Carleton UNIVERSITY
Canada's Capital University

2006 Canadian Undergraduate Survey Consortium (CUSC): Graduating Undergraduate Students

Report #2: Financing Education

Prepared by the Office of Institutional Research and Planning

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Introduction

Carleton University participates in several surveys in order to evaluate and improve upon the overall educational experience of all of its students. The Canadian Undergraduate Survey Consortium (CUSC) conducts an annual survey that collects data in a three-year cycle. CUSC alternately surveys all undergraduates, graduating students, and first-year students. In February 2006, the survey was conducted of graduating students. Carleton participated for its ninth year and was one of 25 institutions who took part in the Consortium.

For the second time, Carleton (along with eleven other universities) chose to conduct the survey online. A random sample of 1,000 Carleton students who were deemed eligible to graduate (determined by credit profile and registration status) were emailed an invitation to participate in CUSC. There were 452 respondents to the survey, resulting in a response rate of 45 percent.

The purpose of this report is to look at how graduating students are financing their education at Carleton. First, we look at the repayable debt that students have accumulated to help finance their education to see how much students are borrowing and from where. Next, we consider the sources that students are using to help pay for their schooling during their final year. We wish to determine which sources students are using, how many sources they are using, and how much is being received in funding both by category and in total. Finally we take a closer look at student employment to see how many graduating students were working during their school term, if this had a negative impact on their academic performance, and how this impact is affected by conditions such as location or hours worked per week.

Throughout the report, results are compared to two other sets of results. The first is of Carleton's 2003 responses. This is the last year that a graduating student survey was conducted, and by comparing results to this group we can see how trends have changed in the three years at the university. The other comparison made is to the results of similar universities within the Consortium. CUSC uses three groupings to divide the universities according to the types of programs offered as well as the size of the student population. The

first group consists of smaller universities which mainly offer undergraduate programs and are not comparable to Carleton. Groups 2 and 3 contain larger, more comprehensive universities which offer a wider range of courses. This collection of the Consortium results is used within the report in order to make meaningful comparisons between Carleton and similar universities.

Repayable Debt

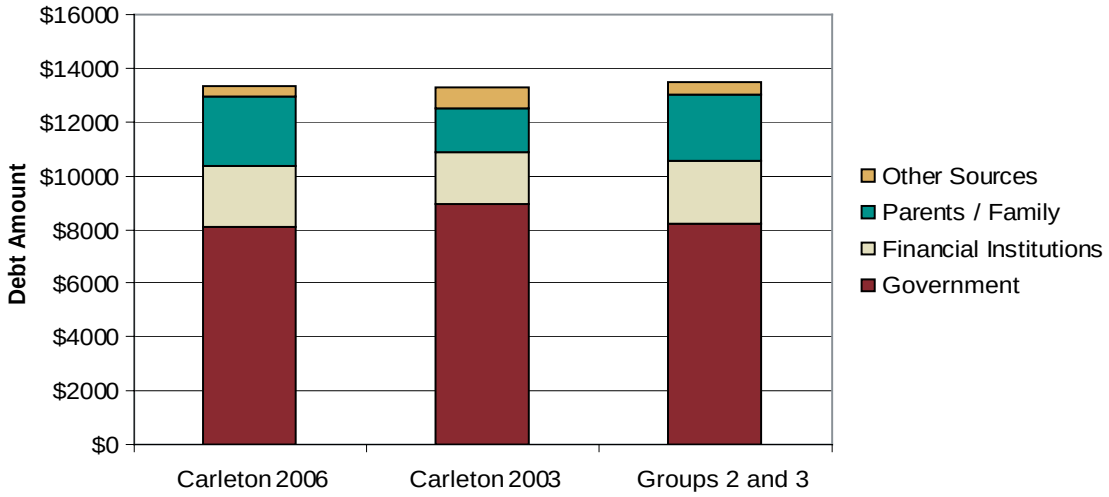
Students were asked to report how much repayable debt they had acquired to help finance their university education. The sources of debt were divided into four categories: debt from government student loans, debt from loans from financial institutions, debt from loans from parents/family, and debt from other sources. Totals are calculated from these responses for further analysis.

