median incomes and were satisfied with their program. Lower-earning Life Sciences, Social Sciences, Physical Sciences, Humanities, Fine and Performing Arts, and Health, Fitness and Kinesiology graduates were not as pleased with their program. Two anomalies: graduates from Natural Resources programs are higher-than-average earners but only two-thirds of graduates would take the same program; Despite a relatively low annual income, 87% of Education

Figure 10: Income Versus Take the Same Program Again, by Program (2001)

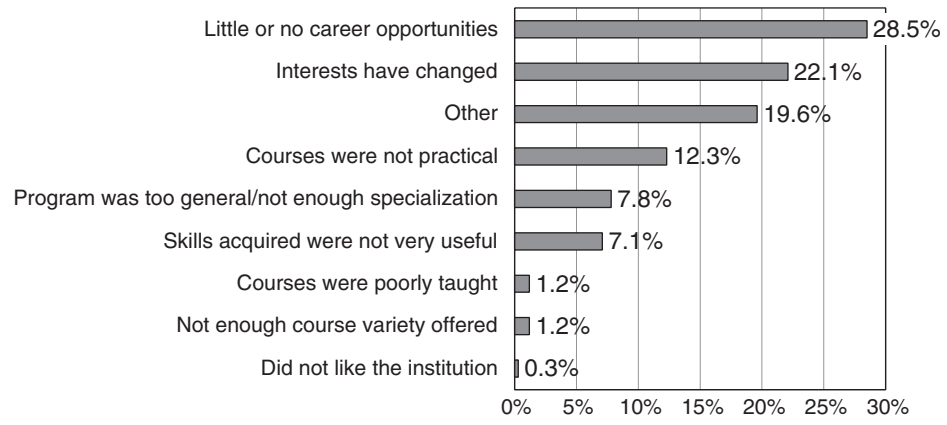


graduates would take the same program again, perhaps suggesting that Education graduates thoroughly enjoy and are devoted to their jobs despite their comparatively lower pay.

Graduates from general programs, such as Humanities (69%), Natural Resources (69%), Social Sciences (65%), Physical Sciences (64%), and Life Sciences (62%), were the least likely to take the same program again. Further investigation should be undertaken to explain the disciplinary variance.

As shown in Figure 11, there are many reasons that graduates do not want to take the same program again, including few career opportunities, changing interests, impractical courses, overly generalized programs, non-useful skills, poorly taught courses, and little course variety. Any reasons cited that did not fit into one of these categories were classified as 'other' and included in long answer form.

Figure 11: Why You Would Not Select the Same Program Again



It is somewhat encouraging that for those who would not revisit their program choice, quality of instruction was not the primary factor. Rather, graduates most often cited circumstances beyond the university's control (the job market and the student's altered interests) for not selecting the same program (51%). Only about 30% of students faulted their program's instruction/curriculum. Interestingly, hardly any graduates

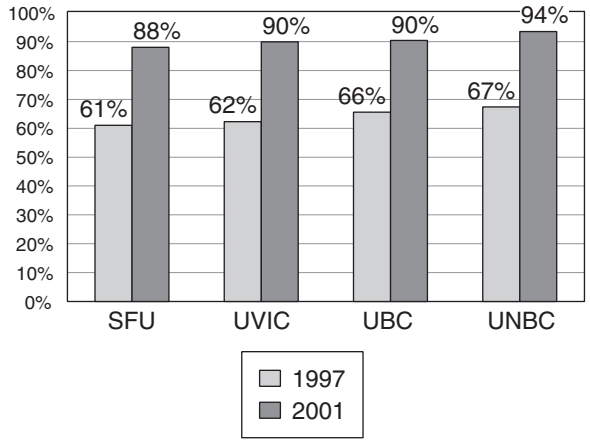
would not take the same program again as a result of not liking the institution (0.3%).

Overall, graduates seemed most concerned with career preparation. This emphasis is especially true for graduates of liberal arts and general programs, who most often cited few or no career opportunities as their reason for not taking the same program again (35%). Nevertheless, even though graduates of some programs expressed a concern for job relatedness, few were unemployed, and the majority were working in managerial or professional occupations (see Employment section). In contrast, graduates of applied or professional programs who would not take the same program again placed little emphasis on the problems of career opportunities (14%), placing a larger focus on changing interests (28%).

FURTHER EDUCATION

The majority of respondents had taken some form of education beyond their baccalaureate degrees (90%), with 29% of graduates currently enrolled. Figure 12 shows that this high participation rate is seen across institutions, with the highest rate at UNBC (94%). This high rate reflects an increase from the 1997 survey results; obviously, in the intervening four years, more students have had an opportunity to enrol in further education. More striking, perhaps, is the 1997 result, where after only one year out over 60% of students from each institution had engaged in further education.

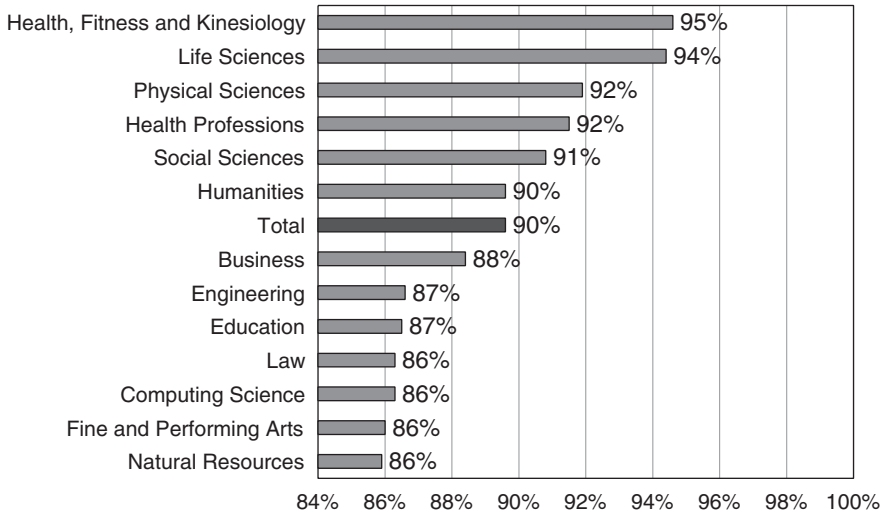
Figure 12: Further Education by Institution



With respect to the type of program, Figure 13 reveals a higher proportion of graduates from general or liberal arts programs taking further education than those from applied or professional programs. Eighty-six percent of graduates from Natural Resources, Fine and Performing Arts, Computing Science, and Law undertook further education after graduation. Those in the Life Sciences; Health, Fitness and Kinesiology; Physical Sciences; and Health Professions had the highest participation rates in the mid-nineties. The rates suggest that undergraduates in general programs enter graduate school to achieve careers that require an advanced degree, and conversely, that good job opportunities may divert graduates from further education.

In comparison to five years out of university, graduates had significantly lower participation rates (62%) after one year out of university. It's likely that many of those enrolled at one year out passed directly from their undergraduate degree to another form of education, while those enrolling later may have entered the labour market and found their employment opportunities somewhat limited.

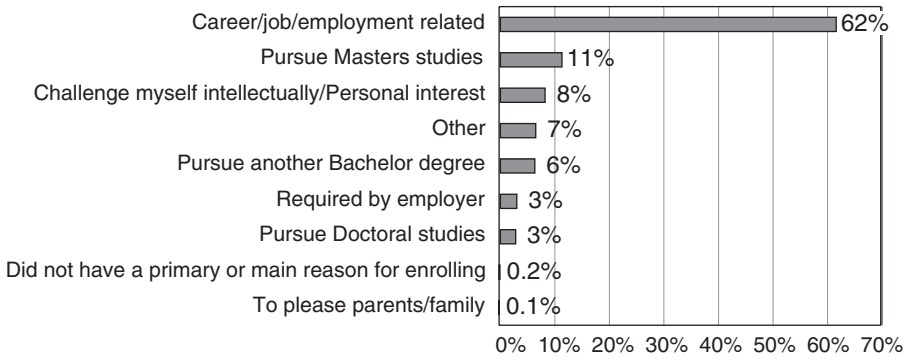
Figure 13: Percentage of Graduates That Have Taken Further Education



REASONS FOR FURTHER EDUCATION

The majority of graduates cited employment-related reasons (62%) for enrolling in further education, highlighting the importance of keeping pace with the job market and the demands of the labour force. Law (79%), Business (72%), and Computing Science (71%) graduates were most likely to enroll in further education for employment-related reasons. As shown in Figure 14, the other common reasons for pursuing further education included pursuing Masters studies (11%), challenging oneself intellectually or for personal interest (8%), and pursuing another Bachelors degree (6%)

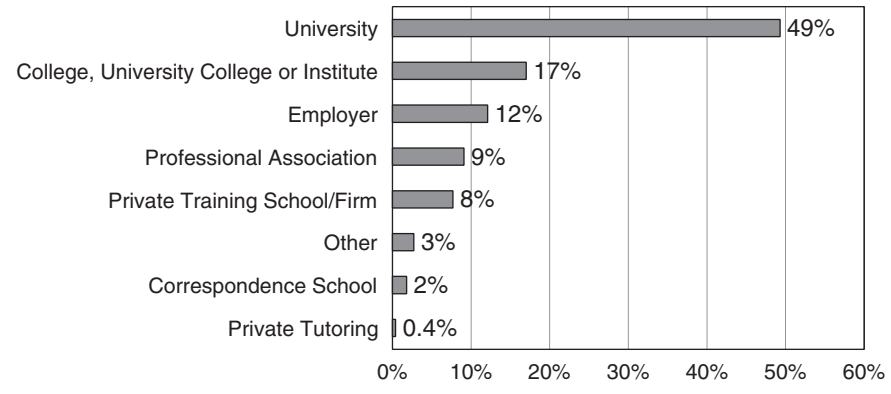
Figure 14: Main Reason Enrolled in Further Education



TYPES OF FURTHER EDUCATION

Most of the graduates who went on to further education took formal education, with almost half enrolled at a university, and another 17% at a college or other institute. Less likely sources of further education were employers (12%), professional associations (9%), private training schools/firms (8%), correspondence schools (2%), and private tutoring (only 0.4%).

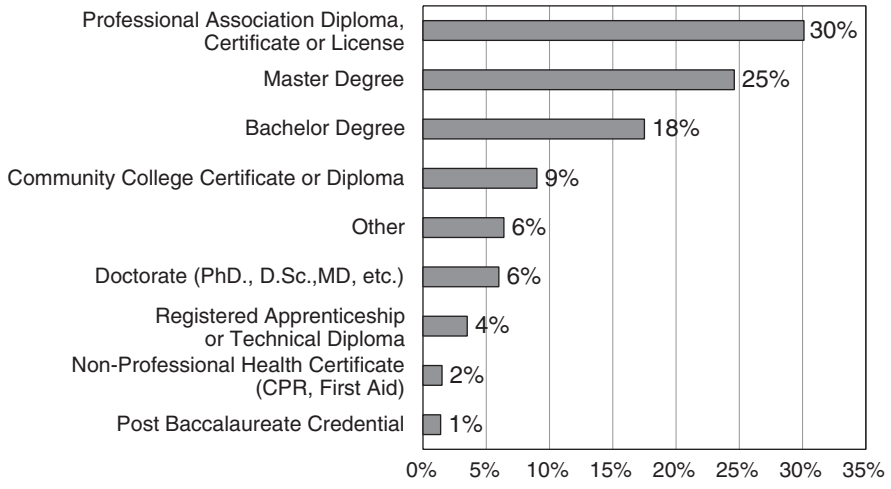
Figure 15: Where Further Education was Taken



CREDENTIALS

As shown in Figure 16, the majority of graduates who enrolled in further education sought a professional association diploma, certificate or license (30%, most commonly achieved by Business and Law graduates). The other common types of credentials that were or would be obtained were masters degrees (25%), bachelors degrees (18%), and community college certificates or diplomas (9%). The credentials that were least likely to be obtained included doctorates (6%, unsurprisingly low given the time-frame), registered apprenticeships or technical diplomas (4%), non-professional health certificates (2%), and post baccalaureate credentials (1%).

Figure 16: Credential(s) that Were or Would be Obtained



EDUCATION FINANCING AND DEBT

As cost of living and tuition fees increase, much attention has been focused on student debt. More than ever, policy makers need to assess the adequacy of student aid or scholarship programs and the potential need for change.

DEBT

Table 2 shows the amount of debt that graduates incurred to pay for their educational program. Remarkably, over half the graduates (53%) had absolutely no debt, while those incurring debt owed an average of $15,000 by the end of their baccalaureate degree. For those with debt, the most common amount of debt incurred was between $5,000 and $9,999 (18%) and between $10,000 and $14,999 (19%). Over half of those with debt owed over $15,000, while 8% owed over $40,000, suggesting that few students finance their education entirely by borrowing.

Table 2: Debt

Debt Amount	% of All Students	% of "Debtors"	Median
0	53.2%		
< $4,999	4.6%	9.8%	$3,000
$5,000 - 9,999	8.5%	18.2%	$7,000
$10,000 - 14,999	8.9%	19.0%	$11,000
$15,000 - 19,999	5.5%	11.8%	$16,000
$20,000 - 24,999	6.2%	13.2%	$20,000
$25,000 - 29,999	3.8%	8.1%	$25,000
$30,000 - 34,999	3.9%	8.3%	$30,000
$35,000 - 39,999	1.7%	3.6%	$35,000
> $40,000	3.7%	7.9%	$44,000
Total	100%	100%	

Table 3 shows the amount of debt remaining at five years out for graduates who had incurred debt. Today's graduates should be relieved to know that over half of the graduates with debt had paid it off within five years, and 12% had less than $5,000 left to repay. For those with a

significant amount of debt remaining, 12% still owed between $10,000 and $14,999, and the last 25% of graduates owed more than $15,000. Fortunately, only 1.1% had over $40,000 in debt five years after completing their bachelor's degrees.

Table 3: Debt Remaining

Debt Remaining	% of "Debtors"
0	51.9%
< $4,999	11.5%
$5,000 - 9,999	12.0%
$10,000 - 14,999	9.4%
$15,000 - 19,999	5.6%
$20,000 - 24,999	4.7%
$25,000 - 29,999	2.4%
$30,000 - 34,999	0.9%
$35,000 - 39,999	0.6%
> $40,000	1.1%
Total	100.0%

SOURCES OF FUNDING

Table 4 shows primary and secondary sources of funding for 1996 graduates. Primarily, graduates relied on employment (33%), student loans (26%), and family and friends (23%) to finance their education. Another 40% of students used employment as a secondary source, thus 73% of all respondents did have to work while pursuing their degree. Employment was the most common type of secondary funding for all graduates except for those using personal savings for their primary source.

The need for employment as a secondary source was especially true for those graduates who primarily relied on student loans: 69% of loan recipients also worked to pay for their education. When asked, graduates who had relied on student loans said they covered only 75% of their education expenses. Besides employment, the other most common secondary sources of funding were family and friends (21%) and student loans (17%).

Most of the funding sources did not differ widely when examined by gender, except for employment and family and friends. For men, 37.6% relied on employment for their primary funding, as compared to 30% of women. This gender difference may be the result of fewer job opportunities for women or other sources of funding available to women

Table 4: Sources of Funding

Secondary \ Primary	Personal Savings	Employment	Family/Friends	Bank Loans	Student Loans	Scholarships/ Bursaries	Other	First Nations Funding	Co-op Program	Total
Personal Savings	1%	8%	11%	4%	8%	14%	15%	6%	8%	9%
Employment	21%	0%	62%	48%	**69%**	48%	38%	38%	13%	40%
Family/ Friends	27%	38%	1%	26%	15%	24%	21%	19%	33%	21%
Bank Loans	1%	2%	1%	0%	1%	1%	0%	6%	0%	1%
Student Loans	29%	35%	14%	7%	0%	9%	15%	19%	21%	17%
Scholarships/ Bursaries/ Grants	19%	16%	11%	15%	6%	1%	9%	13%	25%	11%
Other	1%	1%	1%	0%	1%	3%	3%	0%	0%	1%
First Nations Funding	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Co-op Program	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%
Total	11%	33%	23%	1%	26%	5%	1%	1%	1%	100%

to cover educational costs. For example, more women (25%) than men (20%) relied on family and friends to finance their education.

LABOUR MARKET OUTCOMES

UNEMPLOYMENT RATE

Clearly, a university degree provides individuals with greater employment opportunities. According to the survey results, the unemployment rate for BC's university graduates was only 2.8%, less than half of the national average of 7.6% (Statistics Canada). Over a third (36%) of these unemployed graduates were also taking further education, which while perhaps detracting from their job search, nonetheless stood to enhance future job prospects.

The unemployment rate was quite low for all programs, ranging from 0.6% for Health Professions graduates to 6.5% for Fine and Performing Arts graduates (see Table 5). Health Professions (0.6%), Law (0.9%), Business (1.0%), and Education (1.2%) graduates had the lowest unemployment rates, while Fine and Performing Arts (6.5%), Natural Resources (5.4%), Engineering (4.3%), and Computing Science (4.3%) graduates had the highest rates.

Table 5: Unemployment

	2001			1997
	not employed: looking & not looking	**not employed: looking**	not employed: not looking	not employed: looking & not looking
Health Professions	14.4%	**0.6%**	13.8%	4%
Law	6.4%	**0.9%**	5.5%	6%
Business	4.1%	**1.0%**	3.1%	10%
Education	7.9%	**1.2%**	6.7%	3%
Health, Fitness & Kinesiology	7.7%	**3.0%**	4.7%	14%
Social Sciences	13.1%	**3.2%**	9.9%	19%
Humanities	13.5%	**3.5%**	10.0%	24%
Physical Sciences	14.5%	**3.5%**	11.0%	21%
Life Sciences	21.0%	**3.9%**	17.1%	35%
Computing Science	8.6%	**4.3%**	4.3%	11%
Engineering	10.3%	**4.3%**	6.0%	14%
Natural Resources	11.9%	**5.4%**	6.5%	12%
Fine & Performing Arts	16.0%	**6.5%**	9.5%	21%
University Graduates Average	11.9%	**2.8%**	9.1%	16%
Canadian Average		**7.6%**		

Note that in determining the unemployment rate, we counted graduates who were actively looking for a job, and omitted those who had voluntarily chosen not to work.

EMPLOYMENT RATE

The employment rate is *not* the reverse of the unemployment rate (since in calculating unemployment we'd excluded those choosing not to work). Both rates are important: unemployment is a universal measure of labour market success, whereas the employment rate shows the levels at which university graduates are absorbed into the market economy, usually after a transition period of further education.

Figure 17: Graduates Employed by Program

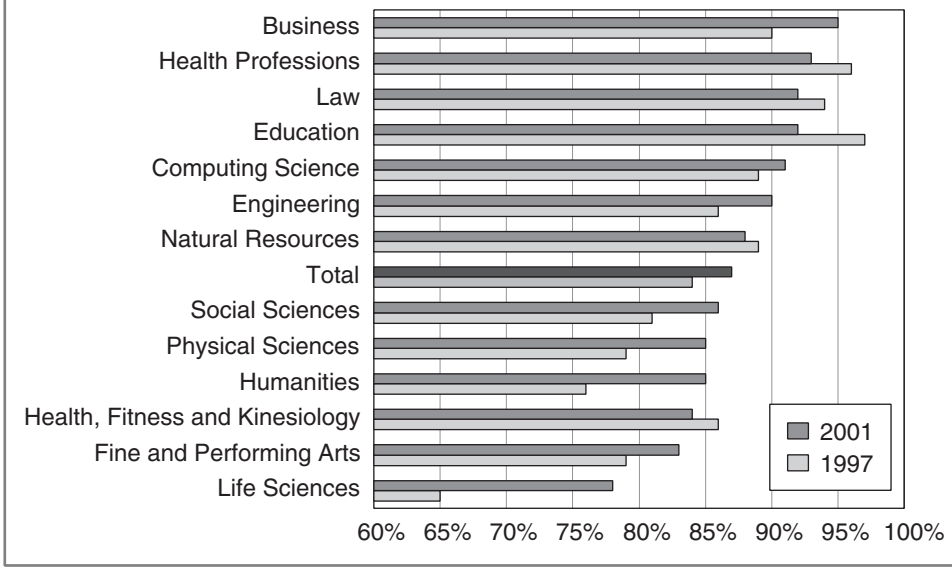


Figure 17 shows that employment rates by program were slightly different than the unemployment rates, almost certainly as a result of the proportion of women within each program—programs with more female students show lower employment rates because of childbearing and other family-related responsibilities. Since removing themselves from the labour force was a choice, these differences did not appear when examining the unemployment rates.

The divide between general or liberal arts programs and professional programs (a recurring theme in this survey) also persists. The typically high employment programs included Business (95%), Health Professions (93%), Law (92%), Education (92%), and Computing Science (91%). The programs with generally low employment were Physical Sciences; Humanities; Health, Fitness and Kinesiology; Fine and Performing Arts; and Life Sciences at an employment rate below 85% at five years out.

Further education can also account for the differences in labour force participation across programs. Graduates in general programs were more likely to pursue further studies in order to meet advanced degree requirements of some careers, and as such fewer graduates in these programs were employed, while professional programs had lower proportions of graduates enrolling in further education and thus more graduates participating in the labour force.

The employment rate was low for graduates with disabilities, with only 78% employed. Graduates in other equity groups, such as Aboriginal persons or visible minorities, had employment rates equivalent to the graduate average.

Also seen in Figure 17 is a comparison of the employment rates one year and five years after graduation, with an expected increase as people found jobs by five years out of university. As well, the data shows a closing gap in employment rates between graduates of different programs, specifically with respect to the general and professional program divide. This trend is likely the result of graduates completing their post-baccalaureate studies and entering the job market. Interestingly, the employment rates for professional programs, such as Health Professions, Law, and Education, actually decreased (largely owing to the high proportion of women), while many of the general programs, such as Social Sciences, Physical Sciences, Humanities, and Life Sciences, increased significantly.

EMPLOYMENT CHARACTERISTICS

Figure 18 shows various characteristics of employment by gender. Rates of part-time employment at five years out are much higher for women (18%) than men (8%). While lack of employment opportunities often leads to part-time employment, the rate for women also reflects part-time work necessitated by child rearing and other family-related obligations, responsibilities still primarily fulfilled by women. As such, women-dominated programs had the highest percentage of part-time workers.

Figure 18: Characteristics of Employment by Gender

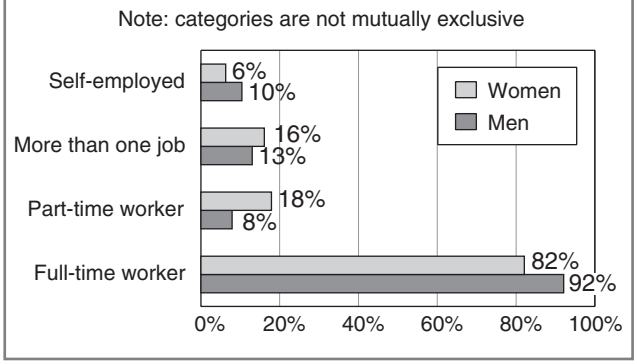


Figure 18 also shows that a higher percentage of women (16%) than men (13%) had more than one job (since more women were employed part-time). To this end, those programs with higher proportions of graduates employed at more than one job were most often female-dominated, such as Fine and Performing Arts (30%), Health Professions (24%), and Humanities (17%), with the exception of Health, Fitness and Kinesiology (18%). In contrast, the male-dominated programs, such as Engineering (5%), Computing Science (6%), and Business (6%), had the lowest percentages of graduates employed at more than one job.

Examining part-time work by program, Figure 19 shows a smaller percentage of part-time workers for those programs whose graduates have higher employment rates. Most of the programs with high employment rates, such as Business, Law, Computing Science and Engineering, had less than 5% of graduates working part-time.

Figure 19: Full-time and Part-time Employment by Program

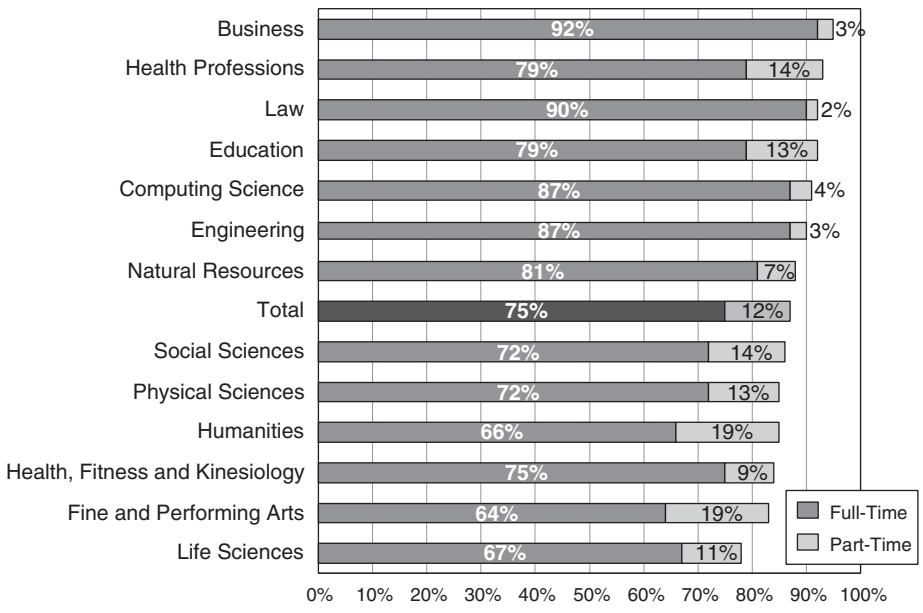


Table 6 shows the average part-time employment rate of 14%, with the expected high part-time percentage for women-dominated programs

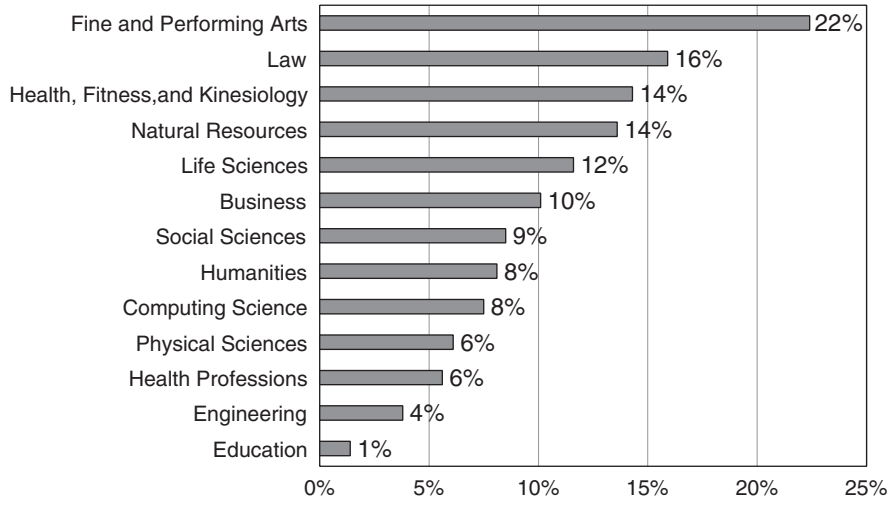
Table 6: Employment by Program and Gender

	Male		Female		Total	
	part-time	full-time	part-time	full-time	part-time	full-time
Humanities	12%	88%	26%	74%	23%	77%
Fine and Performing Arts	15%	85%	26%	74%	22%	78%
Health Professions	10%	90%	17%	84%	15%	85%
Social Sciences	10%	90%	19%	81%	15%	85%
Physical Sciences	12%	88%	21%	79%	15%	85%
Education	8%	92%	17%	83%	14%	86%
Life Sciences	13%	87%	14%	86%	14%	86%
Health, Fitness & Kinesiology	6%	94%	15%	85%	10%	90%
Natural Resources	7%	94%	9%	91%	8%	93%
Computing Science	6%	94%	0%	100%	5%	95%
Engineering	3%	97%	7%	93%	3%	97%
Business	1%	99%	5%	95%	3%	97%
Law	0%	100%	4%	96%	2%	98%
Total	**8%**	**92%**	**18%**	**82%**	**14%**	**86%**

such as Humanities, Fine and Performing Arts, Health Professions, and Social Sciences.