Three useful ways to look at this information are to find the average amount of total debt among all respondents, to determine the proportions of students having debt, and finally to calculate the average debt amount within each category. From this information we will be able to estimate the debt load being carried by Carleton students at the time of the survey (nearing the end of their studies), and also determine where students are borrowing money from and the extent to which they are doing so. By comparing this data to the responses received through Carleton's 2003 CUSC survey we will be able to see changes in how students at the university finance their education. The survey results of groups 2 and 3 are also presented in order to gauge how Carleton's results match up to those of similar universities.

The first way we will analyze the data is to look at the total average debt of all the respondents. This will include students who have indicated that they have no debt and therefore will give an estimate to the amount that a typical graduating Carleton student owes. **Figure 1** gives the total mean debt from Carleton University's 2006 and 2003 data, as well as that of groups 2 and 3. These are divided into the four categories so we can see where these debt amounts are coming from[1].

[1] **Values for Figure 1 are given in Appendix A**

Figure 1: Average Debt of All Respondents (2006 Dollars)



Because the Canadian dollar was not the same in 2003 as it was in 2006, values from Carleton's 2003 data were corrected using the consumer price index (CPI)[2]. For reference, $100.00 in 2003 would be equivalent to $106.64 in 2006, a 6.64% change.

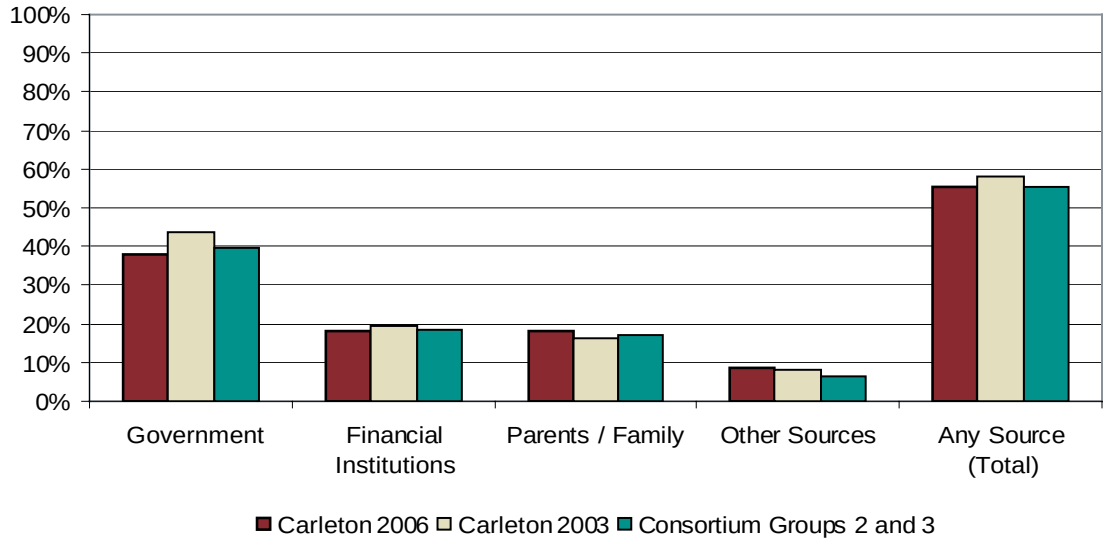
After adjusting dollar values to that of 2006, the average debt of all respondents shows very little change from 2003 ($13,256) to 2006 ($13,325). Also, the 2006 results are only 147 dollars below that of comparable universities. Neither comparison indicates a statistically significant difference.

Figure 2 displays each source of debt along with the proportion of respondents who reported owing the source some amount[3]. Of the students surveyed, 55 percent reported being in debt to one or more sources. This is equal to the rate of groups 2 and 3 in the Consortium and lower than the 2003 results by only three percent. This difference is not statistically significant[4].

[2] For more information please visit www.bankofcanada.ca.
[3] **Values for Figure 2 are given in Appendix A**
[4] Population Proportions were compared using the approximate Z-Test with 0.05 used as a level of significance. For the two populations to be independent, Data from Groups 2 and 3 exclude Carleton for all statistical analyses. Charts and tables are shown with Carleton data included in the Grouping in order to be consistent with other reports on Consortium results.

In fact, in only two comparisons was there sufficient evidence to indicate a statistically significant difference in true proportions. The percentage of graduating students being in debt with government student loans has decreased since 2003 (survey results indicated a drop from 44% in 2003 to 38% in 2006), and the percentage of students having debt from 'other sources' is higher at Carleton than at comparable universities (9% at Carleton and 6% elsewhere).

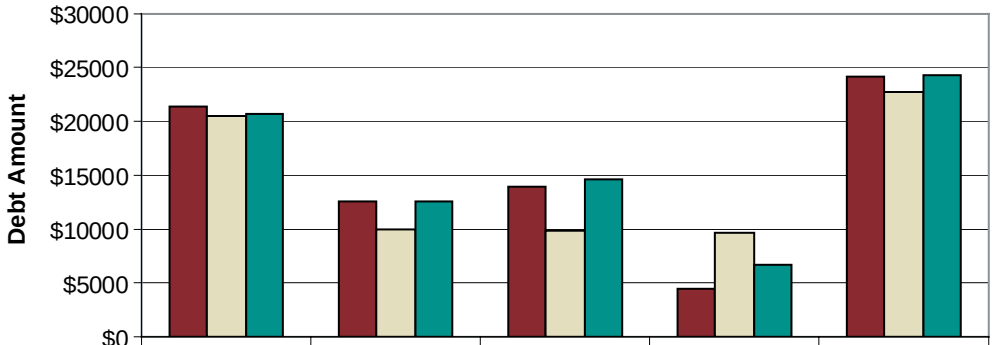
Figure 2: Percent of Respondents Reporting Debt



Respondents who indicated being in debt through loans from parents or family had a larger proportion than results from 2003 or groups 2 and 3, though neither difference is statistically significant.

Observing the average amount owing among graduating students who reported having some debt gives an indication of the degree to which students are borrowing from each source. **Figure 3** shows these averages by category, and also from the calculated total debts. These represent the average amounts being owed by the percentages shown in **Figure 2**.

Figure 3: Average Amounts of Reported Debt (2006 Dollars)



	Government	Financial Institutions	Parents or Family	Other Sources	All Sources (Total)
Carleton 2006	$21,389	$12,656	$14,014	$4,542	$24,112
Carleton 2003	20,451	9,956	9,801	9,676	22,814
Groups 2 and 3	20,637	12,597	14,625	6,800	24,375

This graph shows the average amount of non-zero responses in each category and does not include those who reported that they had no debt, as the previous figures have.

As the chart shows, Carleton is similar to groups 2 and 3 in all categories except debt from loans from other sources. The 2,258 dollar difference between this university and those comparable to it is statistically significant[5] (there is enough evidence to determine that the averages are not equal in this category).

When comparing 2006 survey results to 2003, Carleton shows a noticeable increase in means of debt amounts from financial institutions and from parents and family, and a 53% decrease in the mean debt amount from 'other sources'. The only case of these three which provides evidence for a statistically significant difference is the 2,700 dollar increase in average amount of debt from loans from financial institutions between 2003 and 2006[6].

[5] Means were compared using Independent-Samples T-Tests with 0.05 used as a level of significance. Again, Carleton was removed from group 2 and 3 results for accurate comparison. The means shown in the charts include Carleton's data to be consistent with other reports.