Figure 20 examines self-employment, more popular with men (10%) than women (6%). The average self-employment rate has increased slightly from 7.8% at one year out to 8.0% at five years out. This may be due to lack of suitable employment opportunities or to a preference for self-employment. The evidence regarding increased self-employment suggests that self-employment is more associated with enhanced labour market outcomes than with limited availability of regular paid positions (the median salary of this study's full-time self-employed respondents was $15,000 higher than that of the full-time paid worker).

Figure 20: Self-employment by Program



As shown in Figure 20, the patterns by program showed a high rate of self-employment for graduates of Fine and Performing Arts (22%); Law (16%, reflecting the private practice option); Health, Fitness, and Kinesiology (14%); and Natural Resources (14%). Perhaps contrary to the expectations of entrepreneurial-minded Business graduates, Business is not among the programs in the higher range of self-employment, but rather in the middle range with only 10% of graduates self-employed. Education (1%), Engineering (4%), and the Health Professions (6%) were

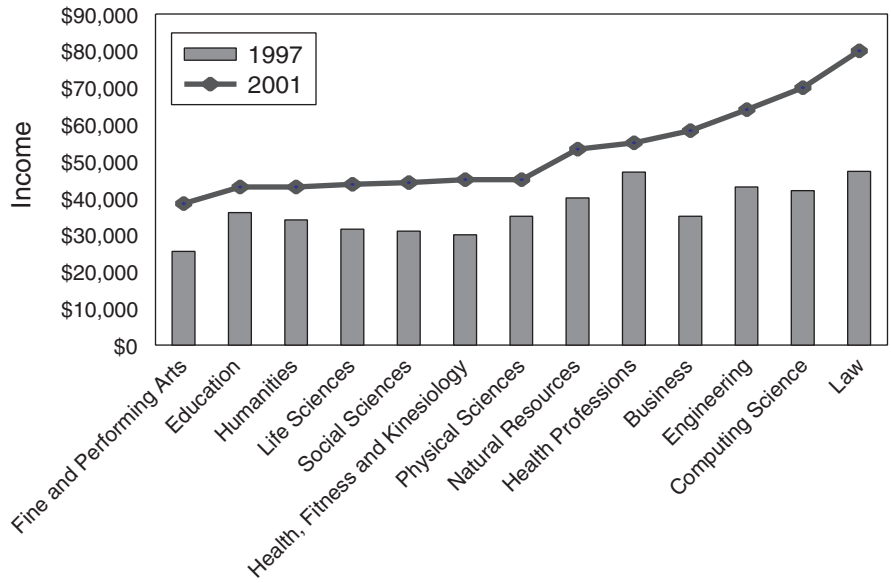
characterized by relatively low rates of self-employment, due to the high number of Education and Health Professions graduates working for the government.

EARNINGS

Earning differences between self-employed and paid workers were beneficial for self-employed graduates. Full-time, self-employed graduates' average income was $86,125 (median income was $60,000), while full-time paid workers earned on average $52,479 (and a median $45,000).

Figure 21 shows median annual income for all respondents by program. Five years after graduation, Law ($80,000), Computing Science ($70,000), Engineering ($64,000), and Business ($58,000) had the highest salaries. Graduates making the lowest salaries were from Fine and Performing Arts ($38,500), Education ($43,000), and Humanities ($43,000). Only students who participated in both the 1997 and the 2001 surveys were included.

Figure 21: Median Income by Program (full-time)



Quite disappointingly, a gender gap could be seen at five years out of university as the median annual income of full-time employed women ($44,000) was considerably less than men ($50,000). Women are more often employed part-time, and women-dominated programs, such as Humanities, Education, Fine and Performing Arts, and Social Sciences, often lead to less lucrative employment. The undervaluing of women is most evident, however, when examining incomes of students graduating from male-dominated programs: Business (86% male), Computing Science (81% male), and Physical Sciences (64% male). The income for full-time men is consistently higher than that for full-time women:

	Men (full-time)		**Women (full-time)**	
	Median	*Mean*	*Median*	*Mean*
Engineering	$65,000	$84,981	$53,250	$62,648
Computing Science	$72,500	$82,872	$64,500	$70,337
Physical Sciences	$45,000	$52,586	$42,000	$47,276

In regard to equity group membership, the median annual incomes of visible minorities ($47,000), Aboriginals ($45,000), and persons with disabilities ($45,000) were similar to the average income range of graduates who were not part of an equity group ($45,000).

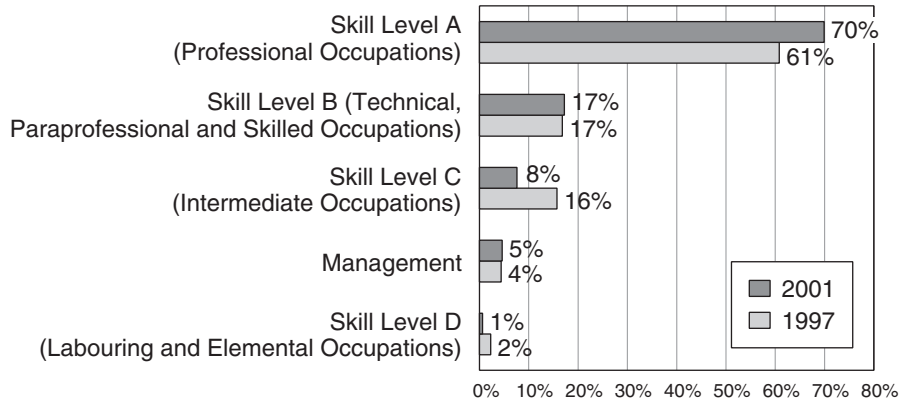
The median annual income of graduates employed full-time rose significantly from $33,000 one year after graduation to $46,000 five years after graduation. The largest increases in terms of dollars earned were in the higher income ranges: Computing Science (increased by $24,000), Health Professions (increased by $19,000), and Business (increased by $15,000). In percentage terms, large increases were seen for Fine and Performing Arts graduates (59% increase), Computing Science (57%), and Health, Fitness, and Kinesiology (47%). The lowest increases in earnings were seen for Law (14%), Engineering (15%), and Physical Sciences graduates (17%). These increases far exceed concomitant increases in wage inflation over the same period (5.7%).

The large disparity we saw between men's and women's incomes has been exacerbated over time: men's income advantage over women has increased from a +$2,000 advantage at one year out to a +$5,000 advantage at five years out.

SKILL LEVELS OF OCCUPATIONS

Graduates' high income relative to the Canadian average ($32,026 for full-time women, $45,800 for full-time men) can be further examined by looking at the skill level of graduates (see Figure 22). The majority of graduates (70%) worked in professional occupations at five years out. This skill level has remained stable as 87% of graduates in professional occupations at one year out have remained in professional occupations at five years out.

Figure 22: Skill Level over Time



As well, the number of graduates in professional occupations has increased from one year after graduation (62%) to five year after graduation (70%), with graduates in labour and elemental occupations, intermediate occupations, and technical paraprofessional and skilled occupations moving into professional occupations (see Table 7).

Besides professional occupations, most graduates worked in technical, paraprofessional and skilled occupations (17%) and intermediate occupations (8%). Unlike the graduates working in the other skill levels, the majority of those in technical, paraprofessional and skilled

Table 7: Skill Level Change Over Time (1 year out and 5 years out)

1997		2001 Management	Skill Level A	Skill Level B	Skill Level C	Skill Level D	Total
Management	4.3%	27.1%	39.1%	24.8%	8.3%	0.8%	100%
Skill Level A (Professional Occupations)	62.4%	2.3%	86.8%	8.1%	2.7%	1.0%	100%
Skill Level B (Technical, Paraprofessional & Skilled Occupations)	16.2%	7.2%	38.8%	41.9%	11.5%	6.0%	100%
Skill Level C (Intermediate Occupations)	14.9%	6.1%	44.4%	22.1%	26.3%	1.1%	100%
Skill Level D (Labouring & Elemental Occupations)	2.1%	3.1%	42.2%	37.5%	9.4%	7.8%	100%
Total	100.0%	4.8%	69.7%	17.0%	8.0%	5.0%	100%

occupations did not move into professional occupations by within five years of graduation. Although the percentage of graduates in technical, paraprofessional and skilled occupations remained constant from one year to five years out, Figure 22 shows that the percentage of graduates in intermediate occupations declined considerably, dropping from 16% in 1997 to 8% in 2001. As expected by the limited managerial positions available, few graduates worked in management (5%) both one year and five years after completing their bachelors degrees. Even fewer graduates worked in labouring and elemental occupations (1%); of those working in labouring and elemental occupations at one year out, only 7.8% remained in this occupational level five years after graduation.

TYPES OF OCCUPATIONS

Figure 23 examines graduates' occupational skill types. The majority of graduates at the professional occupational skill level had jobs in social sciences, education, and government services (59.7%). Despite popular belief, liberal arts graduates (Humanities, Social Sciences, and Life Sciences) are not more likely to end up in sales or service occupations and are employed in all occupation types at much the same rate as other graduates: 43% in social sciences, education, and government, 17% in business, and 11% in natural sciences.

Figure 23: Skill Type over Time

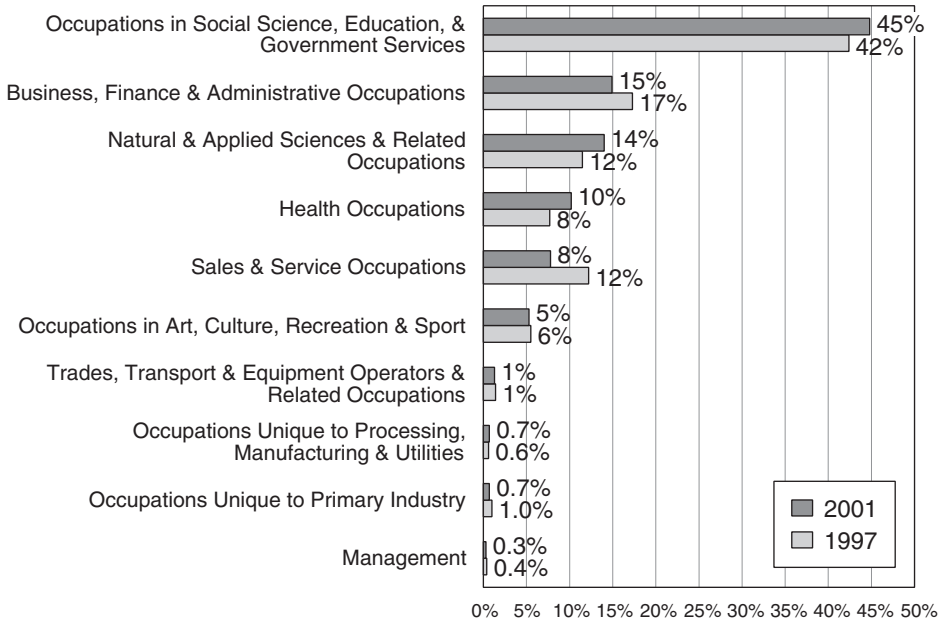


Table 8 shows that graduates working at the professional skill level were in a variety of occupations, including those in business, finance and administration; natural and applied sciences and related areas; health; social science, education, and government services; and art, culture, recreation and sport. Graduates in trades, transport and equipment operators and related occupations; and occupations unique to primary industry were mainly in technical, paraprofessional and skilled occupations. Those in management and occupations unique to processing, manufacturing and utilities were primarily at the management skill level.

Table 8: Skill Type and Skill Level

Skill Type	Skill Level: Management	Skill Level A (Professional Occupations)	Skill Level B (Technical, Paraprofessional & Skilled Occupations)	Skill Level C (Intermediate Occupations)	Skill Level D (Labouring & Elemental Occupations)	Total
Management	100.0%	0.0%	0.0%	0.0%	0.0%	100%
Business, Finance & Administrative Occupations	6.1%	45.7%	22.2%	26.0%	0.0%	100%
Natural & Applied Sciences & Related Occupations	1.4%	66.9%	31.7%	0.0%	0.0%	100%
Health Occupations	2.1%	87.1%	7.7%	3.1%	0.0%	100%
Occupations in Social Science, Education, Government Services	0.1%	93.3%	6.6%	0.0%	0.0%	100%
Occupations in Art, Culture, Recreation & Sport	5.2%	58.3%	36.5%	0.0%	0.0%	100%
Sales & Service Occupations	23.5%	0.0%	32.2%	38.8%	5.5%	100%
Trades, Transport & Equipment Operators & Related Occupations	38.7%	0.0%	40.3%	17.7%	3.2%	100%
Occupations Unique to Primary Industry	3.2%	0.0%	87.1%	6.5%	3.2%	100%
Occupations Unique to Processing, Manufacturing & Utilities	45.0%	0.0%	20.0%	20.0%	15.0%	100%

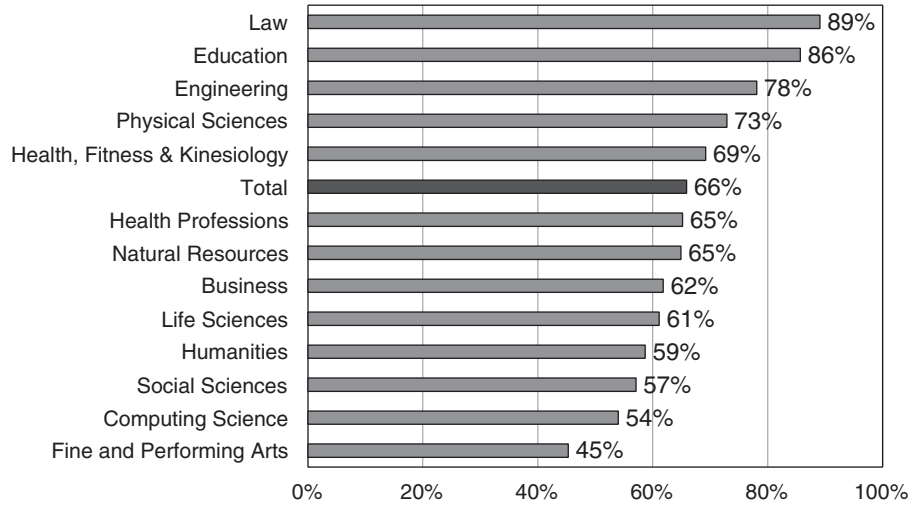
Even in the Sales and Service area - a traditionally low-skilled area, over half of the graduates are classified as management or professional and technical workers.

DEGREE APPLICABILITY

To determine the value of graduates' education, survey participants were asked if their employer had required them to have a bachelors degree in order to perform their main job. Those respondents whose jobs did require a bachelors degree were primarily graduates of professional programs such as Law, Education, and Engineering. On average, 66% of

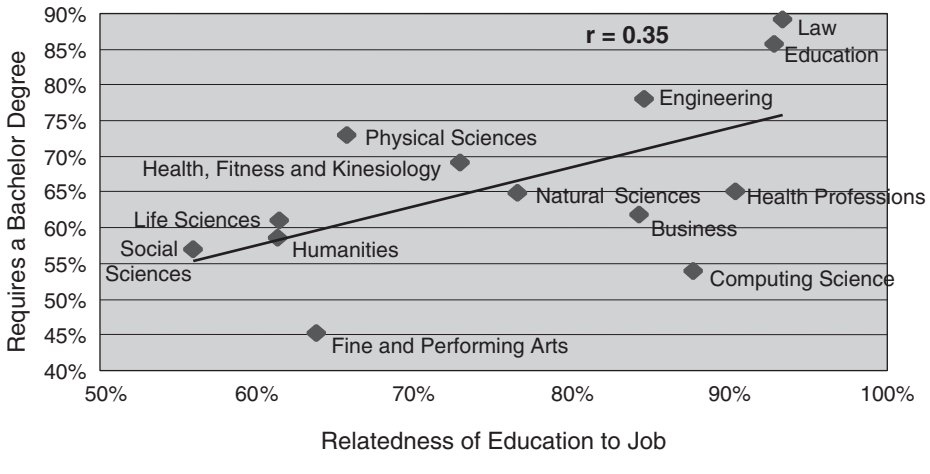
graduates had jobs requiring a bachelors , with Law being the highest at 89%, and Fine and Performing Arts the lowest at 45% (see Figure 24).

Figure 24: Job Requires a Bachelor Degree



Over half of the graduates had jobs that were somewhat or very related to their education. Graduates with jobs requiring a bachelors degree tended to be in occupations more related to their education ($r = 0.35$, $p < .0001$). As with jobs that required a bachelors degree, Law and Education

Figure 25: Job Requires a Bachelor Degree Versus Relatedness of Education to Job



graduates also had jobs that were the most related to their program (93%). Figure 25 shows that the liberal arts, such as Humanities, Social Sciences, and Life Sciences, had the lowest relatedness of education to job and the lowest proportion of graduates in jobs that required a degree.

SKILLS USED AT WORK

In order to assess the relevance of graduates' skills to their employment, we asked respondents to rate the extent to which they used certain skills at work. As shown in Figure 26, all of these basic skills were used to some or to a great extent in over 85% of the cases (with the expected exception of mathematical modelling, used by only 44% of graduates to any extent). The skills most frequently used when performing duties at work were related to communication abilities, specifically the ability to verbally express opinions, resolve issues or problems, and work collaboratively with others.

Figure 26: Skills Used at Work

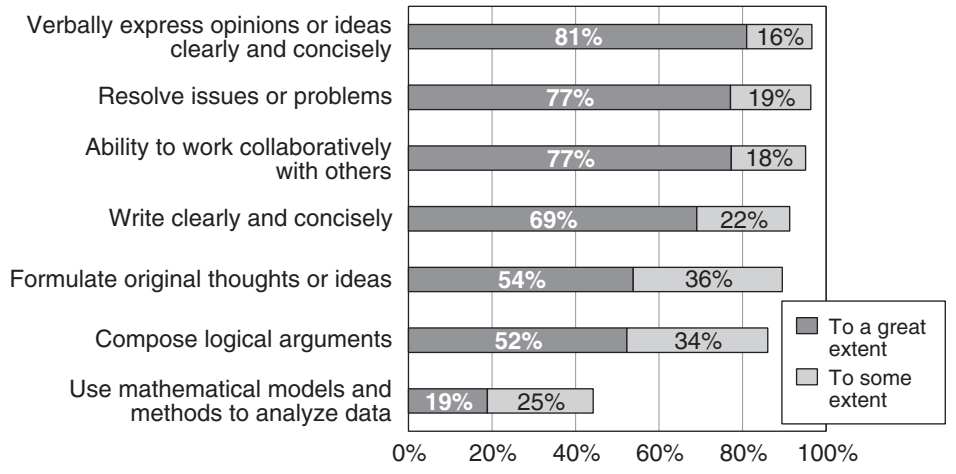


Table 9 shows the programs whose graduates were most likely to use these skills at work. Overall, graduates of Education (90%), Engineering (89%), and Business (89%) were most likely to use all of these skills to some or to a great extent in their jobs. The data also shows that irrespective of discipline, university graduates are well-equipped with

the broad range of skills needed in the workforce with all of these basic skills used to some or to a great extent (with the expected exception of mathematical modelling).

Table 9: Skills (use to some or to a great extent) by Program

	Verbally express opinions	Write clearly & concisely	Formulate original thoughts or ideas	Resolve issues or problems	Compose logical argu-ments	Use mathe-matical models & methods to analyze data	Work collabora-tively with others	Total
Fine and Performing Arts	95%	81%	86%	93%	75%	29%	96%	79%
Computing Science	93%	89%	94%	94%	86%	38%	87%	83%
Engineering	97%	95%	93%	97%	95%	52%	96%	89%
Education	98%	95%	94%	98%	90%	55%	97%	90%
Law	100%	98%	97%	100%	99%	22%	96%	88%
Health Professions	99%	95%	85%	97%	88%	38%	98%	86%
Health, Fitness & Kinesiology	96%	86%	89%	96%	84%	41%	95%	84%
Business	96%	92%	90%	96%	90%	64%	93%	89%
Natural Resources	91%	89%	89%	93%	89%	43%	96%	84%
Social Sciences	96%	90%	88%	96%	83%	37%	95%	83%
Humanities	97%	88%	87%	96%	81%	36%	93%	82%
Life Sciences	96%	90%	90%	96%	86%	49%	96%	86%
Physical Sciences	97%	71%	89%	95%	92%	66%	95%	86%
Total	97%	91%	90%	96%	86%	44%	95%	86%

SOCIAL ENGAGEMENT

A university education affects the whole individual: it provides not only job skills and related knowledge, but also contributes to personal development and a developed awareness of one's place in society. An individual's productive relationship to society (one that facilitates coordination and cooperation for mutual benefit) has been labelled "social engagement" by researchers. Recent research has raised the concern that North Americans are becoming less socially engaged (i.e. less volunteering, less membership in charitable organizations, less politically active, etc.). Robert Putnam (1995), perhaps the best-known writer on this subject, has illustrated the changing patterns of social engagement by tracing the decline of activities and organizations that play a role in social, political, and civic participation.

The patterns of social engagement are changing despite the increase in an educated populace, education being the best predictor of civic participation (Ehrlich, 2000). In some respects the level of engagement can be seen as an outcomes measure for the post-secondary system, as well as a baseline for the future, as universities, through service learning and other innovative programs, attempt to enhance and develop this important aspect of the university education.

VOLUNTEERING

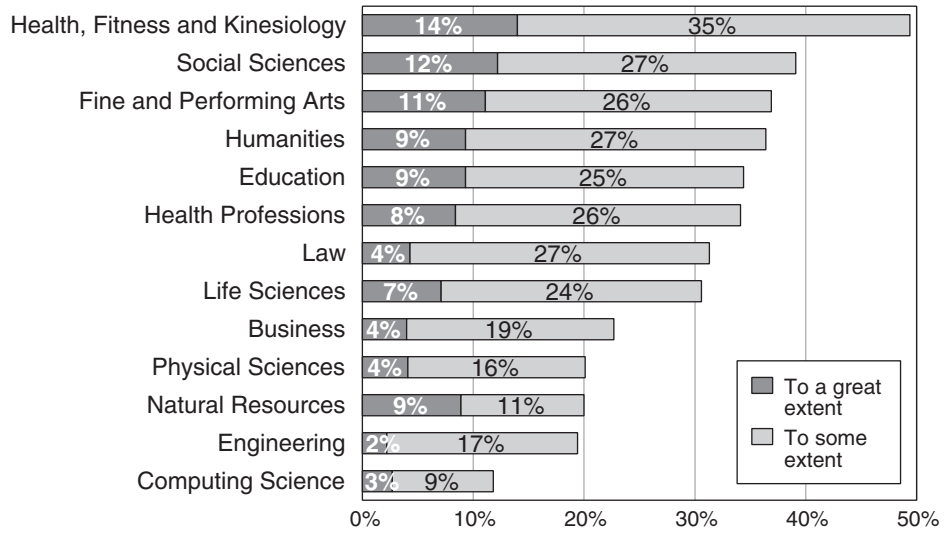
Graduates were asked about their volunteering activities, charitable donations, and group involvement. Educational attainment proved to be a strong indicator of civic engagement. This may be due to the fact that educated individuals are more likely to understand that their communities have real needs and that they can take action on a personal level to help meet those needs.

Volunteer rates significantly increase with level of education. Over half of the university graduates (59%) acted as an unpaid volunteer for an organization, fundraising campaign, association, or event in the last 12

months. Graduates' high volunteer rate was partly due to the inspiration from their university education. Graduates who were motivated to volunteer as a result of their education were more likely to act as a volunteer ($r = .77$, $p < 0.01$).

Figure 27 shows that the extent to which graduates were motivated to volunteer varied by program. Almost half of the graduates from Health, Fitness and Kinesiology (49%) were motivated by their education to volunteer. The other programs that highly motivated graduates to volunteer were Social Sciences (39%), Fine and Performing Arts (37%), and Humanities (36%). Graduates who were least likely to be inspired by their education to volunteer were all in science programs—Physical Sciences (20%), Natural Resources (20%), Engineering 19%, and Computing Science (12%).

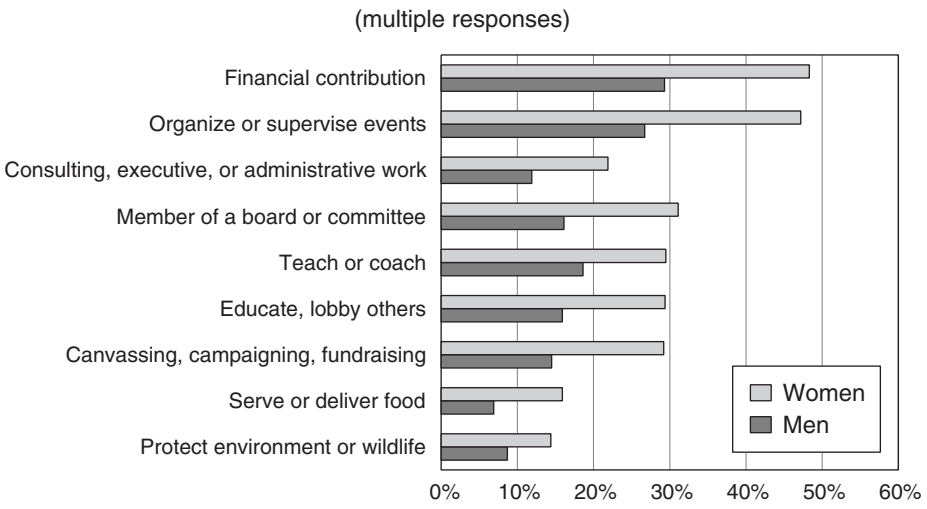
Figure 27: Proportion Motivated to Volunteer because of Education by Program



Gender also determined the extent to which graduates both volunteered and were motivated to volunteer because of education. More women (37%) than men (28%) said education has motivated their volunteerism, and more women (61%) than men (55%) volunteered. Figure 28 shows that this is true for many types of volunteering, including

more traditional contributions by men, such as making financial donations and acting on boards or committees. On average, women volunteered 13% more than men, with women especially favouring volunteering that involved canvassing, campaigning, and fundraising; acting as a member of a board or committee; organizing or supervising events; and making financial contributions.

Figure 28: Proportion that Volunteer by Gender and Type



The likelihood of graduates volunteering in the past 12 months was influenced by equity group membership. Graduates who belonged to a visible minority group volunteered significantly less than other graduates, with only 52% of them acting as unpaid volunteer as compared to 60% of graduates that were not part of a visible minority group. In contrast, Aboriginals (73%) and persons with disabilities (61%) volunteered a great deal more than did other graduates.

Volunteer rates differed drastically according to program (see Figure 29). For instance, Computing Science graduates had a very low volunteer rate, with only one-third of graduates doing unpaid work in the last year, as compared to three-quarters of Law graduates. Programs with high-income levels, with the exception of Law, had lower volunteer rates (only about half volunteered among graduates from Engineering,

Business, Physical Sciences, Health Professions, and Natural Resources). Programs in the low-income tier, such as Education, Health, Fitness and Kinesiology, Fine and Performing Arts, Humanities, Social Sciences, and Life Sciences, had much higher volunteer rates, with approximately 62% of graduates volunteering.

Figure 29: Unpaid Volunteer by Program

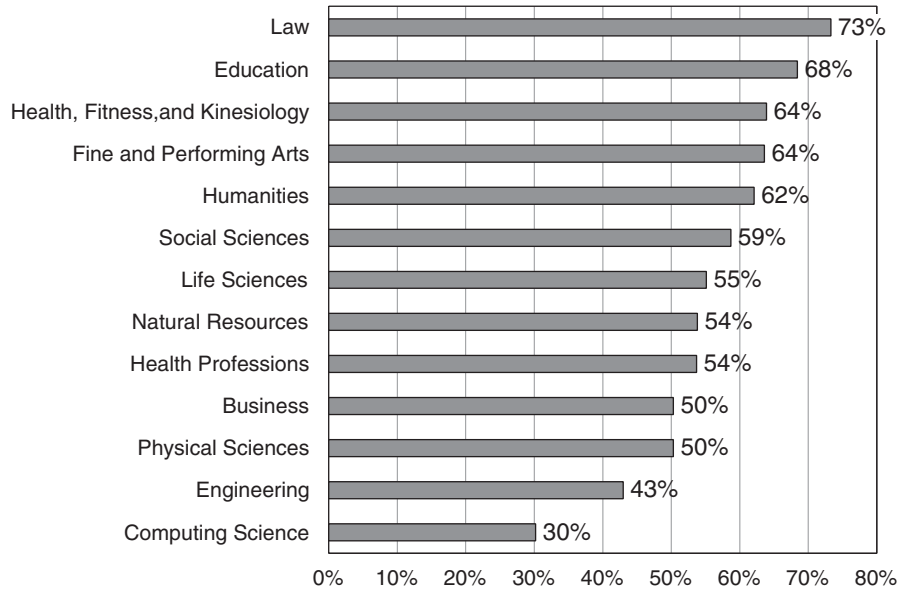


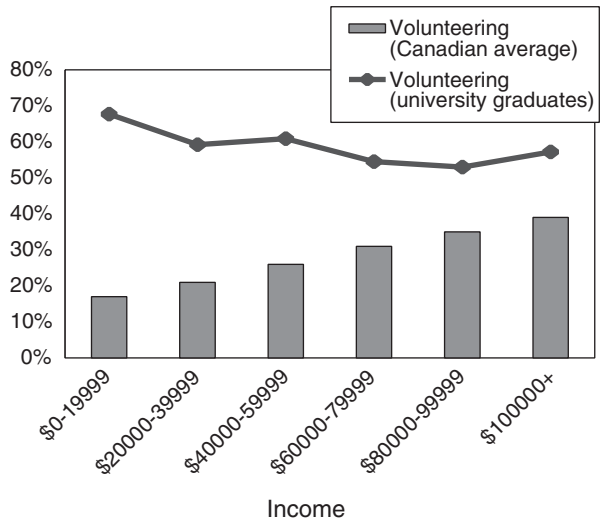
Figure 30 shows the vast difference between the volunteer rates for university graduates as compared to the national average. On average, university graduates volunteered 31% more than other Canadians, and had a higher volunteer rate in all income categories.

More surprisingly, Figure 30 asserts that (for all Canadians) as income rises, volunteerism increases, but that this is untrue of our graduate respondents: those with higher income levels were the *least* likely to volunteer (r = -0.80, p = 0.05). For example, 68% of graduates with incomes below $20,000 volunteered in the last year, as compared to only 57% with incomes above $100,000. It's possible that even at five years out, the majority of survey respondents were still quite young and establishing their careers (even if they're making high incomes).

Graduates may be very much focussed on their jobs, perhaps putting in extremely long hours, and possibly starting families which is very time-consuming—all of which leaves little time for volunteering. The Canadian statistic includes all age groups and probably has people whose careers are better-established and with children a little older, therefore allowing more time for volunteer activities.

Of those that volunteered, the majority (54%) of graduates did so for less than 100 hours in the past 12 months, and 22% of graduates volunteered between 100 and 200 hours. A very socially-engaged 14% of graduates volunteered over 200 hours, with an indefatigable 4% volunteering over 800 hours in the last year.

Figure 30: Proportion that Volunteer by Income: Canadian Average and B.C. University Graduates Average



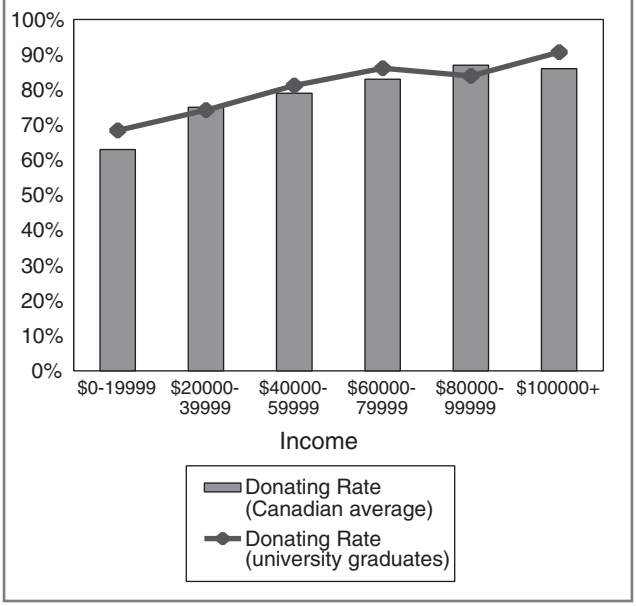
DONATING

The likelihood of making donations to charitable and non-profit organizations did increase with income level (see Figure 31). The highest donation rate among graduates was for income levels above $100,000 (91%), while many of those with salaries below $20,000 still donated (68%). The high donation rate for those with low annual salaries negates the belief that making a charitable donation is totally dependent on the financial capacity to give. Values and attitudes related to giving and opportunities to give also influence the likelihood of making a charitable donation. Unlike the high rates of volunteerism, though, donation rates

were no higher for university-educated respondents than were the rates for the Canadian public.

The median amount donated by graduates in the past year was approximately $200, with the largest donation being $100,000. Almost half the graduates donated between $50 and $250. The other amounts contributed varied considerably, with 14% of graduates donating between $250 and $500, 12% between $500 and $1000, and the other 20% over $1000 (including 6.4% of graduates who donated over $10,000).

Figure 31: Donation Rate by Income: Canadian Average and B.C. University Graduates Average



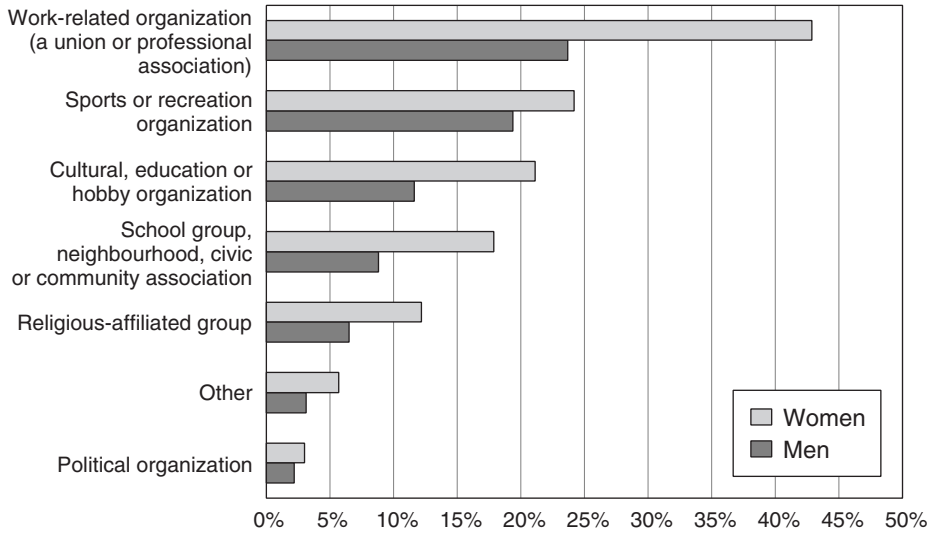
As would be expected, the *amount* contributed increased with income. The majority of graduates that donated over $250 were in the high-income range, whereas the majority of those that donated under $250 were in the low-income range. Although income level is somewhat of a predictor of whether a graduate donates, it is a much stronger predictor of the amount.

COMMUNITY INVOLVEMENT

There were linkages among group involvement and individuals' charity. Graduates that belonged to a group or organization were more likely to donate and volunteer than those that did not ($r = 0.81$, $p = 0.01$). Increased civic participation among graduates would likely lead to greater volunteerism and increased charitable donation. As seen in Figure 32,

most graduates were involved in a work related organization (67%); sports or recreation organization (44%); or cultural, education or hobby organization (33%). Less than a quarter of graduates were involved in a school group, neighbourhood, civic or community association, religious-affiliated group or political organization.

Figure 32: Proportion of Involvement by Gender



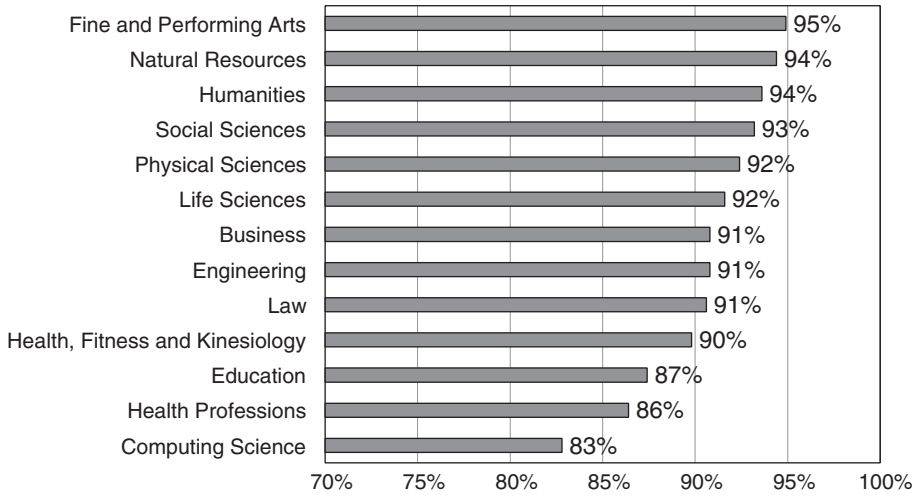
The lowest involvement was seen in political organizations (5%). Other studies of young Canadians (i.e. Putnam, 1995) show a trend toward decreasing interest and involvement in political activities, both of which are needed for a democracy to work. Universities may wish to make a commitment toward civic engagement, either by encouraging social activities in higher education or preparing graduates to become engaged citizens who get involved in and take action to further collective civic goals.

As well, a small percentage of graduates surveyed indicated involvement in religious-affiliated groups (19%). Less involvement in religious groups can partially explain declining community involvement, since religious groups tend to get involved in other groups and charities throughout the community. In fact, graduates affiliated with a

religious group had higher involvement rates in almost all other types of organizations. As Robert Putnam (1995) pointed out, members of associations are more likely than non-members to participate in politics, spend time with neighbours, and express social trust.

As part of the survey, graduates were asked if their life outside work was different today because of their total university experience (see Figure 33). On average, 91% answered affirmatively, with Fine and Performing Arts (95%), Natural Resources (94%), Humanities (94%), and Social Sciences (93%) graduates most affected by their university experience.

Figure 33: Life is Different because of University Experience by Program



Graduates from programs that had jobs more related to their education were least likely to say they had a different life as a result of university ($r = 0.69$, $p < 0.01$). To some extent, there appears to be a trade-off between obtaining highly related job skills through university studies, or having a different life as a result of the educational experience. Evidently graduates from the humanities and social sciences are more likely to think about and respond positively to the non-job related aspects of their education.

CONCLUSION

The 2001 survey results confirm the positive impact of a baccalaureate education for British Columbia's university graduates. Five years after completing their degrees, 95% of respondents indicate that they are satisfied with the university education they received, a view shared by graduates of all four universities involved in the study, and across all programs. Furthermore, 91% feel that their lives today are different as a result of their university education.

The study also highlights the economic advantage enjoyed by graduates of higher education. Five years after graduation their unemployment rate is almost 5% less than the Canadian average, and those employed full-time earn salaries $8,000 higher than the average Canadian. Most importantly, this survey has shown that university graduates are on an upward career and earnings trajectory. Unlike traditional labour force surveys, this survey has shown that a snapshot in time is not adequate to describe the benefits that accrue to university graduates who have learned how to learn. It provides evidence that graduates continue to attain higher levels of training and education, continue to be promoted and move on to higher level jobs, and continue to increase their earnings in excess of inflation.

Significant gender differences emerge with regard to earnings, with female graduates earning $6,000 less annually than their male counterparts. This discrepancy is most obvious for graduates of male-dominated programs such as Engineering, Computing Science and Physical Sciences.

In assessing the merits of a university education, the study also compares the extent to which skills and knowledge obtained match the requirements of the workplace. Over 85% of graduates consistently report that the skills and abilities acquired in the course of their university education are used in the workplace. Furthermore, it's clear that lifelong learning is essential for success in a constantly changing work environment. This reality is confirmed by the fact that 90% of survey respondents have

taken some form of further education within five years of graduating, 62% of whom cite employment-related reasons for returning to school. And despite high levels of satisfaction, 23% of respondents indicate that they would not take the same academic program again, most often citing a lack of career opportunities or their own changed interests.

Another important factor in graduates' success beyond university is the amount of student debt they accrue. The data reveals that only 47% of graduates have incurred debt as a result of their university education, and over half of this group had paid off their loans within five years. Part-time and summer work are the norm for university students. While attending university, 73% of respondents worked to help finance their education, and many relied upon family, friends, and student loans for financial support.

In addition to knowledge and job skills, a university education also plays an essential role in personal development and citizenship. To this end, the survey explores the extent to which this outcome is true for BC's university graduates. University graduates were 31% more likely to volunteer than other Canadians. Contrary to national statistics, however, volunteer rates did not increase with higher incomes. Since income in the Canadian population is so highly correlated with education, this is an indication that it is actually education, and not income per se which has the greatest influence on the likelihood of volunteering.

British Columbia's universities are committed to providing life-long education, and this survey is one of the many ways in which British Columbians can be assured that graduates of their universities are successful in their careers, future learning, and contributions to society. This survey differs from previous surveys in that it also confirms that outcomes of university graduates are not static. Surveyed after 1 year, and again after 5 years, a previously undocumented trend is clear – graduates continue to develop as employees and citizens long after they have left university. This survey is one of many sources of evidence which demonstrate that B.C. University graduates have acquired the tools for economic success and good citizenship; that the university education they received is both relevant and broad enough for today's rapidly changing economy and society.

APPENDIX A: Survey Instrument

Survey Introduction

IQ1: Hello, May I please speak with [fill in respondent's name] who graduated from [name of institution] in 1996?

1. Graduate available **[CONTINUE WITH INTRODUCTION]**
2. Graduate unavailable (No longer living in Canada)
3. Graduate unavailable (Other reason)
4. Left message
5. Wrong telephone number
6. Number not in service
7. Non-interview due to language problems
8. Graduate Deceased

Good morning [afternoon/evening], my name is [interviewer's name] from [name of contractor]. We are contacting 1996 BC university graduates on behalf of [the] [name of university] and the Ministry of Advanced Education to conduct a survey designed to learn more about students' experiences after their university studies. While participation in the survey is voluntary, your answers are important and will be kept strictly confidential. The results will only be used for statistical purposes.

IQ2: May I do the survey with you at this time?

1. *Yes* [GO TO A1]
2. *No*
   <1> Arrange call back appointment
   <2> Refusal
   <3> Language problems

Section A: Confirmation of Survey Eligibility

A1: To confirm, did you obtain a bachelor degree in [name of program] from [name of university] in 1996?
[ALTERNATE WORDING FOR NON-BACHELOR PROGRAMS (I.E. PDP): To confirm, did you graduate from [name of program] at [name of university] in 1996?

1. Yes [GO TO B3]
2. No, wrong program [GO TO A1A]
3. No, wrong university [PROBE, THANK AND TERMINATE]
4. No, did not graduate in 1996 [PROBE, THANK AND TERMINATE]
8. Don't know [PROBE, ELSE THANK AND TERMINATE]
9. Refused [THANK AND TERMINATE]

A1A: From what program did you obtain a bachelor degree?
[RECORD FULL DEGREE NAME, I.E. BACHELOR OF EDUCATION, BACHELOR OF ARTS IN ECONOMICS]
[GO TO B1]

Section B: Education Satisfaction

To begin, the first question is about education satisfaction.

B3: How satisfied are you with the education you received from [name of program] at [name of university]? Would you say…

1. Very Satisfied
2. Satisfied
3. Dissatisfied
4. Very Dissatisfied
8. Don't know
9. Refused

Section C: Education Evaluation

Program Evaluation

C3_5Y: Given your experiences since graduation, would you select [name of program] again?
1. Yes [go to next section]
2. No [go to C3A]
8. Don't know
9. Refused

C3A: Please explain why you would not select the same program again. [INTERVIEWER NOTE: PLEASE ENSURE RESPONDENT UNDERSTANDS WE ARE ASKING FOR PROGRAM SPECIFIC INFORMATION AND NOT GENERAL INSTITUTIONAL INFORMATION]

[RECORD MULTIPLE RESPONSES]
1. Not enough course variety offered
2. Skills acquired were not very useful
3. Courses were poorly taught
4. Program was too general/not enough specialization
5. Courses were not practical (did not reflect/apply to the "the real world")
6. Interests have changed
7. Little or no career opportunities/hard to find a job
8. Do not agree with the grading system
9. Did not like the institution
10. Other (Specify)_____
88. Don't know
99. Refused

Section D: Participation in Further Education

I would now like to ask you some questions about further education and training.

D1: Since graduation, have you taken any other education or training—including programs, courses, workshops, seminars, correspondence or tutorials?
1. Yes
2. No [SKIP TO NEXT SECTION]
8. Don't know [SKIP TO NEXT SECTION]
9. Refused [SKIP TO NEXT SECTION]

D2: Are you currently enrolled in any further education or training?

1. Yes
2. No [GO TO D4]
8. Don't know [GO TO D4]
9. Refused [GO TO D4]

D3: Are you currently enrolled full-time or part-time?

1. Full-time
2. Part-time
8. Don't know
9. Refused

D4: Where did you take, or are you taking, your further education or training?
[RECORD MAXIMUM 2 RESPONSES]

1. University
2. College, university college or institute
3. Private training school/firm
4. Professional Association
5. Correspondence School
6. Private tutoring
7. Other [Specify]_____
8. Employer
88. Don't know
99. Refused

D5: What was the primary or main reason why you enrolled in further education or training at *[CATEGORY FROM D4]*?
[INTERVIEWER IF RESPONDENT ASKS FOR CLARIFICATION THEN READ: BY PRIMARY OR MAIN GOAL WE MEAN A CLEAR AND IDENTIFIABLE AIM OR OBJECTIVE TO REACH; A SINGLE REASON MORE IMPORTANT THAN OTHER REASONS]
[RECORD ONLY ONE RESPONSE]

1. Pursue another Bachelor degree
2. Pursue Masters studies
3. Pursue Doctoral studies
4. Career/job/employment related
5. Challenge myself intellectually
6. To please parents/family
7. Did not have a primary or main reason for enrolling
8. Required by employer
9. Other [Specify]
88. Don't Know
99. Refused

D6: As a result of your further training activity, can you please identify what kind of credential(s), if any, you obtained or will eventually obtain?

[RECORD MULTIPLE RESPONSES]

1. Bachelor Degree
2. Master Degree
3. Doctorate (PhD. D.Sc., MD, etc.)
4. Community College certificate or diploma
5. Registered Apprenticeship or Technical Diploma
6. Professional Association Diploma, Certificate or License
7. Non-Professional Health Certificate (i.e. CPR, First Aid, etc.)
8. Other: (Specify)
9. None
88. Don't know
99. Refused

Section E: Labour Market Participation

I would now like to ask you some employment-related questions

E1: Are you Currently working at a paid job or a business?

1. Yes [GO TO E2]
2. No [GO TO E16]
8. Don't know [GO TO NEXT SECTION]
9. Refused [GO TO NEXT SECTION]

Employed Questions E1=Yes

E2: Are you a paid worker or are you self-employed?

1. Paid worker
2. Self-employed
3. Both a paid worker and self-employed
8. Don't know
9. Refused

E3: Are you currently employed at more than one job or business?

1. Yes [GO TO E4]
2. No [GO TO E5]
8. Don't know [GO TO E5]
9. Refused [GO TO E5]

E4: How many jobs do you currently have?

NUMBER OF JOBS: _____

88. Don't know
99. Refused

E5 Introduction*: The next set of questions relates to your main job or business, that is, the job or business at which you normally work the most hours. [Interviewer Note (read if necessary): The answers provided here will be used to help universities better understand the kind of occupations and the kinds of industries in which graduates find employment. Again, the information you provide will be treated as strictly confidential and please be assured that your employer will not be contacted.]*

E5: What is your job title?
[INTERVIEWER NOTE: QUESTION REFERS TO MAIN JOB ONLY. OBTAIN FULLY DETAILED DESCRIPTION: ELEMENTARY SCHOOL TEACHER, HIGH SCHOOL TEACHER, SOCIAL SCIENCE RESEARCH ANALYST, ENGINEERING RESEARCH ANALYST…].
88. Don't know
99. Refused

E6: What are your main duties?
[INTERVIEWER NOTE: QUESTION REFERS TO MAIN JOB ONLY. OBTAIN FULLY DETAILED DESCRIPTION OF MAIN DUTIES PERFORMED.]
88. Don't know
99. Refused

E7: What is the name of the business where you work?
[INTERVIEWER NOTE: RECORD FULL NAME OF BUSINESS, GOVERNMENT DEPARTMENT, OR AGENCY]
88. Don't know
99. Refused

E8: What kind of business, industry or service is this? (E.g. retail shoe business, aerospace industry, forestry or health services.)
[INTERVIEWER NOTE: RECORD FULL DETAIL OF THE KIND OF BUSINESS, INDUSTRY OR THE SERVICE, AND WHETHER OR NOT IT IS A PUBLIC OR PRIVATE SECTOR BUSINESS]
88. Don't know
99. Refused

E9A: Does your employer require you to have a bachelor degree to perform your main job?
1. Yes
2. No
7. Not applicable: self-employed
8. Don't know
9. Refused

E10: How related is your main job to the program you graduated from at [name of university]? Would you say…
1. Very Related
2. Somewhat Related
3. Not very Related
4. Not at all Related

Do not read:
8. Don't know
9. Refused

E11: How many hours a week do you usually work at your main job? *[Interviewer note: Statistics Canada considers 30 Hours or more full-time employment.]*

HOURS: _____
RANGE - MINIMUM: 0.00
RANGE - MAXIMUM: 99.90

888. Don't know
999. No response

INTERVIEWER REFERENCE NOTE
For a 5-day work week:
- 6.5 paid hours/day = 32.5 hours
- 7.0 paid hours/day = 35 hours
- 7.5 paid hours/day = 37.5 hours

Employment Skills

I am now going to read you a list of skills. Using the following scale [INTERVIEWER READ SCALE] please identify to what extent you use these skills when performing the duties of your main job.

To what extent do you use [SKILL] when performing the duties of your main job? Would you say [READ LIST]…

This half of the list is read:

1. To a great extent
2. To some extent
3. To a small extent
4. To no extent at all

This half of the list is not read:

5. Not applicable to performing duties of main job
6. Don't know
7. Refused

E19. The ability to verbally express opinions or ideas clearly and concisely
E20. The ability to write clearly and concisely
E21. The ability to formulate original thoughts or ideas
E22. The ability to resolve issues or problems
E23. The ability to compose logical arguments
E24. The ability to use mathematical models and methods to analyze data
E25. The ability to work collaboratively with others

***E12 Introduction**: The next set of questions asks about income. This information will be used to determine how much, on average, university graduates earn five years after completing their studies.*

E12. Which of the following is the best way for you to report the earnings from your main job?…
[INTERVIEWER: READ LIST AND SELECT JUST ONE RESPONSE]

1. Hourly [GO TO E13]
2. Daily [GO TO E12A]
3. Weekly [GO TO E13]
4. Bi-Weekly [GO TO E13]
5. Monthly [GO TO E13]
6. Yearly [GO TO E13]
7. Other (Specify):_____ [GO TO E13]
8. Don't know what earnings are [GO TO NEXT SECTION]
9. Refused to report earnings [GO TO NEXT SECTION]

E12A. How many paid days do you usually work each week?

DAYS: _____

8. Don't know
9. Refused

E13: Working your usual hours, how much do you earn [Category from E12] in **Canadian dollars** at your main job, before deductions not including tips or commissions?

$_____
RANGE - MINIMUM: $0.00
RANGE - MAXIMUM: $999999.99
88. Don't know [IF E12 = 1-5, GO TO E15A AND RECORD ANNUAL SALARY; OTHERWISE CHANGE E12 TO DON'T KNOW]

E14: Approximately how much do you earn in commissions or tips yearly before deductions? [INTERVIEWER NOTE: IF NOT APPLICABLE, THEN ZERO]

$_____ YEARLY ESTIMATE ONLY
RANGE - MINIMUM: $0.00
RANGE - MAXIMUM: $999999.99
88. Don't know 99. Refused

E15: Based on what you have told me, your total expected annual income from your main job before deductions is calculated to be $_____, does that sound about right?

1. Yes [GO TO NEXT SECTION
2. No [GO TO E15A]
8. Don't know/unsure [GO TO NEXT SECTION]
9. Refused [GO TO NEXT SECTION]

E15A: What is your total annual income from your main job before deductions, not including tips and commissions?

$_____
RANGE - MINIMUM: $0.00
RANGE - MAXIMUM: $999999.99
88. Don't know 99. Refused

E15B: Why do you think our calculation of your expected annual salary was incorrect?
[RECORD RESPONSE VERBATIM]
8.Don't Know
9.Refused

Unemployed Questions E1=No

E16: What is the main reason why you are currently not employed at a paid job or business?

1. Permanently or temporarily unable to work due to illness or disability [GO TO NEXT SECTION]
2. Temporary or Seasonal layoff
3. Casual part-time worker
4. Lost or quit job
5. Business conditions (cannot find work/lack of suitable opportunities)
6. Going to school full-time
7. Caring for children full-time
8. Going to school part-time
9. Other personal or family responsibilities
10. Personal preference
11. Retired
12. On a leave of absence from job
13. Lack the skills for the job that I want
14. Just finished school
15. Recently returned to Canada (after traveling, working abroad, etc.)
16. Awaiting work visa
17. Currently a full-time volunteer worker
18. Other [Specify:]
88. Don't know/unsure
99. Refused

E17: Have you actively looked for a job in the past four weeks?

1. Yes
2. No
8. Don't know
9. Refused

E18: Do you have a paid job lined up to start within the next four weeks?

1. Yes
2. No
8. Don't know
9. Refused

Section F: Education Financing

The next set of questions deals with the issue of education financing.

FF1: Students pay for their education in many different ways. Can you please identify the most important or primary source of funding that you relied on to help pay for the educational program you completed in 1996?

[CLARIFICATION NOTE (IF NECESSARY)*: Primary source of funding relates to how you paid for your education, such as personal savings, employment or student loans and the financial source you relied on most to cover your expenses (i.e. tuition, books, food, lodging)*]

[RECORD ONLY ONE RESPONSE]

1. Personal savings
2. Employment
3. Family/Friends
4. Bank Loans
5. Student Loans
6. Scholarships/Bursaries/Grants
7. Other (Specify)_____
88. Don't know
99. Refused

FF1A: Approximately how much, in percentage terms, did this primary source of funding help to cover the costs of your education? [INTERVIEWER: LEAVE BLANK IF DON'T KNOW OR REFUSED]
[PERCENTAGE]:_____ [If FF1A=100% then go to FF3].

FF2: If applicable, can you please identify the second top source of funding that you relied on to help pay for the educational program you completed in 1996?

[CLARIFICATION NOTE (IF NECESSARY)*: Second top source of funding relates to how you paid for your education, such as personal savings, employment or student loans and the second financial source, if any, you relied on most to cover your expenses (i.e. tuition, books, food, lodging)*]

[RECORD ONLY ONE RESPONSE]

1. Personal savings
2. Employment
3. Family/Friends
4. Bank Loans
5. Student Loans
6. Scholarships/Bursaries/Grants
7. Other (Specify)_____
88. Don't know
99. Refused

FF2A: Approximately how much, in percentage terms, did this second source of funding help to cover the costs of your education? [INTERVIEWER: LEAVE BLANK IF DON'T KNOW OR REFUSED]
[PERCENTAGE]:_____

FF3: Based on what you have told me, your top source(s) of funding covered ___% of the costs of your education. Does that sound about right? [INTERVIEWER: % DOES NOT HAVE TO EQUAL 100% BUT IT MUST NOT EXCEED 100%]

1. Yes
2. No [GO BACK AND REVISIT PERCENTAGES PROVIDED AND FIX]
88. Don't know/unsure
99. Refused

F2: How much financial debt did you incur to pay for the educational program that you completed in 1996 at [name of university]?

[CLARIFICATION NOTE (IF NECESSARY)]: *Financial debt includes student loan debt as well as other personal loans/debts incurred to cover education and living expenses associated with the education program you completed in 1996*]

1. RECORD VALUE ($0.00 - $999999)
888888. Don't know
999999. Refused

F3: Approximately how much government student loan debt—the amount remaining after loan remission—did you incur to pay for the educational program that you completed in 1996?

RECORD VALUE ($0.00 - $999999) [IF ZERO THEN GO TO NEXT SECTION]
888888. Don't know [GO TO NEXT SECTION]
999999. Refused [GO TO NEXT SECTION]

F4: Approximately, how much of your government student loan from you 1996 program do you still have left to repay?

RECORD VALUE ($0.00 - $999999)
888888. Don't know
999999. Refused

If F4=0.00, then loan has been paid off, no debt

Section I: Special Questions on Graduates Contributions to Society

This next question relates to your university experience.

I1: Aside from your job, is your life different today because of your total university experience?
1. Yes [go to I1A]
2. No
3. Don't know/Unsure
4. No response

I1A: Could you please explain how your life is different?
[RECORD RESPONSE VERBATIM]

The universities of BC would like to learn how involved graduates are in their communities. This next set of questions deal with unpaid volunteer activities done as part of a group or an organization in the past 12 months.

I2 Intro: In the past 12 months have you acted as an unpaid volunteer for any type of organization, fundraising
campaign, association, or event?
1. Yes [go to I2]
2. No [go to next section]
8. Don't know [go to next section]
9. Refused [go to next section]

I2. In the past 12 months, as an unpaid volunteer for an organization did you...

1. Yes
2. No
3. Don't know
4. Refused

I2a. do any canvassing, campaigning or fundraising
I2b. serve as an unpaid member of a board or a committee
I2c. provide information or help to educate, influence public opinion, or lobby others
I2e. help to organize or supervise activities or events for an organization
I2f. do any consulting, executive, office or administrative work
I2g. teach or coach for an organization
I2h. collect, serve or deliver food or other goods
I2i. engage in any activities aimed at protecting the environment or wildlife

I2j. [If "yes" to any in I2] In the past 12 months, approximately how many hours did you contribute to volunteering?

[HOURS:]_____

Don't Know
99. Refused

I3. Have you made any financial contributions to a charitable or non-profit organization, in the past 12 months?
Yes [go to I3a]
No
Don't Know
Refused

I3a. Approximately how much did you contribute financially to charitable or non-profit organizations in the past 12 months?

RECORD VALUE ($0.00 - $999999)
888888. Don't know
999999. Refused

This next set of questions deal with organizations where you are a member or a participant.

I4. Are you a member or participant in…

1. Yes
2. No
3. Don't Know
4. Refused

I4a. a work-related organization such as a union or professional association
I4b. a political organization
I4c. a cultural, education or hobby organization
I4e. a sports or recreation organization
I4f. a religious-affiliated group
I4g. a school group, a neighbourhood, civic or community association

I5. Are you a member or a participant in an association or organization not related to the types of associations or organizations I just identified?
Yes [go to I5a]
No
8. Don't know
9. Refused

I5a. Please identify the type of organization to which you belong?

[RECORD REPONSE VERBATIM]

I6. To what extent did your university education motivate you to undertake volunteer work?
This half of the list is read:
1. To a great extent
2. To some extent
3. To a small extent
4. To no extent at all
This half of the list is not read:
5. Not applicable
6. Don't know
7. Refused

Section G: Demographic and Equity

The last set of questions asks for some demographic information.

G1: While you were in university, and to this day, do you have a long-term physical or mental health condition that limits the kind of activity that you can perform on a daily basis?
1. Yes
2. No
8. Don't know
9. Refuse

G2: Are you an aboriginal person? An aboriginal person is someone of native descent; that is, an individual who is either Inuit, Metis, or North American Indian—either status or non-status.
1. Yes
2. No
8. Don't know
9. Refused

G3: Are you part of a visible minority group in Canada? Some visible minority groups in Canada include individuals of African descent, East Asian [China, Japan, Korea], Southeast Asian [Thailand, Vietnam, Cambodia], Indo-Pakistani, or Middle Eastern.
1. Yes
2. No
8. Don't know
9. Refused

G4: To confirm our records, is [date of birth] your correct date of birth?
[TECHNICAL NOTE: If no birth date provided in the record then skip to G4A]
1. Yes
2. No [GO TO G4A]
8. Don't know
9. Refused

G4A: What is your date of birth?
[ENTER BIRTH DATE – MM-DD-YY]
88-88-88. Don't know
99-99-99. Refused

5Y_G5: To confirm for our records, is the following postal code that we have for you correct?
[READ POSTAL CODE]
1. Yes, postal code is correct [GO TO G5B]
2. No [GO TO G5A]
8. Don't know [GO TO G5A]
9. No Response [GO TO G5A]

G5A: What is your correct address?
Street Address_____
City_____
Province_____
Postal Code_____

G5B: May I confirm your phone number? [SELECT FROM LIST. SURVEYOR NOTE: IF THE PHONE NUMBER YOU REACHED THE RESPONDENT AT IS LISTED HERE, PLEASE ONLY READ OUT THAT PHONE NUMBER.]
1. Ph 1 (mail_tel)
2. Ph 2
3. Ph 3 (perm_tel)
4. Ph 4
5. Ph 5 (cont_tel)
6. Another phone number (Specify:) _____
9. Refused

G6, third-party contact information for five-year follow-up, has been deleted.

G7: The Alumni Association at [name of university] would like to be able to contact former graduates to provide them with information about activities and special events occurring at the university. Do we have your permission to pass your address information on to the Alumni Association?
1. Yes
2. No
8. Don't know
9. Refused

This concludes the questions. Thank you very much for taking the time to go through the survey with me today. [Only read if respondent asks: If you would like to learn more about the BC University Baccalaureate Graduates Survey, and how the result are used, the University Presidents' Council web site can provide you with more information. The web site address is: www.tupc.bc.ca.**]**

APPENDIX B: Classification of Instructional Programs (CIP) and Survey Respondents

The Classification of Instructional Programs (CIP) provides a comprehensive and detailed standard for reporting graduate outcomes by program area. This classification system has been adopted by Statistics Canada and many other government reporting agencies in the United States.

The CIP coding scheme is organized on three levels: 2-digit series, 4-digit series, and 6-digit program code. The 2-digit series is a logical grouping of related programs. The 4-digit series is an intermediate aggregation of programs with comparable program content and objectives. The 6-digit program code is the most detailed program classification within the classification system and represents a single instructional program.

Example:
The 6-digit CIP code for Biochemistry is 26.0202.
The 4-digit intermediate aggregation is Biochemistry, Biophysics and Molecular Biology (26.02).
The 2-digit logical grouping is Biological and Biomedical Sciences (26).

Since 1995, B.C. university graduate survey results have been classified into one of eight different program areas, independent of the CIP coding structure. These program areas included Arts, Applied Sciences, Business, Education, Fine and Performing Arts, Health, Science, and Social Professions. Starting with the 2000 survey results, the University Student Outcomes Project has classified the respondents according to the CIP coding scheme. For this report, the 2-digit logical groupings have been further aggregated into fifteen Program Classifications to reduce the total number of program areas and to increase the number of respondents in any one program area for reporting purposes. Of the fifteen Program Classifications created, thirteen are reported. Table 1 describes the aggregation of 2-digit CIP's into the fifteen USOP Program Classifications.

Table 1: USOP Program Classification Scheme
Derived from an Aggregation of 2-Digit CIP's

USOP Program Classification	Description	2-digit CIP
Business	Marketing Operations/Marketing and Distribution	08
	Business Management and Administrative Services	52
Computing Science	Computer and Information Sciences	11
Education	Education	13
Engineering	Engineering	14
Fine and Performing Arts	Visual and Performing Arts	50
Health Professions	Health Professions and Related Sciences	51
Health, Fitness and Kinesiology	Parks, Recreation, Leisure and Fitness Studies	31
Humanities	Area, Ethnic and Cultural Studies	05
	Foreign Languages and Literatures	16
	English Language and Literature/Letters	23
	Liberal Arts and Studies, General Sciences and Humanities	24
	Philosophy and Religion	38

(continued on next page)

Law	Law and Legal Studies	22
Life Sciences	Biological Science/Life Sciences	26
Natural Resources and Agriculture	Agricultural Sciences	02
	Conservation and Renewable Natural Resources	03
Physical Sciences	Mathematics	27
	Physical Sciences	40
Social Sciences	Communication	09
	Home Economics, General	19
	Psychology	42
	Public Administration and Services	44
	Social Sciences and History	45
Architecture	Architecture and Related Programs	04
Inter-disciplinary Studies	Multi/Interdisciplinary Studies	30

Notes: a) Architecture and Inter-disciplinary Studies programs are not reported.

The above aggregation of CIP's includes programs from which graduates of the 1996 class are represented. This aggregation is subject to change in future surveys as the composition of graduates by program area expands or changes.

The number of survey respondents by Program Classification and by University is displayed in Table 2.

Table 2: Respondents by Program Classification by University

	Respondents				
Program Classification	UBC	SFU	UVic	UNBC	BC System
Business	157	142	79	9	387
Computing Science	47	33	37		117
Education	410	332	182		924
Engineering	165	9	58		232
Fine & Performing Arts	79	31	90		200
Health Professions	199		137	7	343
Health, Fitness & Kinesiology	86	49	32		167
Humanities	250	260	168	12	690
Law	68		49		117
Life Sciences	310	71	137	*1*	519
Natural Resources and Agriculture	88		*1*	*3*	92
Physical Sciences	96	33	42	*2*	173
Social Sciences	454	512	510	12	1488
Grand Total	**2,409**	**1,472**	**1,522**	**46**	**5,449**

Notes:

a) Cells in italics represent smaller programs with insufficient response data to report (n < 7).

b) Excluded programs are included in their respective university totals and the BC System total.

The following pages detail, by university, the way in which individual programs were aggregated into program areas for reporting purposes.

University of British Columbia

1. Fine and Performing Arts

Includes Programs in the Following Discipline(s):

- Arts History
- Bachelor of Music
- Bachelor of Music - Major: Composition
- Bachelor of Music - Major: Music Theory
- Bachelor of Music - Major: Orchestral Instr.
- Film & TV Studies
- Fine Arts
- Music
- Piano
- Studio Arts
- Theatre
- Voice

2. Computing Science

Includes Programs in the Following Discipline(s):

- Computer Science

3. Engineering

Includes Programs in the Following Discipline(s):

- Bioresource Engineering
- Chemical Engineering
- Civil Engineering
- Electrical Engineering
- Engineering Physics
- Geological Engineering
- Mechanical Engineering
- Met. & Mat. Engineering
- Mining & Mineral Preng.

4. Education

Includes Programs in the Following Discipline(s):

- Bachelor of Education

5. Law

Includes Programs in the Following Discipline(s):

- Bachelor of Law

6. Health Professions

Includes Programs in the Following Discipline(s):

- Dental Science
- Medical Lab Science
- Nursing
- Occupational Therapy
- Pharmacy
- Physical Therapy
- Speech Science

7. Health, Fitness and Kinesiology

Includes Programs in the Following Discipline(s):

- Bachelor of Human Kinetics
- Exercise Science
- Exercise Science
- Human Kinetics - Major: Health & Fitness
- Human Kinetics - Major: Instruction & Coaching
- Human Kinetics - Major: Leisure & Sports Management
- Human Kinetics - Major: No Program Specified
- Human Kinetics - Major: Physical Education

8. Business

Includes Programs in the Following Discipline(s):

- Accounting
- Bachelor of Commerce - Major: General Business
- Commerce and Economics
- Commerce and Law
- Finance
- Industrial Relations
- International Business
- Managmt Information Systems
- Marketing
- Transport & Logistics
- Urban Land Economy

9. Natural Resources and Agriculture

Includes Programs in the Following Discipline(s):

- Bach of Science (Natural Resource Conservation)
- Bachelor of Science (Agriculture)
- Bachelor of Science in Forestry

10. Social Sciences

Includes Programs in the Following Discipline(s):

- Anthropology
- Economics
- Family Science
- Geography
- History/ International Relations
- History
- Home Economics
- International Relations
- Physical Geography
- Political Science
- Psychology
- Sociology
- Social Work

11. Humanities

Includes Programs in the Following Discipline(s):

- Asian Area Studies
- Canadian Studies
- Chinese
- Classical Studies
- Creative Writing
- English
- French
- General Programme
- German
- Italian Studies
- Japanese
- Linguistics
- Medieval Studies
- Philosophy
- Religion / Lit
- Religious Studies
- Romance Languages
- Romance Studies
- Spanish
- Women's Studies

12. Life Sciences

Includes Programs in the Following Discipline(s):

- Bachelor of Science (Dietetics)
- Biochemistry
- Biology
- Life Sciences
- Microbiology
- Nutritional Sciences
- Pharmacology & Therapeutic
- Physiology
- Zoology

13. Physical Sciences

Includes Programs in the Following Discipline(s):

- Astronomy
- Atmospheric Science
- Chemistry
- Climatology
- ***Earth Sciences***
- Geological Science
- Geophyics
- Hydrogeology
- Mathematical Science
- Mathematics
- Oceanography
- Physics
- Statistics

Simon Fraser University

1. Fine and Performing Arts

Includes Programs in the Following Discipline(s):

- Critical Studies in Arts
- Dance
- Film
- Fine & Performing Arts
- Music
- Theatre
- Visual Arts

2. Computing Science

Includes Programs in the Following Discipline(s):

- Computing Science

3. Engineering

Includes Programs in the Following Discipline(s):

- Engineering Science

4. Education

Includes Programs in the Following Discipline(s):

- Bachelor of Education
- Professional Development Program

7. Health, Fitness and Kinesiology

Includes Programs in the Following Discipline(s):

- Kinesiology

8. Business

Includes Programs in the Following Discipline(s):

- Business Administration

10. Social Sciences

Includes Programs in the Following Discipline(s):

- Anthropology
- Archaeology
- Cognitive Science
- Communication
- Criminology
- Economics
- Geography
- History
- JMA:Anthropology/Sociology
- Political Science
- Psychology
- Sociology

11. Humanities

Includes Programs in the Following Discipline(s):

- Canadian Studies
- English
- French
- Humanities
- Latin American Studies
- Linguistics
- Philosophy
- Spanish
- Women's Studies

12. Life Sciences

Includes Programs in the Following Discipline(s):

- Biochemistry
- Biological Sciences

13. Physical Sciences

Includes Programs in the Following Discipline(s):

- Applied Mathematics
- Chemistry
- Management & Systems Science
- Mathematical Physics
- Mathematics
- Physics

University of Victoria

1. Fine and Performing Arts

Includes Programs in the Following Discipline(s):

- Bachelor of Fine Arts - Writing
- Bachelor of Music
- Bachelor of Music - Major: Composition + Theory
- Bachelor of Music - Major: Hist. and Litrtre.
- Bachelor of Music - Major: Performance
- Film Studies
- History in Art
- Music Education
- Theatre
- Visual Arts

2. Computing Science

Includes Programs in the Following Discipline(s):

- Computer Science
- Computer Science / Math

3. Engineering

Includes Programs in the Following Discipline(s):

- Computer Engineering
- Electrical Engineering
- Mechanical Engineering

4. Education

Includes Programs in the Following Discipline(s):

- Bachelor of Education

5. Law

Includes Programs in the Following Discipline(s):

- Bachelor of Law

6. Health Professions

Includes Programs in the Following Discipline(s):

- Health Information Science
- Nursing

7. Health, Fitness and Kinesiology

Includes Programs in the Following Discipline(s):

- Kinesiology
- Leisure Service Administration

8. Business

Includes Programs in the Following Discipline(s):

- Bachelor of Commerce

9. Natural Resources and Agriculture

Includes Programs in the Following Discipline(s):

- Environmental Studies

10. Social Sciences

Includes Programs in the Following Discipline(s):

- Anthropology
- Child and Youth Care
- Economics
- Geography
- History
- Political Science
- Psychology
- Social Work
- Sociology

11. Humanities

Includes Programs in the Following Discipline(s):

- Applied Linguistics
- Bachelor of Arts - Writing
- Chinese Studies
- Classical Studies
- Classics
- English
- French
- German

Greek+Roman Studies
Hispanic Studies
Linguistics
Medieval Studies
Pacific Studies
Philosophy
Russian
Women's Studies

12. Life Sciences

Includes Programs in the Following Discipline(s):

Biology
Bioc. and Micr. Biology
Biochemistry
Microbiology

13. Physical Sciences

Includes Programs in the Following Discipline(s):

Astronomy
Chemistry
Earth Sciences
Mathematics
Physics
Statistics

University Of Northern British Columbia

6. Health Professions

Includes Programs in the Following Discipline(s):

Nursing

8. Business

Includes Programs in the Following Discipline(s):

Accounting
Finance
General Business
Marketing

9. Natural Resources and Agriculture

Includes Programs in the Following Discipline(s):

Bachelor of Science - NRM - Forestry

10. Social Sciences

Includes Programs in the Following Discipline(s):

Geography
History
International Studies
Psychology

11. Humanities

Includes Programs in the Following Discipline(s):

English
Bachelor of Arts (General)

12. Life Sciences

Includes Programs in the Following Discipline(s):

Biology

13. Physical Sciences

Includes Programs in the Following Discipline(s):

Mathematics

APPENDIX C: The National Occupation Classification (NOC)

From the document, National Occupation Classification Occupational Descriptions*, published by Human Resources Development Canada.*

The National Occupation Classification (NOC) is a systematic taxonomy of occupations in the Canadian labour market. It is based on extensive occupational research, analysis, and consultation conducted across the country. The NOC is intended for use in compiling, analyzing, and communicating information about occupations. There are approximately 25,000 occupational titles included in the NOC.

The two major attributes of jobs which were used as classification criteria in developing the NOC were skill level and skill type.

1. **Skill Level** is defined generally as the amount and type of education and training required to enter and perform the duties of an occupation. Four skill level categories are identified in the NOC; the criteria for each level are as follows:

Skill Level A Professional Occupations
- University degree (bachelor's, master's, or postgraduate)

Skill Level B Technical, Paraprofessional, and Skilled Occupations
- Two to three years of post-secondary education at a community college, institute of technology, or CEGEP or
- Two to four years of apprenticeship training or
- Three to four years of secondary school and more than two years of on-the-job training, training courses, or specific work experience
- Occupations with supervisory responsibilities are assigned to skill level B
- Occupations with significant health and safety responsibilities (e.g., fire fighters, police officers, and registered nursing assistants) are assigned to skill level B

Skill Level C Intermediate Occupations
- One to four years of secondary school education
- Up to two years of on-the-job training, training courses, or specific work experience

Skill Level D Labouring and Elemental Occupations
- Up to two years of secondary school and short work demonstration or on-the-job training

Management occupations are not assigned to a skill level category because factors other than education and training (e.g., previous experience, capital) are often more significant determinants for employment.

National Occupational Classification Matrix

	1 BUSINESS FINANCE AND ADMINISTRATION OCCUPATIONS	2 NATURAL AND APPLIED SCIENCES AND RELATED OCCUPATIONS	3 HEALTH OCCUPATIONS	4 OCCS IN SOCIAL SCIENCE, EDUCATION, GOVERNMENT SERVICE AND RELIGION
	-- Major Group 00 -- SENIOR MANAGEMENT OCCUPATIONS 001 Legislators and Senior Management			
MANAGEMENT OCCUPATIONS	011 Administrative Managers 012 Managers in Financial and Business Services 013 Managers in Communication Except Broadcasting)	021 Managers in Engineering Architecture, Science and Information Systems	031 Managers in Health Education Social and Community Services 041 Managers in Public Administration	
SKILL LEVEL A University Degree	**Major Group 11** PROFESSIONAL OCCUPATIONS IN BUSINESS AND FINANCE 111 Auditors, Accountants and Investment Professionals 112 Human Resources and Business Service Professionals	**Major Group 21** PROFESSIONAL OCCUPATIONS IN NATURAL AND APPLIED SCIENCES 211 Physical Science Professionals 212 Life Science Professionals 213 Civil, Mechanical, Electrical and Chemical Engineers 214 Other Engineers 215 Architects, Urban Planners and Land Surveyors	**Major Group 31** PROFESSIONAL OCCUPATIONS IN HEALTH 311 Physicians, Dentists and Veterinarians 312 Optometrists, Chiropractors and Other Health Diagnosing and Treating Professionals 313 Pharmacists, Dietitians and Nutritionists 314 Therapy and Assessment Professionals	**Major Group 41** PROFESSIONAL OCCUPATIONS IN SOCIAL SCIENCE, EDUCATION, GOVERNMENT SERVICES AND RELIGION 411 Judges, Lawyers and Quebec Notaries 412 University Professors and Assistants 413 College and Other Vocational Instructors
SKILL LEVEL B College Certificate or Two or Four Years of Apprenticeship	**Major Group 12** SKILLED ADMINISTRATORS AND BUSINESS OCCUPATIONS 121 Clerical Supervisors 122 Administrative and Regulatory Occupations 123 Finance and Insurance Administrative Occupations 124 Secretaries, Recorders and Transcriptionists	**Major Group 22** TECHNICAL OCCUPATIONS RELATED TO NATURAL AND APPLIED SCIENCES 221 Technical Occupations in Physical Sciences 222 Technical Occupations in Life Sciences 223 Technical Occupations in Civil, Mechanical and Industrial Engineering 224 Technical Occupations in Electronics and Electrical Engineering 225 Technical Occupations in Architecture, Drafting, Surveying and Mapping 226 Other Technical Inspectors and Regulatory Officers	**Major Group 32** TECHNICAL AND SKILLED OCCUPATIONS IN HEALTH 321 Medical Technologists and Technicians (except Dental Health) 322 Technical Occupations in Dental Health Care 323 Other Technical Occupations in Health Care (Except Dental)	**Major Group 42** PARAPROFESSIONAL OCCUPATIONS IN LAW, SOCIAL SERVICES, EDUCATION AND RELIGION 421 Paralegals, Social Services Workers and Occupations in Education and Religion, n.e.c.
SKILL LEVEL C Up to Two Years On-the-Job Training or Some Secondary	**Major Group 14** CLERICAL OCCUPATIONS 141 Clerical Occupations, General Office Skills 142 Office Equipment Operators 143 Finance and Insurance Clerks 144 Administrative Support Clerks 145 Library, Correspondence and Related Information Clerks 146 Mail and Message Distribution Occupations 147 Recording, Scheduling and Distributing Occupations		**Major Group 34** ASSISTING OCCUPATIONS IN SUPPORT OF HEALTH SERVICES 341 Assisting Occupations in Support of Health Services	
SKILL LEVEL D Little or No Secondary or Short On-the-Job Training				

continued on next page

5 **OCCUPATIONS IN ART CULTURE, RECREATION AND SPORT**	6 **SALES AND SERVICE OCCUPATIONS**	7 **TRADES, TRANSPORT AND EQUIPMENT OPERATORS & REL. OCCUPATIONS**	8 **OCCUPATIONS UNIQUE TO PRIMARY INDUSTRY**	9 **OCCUPATIONS UNIQUE TO PROCESSING, MANUFAC-TURING AND UTILITIES**
-- Major Group 00 -- SENIOR MANAGEMENT OCCUPATIONS 001 Legislators and Senior Management				
051 Managers in Art, Culture Recreation and Sport	061 Sales, Marketing and Advertising Managers 062 Managers in Retail Trade 063 Managers in Food Service and Accommodation 064 Managers in Protective Service 065 Managers in Other Services	071 Managers in Construction and Transportation 072 Facility Operation and Maintenance Managers	081 Managers in Primary Production (Except Agriculture)	091 Managers in Manufacturing and Utilities
Major Group 51 PROFESSIONAL OCCUPATIONS IN ART AND CULTURE 511 Librarians, Archivists, Conservators and Curators 512 Writing, Translating and Public Relations Professionals 513 Creative and Performing Artists				
Major Group 52 TECHNICAL AND SKILLED OCCUPATIONS IN ART, CULTURE, RECREATION AND SPORT 521 Technical Occupations in Libraries, Archives, Museums and Galleries 522 Photographers, Graphic Arts Technicians and Technical Occupations in Motion Pictures roadcasting and the Performing Arts 523 Announcers and Other Performers 524Creative Designers and Craftpersons	**Major Group 62** SKILLED SALES AND SERVICE OCCUPATIONS 621 Sales and Service Supervisors 622 Technical Sales Specialists, Wholesale Trade 623 Insurance and Real Estate Occupations and Buyers 624 Chefs and Cooks 625 Butchers and Bakers 626 Police Officers and Firefighters 627 Technical Occupations in Personal Service	**Major Group 72/73** TRADES AND SKILLED TRANSPORT AND EQUIPMENT OPERATORS 721 Contractors and Supervisors, Trades and Related Workers 722 Supervisors, Railway and Motor Transportation Occupations 723 Machinists and Related Occupations 724 Electrical Trades and Telecommunication Occupations 725 Plumbers, Pipefitters and Gas Fitters 726 Metal Forming, Shaping and Erecting Occupations	**Major Group 82** SKILLED OCCUPATIONS IN RIMARY INDUSTRY 821 Supervisors, Logging and Forestry 822 Supervisors, Mining, Oil and as 823 Underground Miners, Oil and Gas Drillers and Related Workers 824 Logging Machine Operators 825 Contractors, operators and Supervisors in Agriculture, Horticulture and Aquaculture 826 Fishing Vessel Masters and Skippers and Fishermen/women	**Major Group 92** PROCESSING, MANUFACTURING AND UTILITIES SUPERVISORS AND SKILLED OPERATORS 921 Supervisors, Processing Occupations 922 Supervisors, Assembling and Fabricating 923 Central Control and Process Operators in Manufacturing and Processing
	Major Group 64 INTERMEDIATE SALES AND SERVICE OCCUPATIONS 641 Sales Representatives, Wholesale Trade 642 Retail Salespersons and Sales Clerks 643 Occupations in Travel and Accommodation 644 Tour and Recreational Guides and Amusement Occupations 645 Occupations in Food and Beverage Service 646 Other Occupations in Protective Service 647 Childcare and Home Support Workers 648 Other Personal Services	**Major Group 74** INTERMEDIATE OCCUPATIONS IN TRANSPORT EQUIPMENT OPERATION, INSTALLATION AND MAINTENANCE 741 Motor Vehicle and Transit Drivers 742 Heavy Equipment Operators 743 Other Transport Equipment Operators and Related Workers 744 Other Installers, Repairers and Servicers 745 Longshore Workers and Material Handlers	**Major Group 84** INTERMEDIATE OCCUPATIONS IN PRIMARY INDUSTRY 841 Mine Service Workers and Operators in Oil and Gas Drilling 842 Logging and Forestry Workers 843 Agriculture and Horticulture Workers 844 Other Fishing and Trapping Occupations	**Major Group 94** PROCESSING AND MANUFACTURING MACHINE OPERATORS AND ASSEMBLERS 941 Machine Operators and Related Workers in Metal and Mineral Products Processing 942 Machine Operators and Related Workers in Chemical, Plastic and Rubber Processing 943 Machine Operators and Related Workers in Pulp and Paper Production and Wood Proc. 944 Machine Operators and Related Workers in Textile Processing 945 Machine Operators and Related Workers in Fabric, Fur and Leather Products Manuf.
	Major Group 66 ELEMENTAL SALES AND SERVICE OCCUPATIONS 661 Cashiers 662 Other Sales and Related Occupations 663 Elemental Medical and Hospital Assistants 664 Food Counter Attendants and Kitchen Helpers 665 Security Guards and Related	**Major Group 76** TRADES HELPERS, CONSTRUCTION LABOURERS AND RELATED OCCUPATIONS 761 Trades Helpers and Labourers 762 Public Works and Other Labourers, n.e.c.	**Major Group 86** LABOURERS IN PRIMARY INDUSTRY 861 Primary Production Laborers	**Major Group 96** LABOURERS IN PROCESSING, MANUFACTURING AND UTILITIES 961 Labourers in Processing, Manufacturing and Utilities

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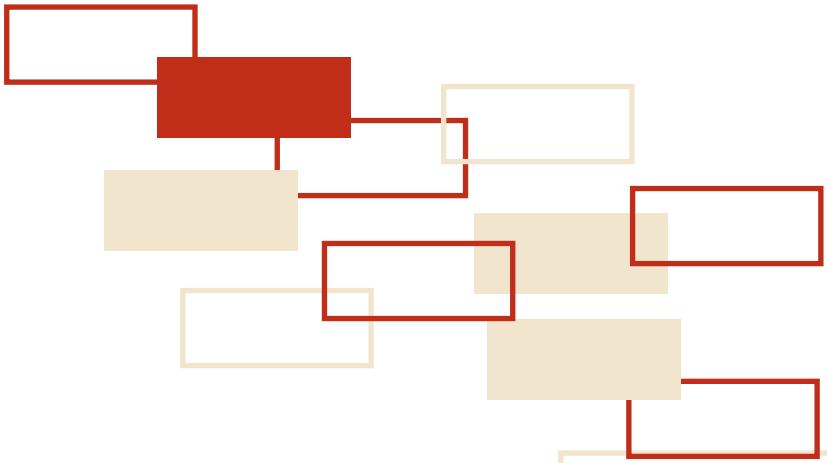

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