[6] Many factors affect whether a means comparison test will be statistically significant or not such as sample size or standard deviation. Here we see that some differences can be large and not statistically significant while some that are significant can be smaller.

The distributions of the amounts that students are borrowing are all right skewed, indicating positive outliers. The more outliers within a category, the higher the mean is pulled above the median debt amount. Means are provided for consistency in interpretation and for certain comparisons, but the median amount owing among each category gives another indication of how much students are borrowing.

An analysis of the medians in each category given in **Table 1** suggests that Carleton is close to comparable institutions in all categories except debt from loans from 'other sources', where our median is less by 1,000 dollars. The median amount of debt of those owing has increased since 2003 in the first three categories. Loans from financial institutions showed the largest monetary increase ($2535) as well as the highest rate of increase (34%). As mentioned above, this is also the only category which showed a statistically significant increase in mean amount owing from 2003.

Table 1: Median Amounts of Reported Debt (2006 Dollars)

	Carleton 2006	Carleton 2003	Groups 2/3
Government	$20,000	$19,195	$20,000
Financial Institutions	10,000	7,465	9,000
Parents / Family	6,750	5,332	7,000
Other Sources	2,500	3,199	3,500
All Sources	20,000	20,795	20,000

If we compare these medians to the means in **Figure 3**, we see extreme differences in the means of debt from parents and family as well as from 'other sources', where in each set of results the medians are only around half of the value of the means. This indicates a large right skew to these distributions, implying some students responded with very high amounts of debt in these categories.

While calculated totals have shown no significant differences in total mean debt of respondents, average debt amount, or proportion reporting debt (comparing to either 2003 or data from similar universities), we see change in how this debt is accumulated – what sources students are using and to what extent.

Less of Carleton's respondents in 2006 reported having debt from government student loans than in 2003, but there is no significant change in the average amount that students within this proportion are using from this source. While there has not been any significant change in the proportion of students being in debt from loans from financial institutions, the results indicate that the amount that Carleton's graduating students are borrowing has increased over the three years.

Comparing Carleton's responses to those of comparable universities, debt from 'other sources' is shown to be more prevalent although less substantial. More students are using this source, but to a lesser extent. These two trends result in little difference in the average debt amount a typical graduating student from Carleton has accumulated from these other sources, shown in **Figure 1**. Otherwise, the university's means and proportions are remarkably similar to comparable universities.

Summary of Findings:

- Mean total debt of respondents ($13,325) is similar to 2003 and similar institutions
- 55% of Carleton's graduating students reported being in debt
- Debt amounts from loans from financial institutions has increased
- Proportion in debt from alternative (or 'other') sources is higher than Groups 2 and 3
- Debt amounts from alternative sources are lower than in 2003 or in Groups 2 and 3

Sources of Funding

In the survey, students were asked to indicate sources being used to help pay for their current academic year and provide the approximate amount they had received from each. From this information we can also evaluate how many resources final-year students reported using and the total amount received.

Considering students must use some sort of funding to pay for their education, respondents who left this portion blank were removed from the calculations provided. Of Carleton's 452 survey respondents, 427 students indicated which sources they were using for funding, and 386 provided amounts that they had

received. In the few cases when "full-tuition" was given as an amount, an approximate median tuition rate was used ($4800 in 2006 and $4500 in 2003).

Table 2 displays the sources of funding included in the survey and the valid percent of students who reported using them. Columns will add up to more than 100 percent since respondents could mark all that applied. Carleton University's 2003 results as well as those of similar institutions are included for comparison.

The table indicates that Carleton's graduating students in 2006 have used family, personal savings, summer earnings, university scholarships, co-op programs, investment income and RESP as sources of funding more so than students in 2003. The only source that shows a significant decrease in rate of use is the 'other' category[7]. Major increases are found in the use of personal savings (up by 20%) and university scholarships (up by 13%). Proportions marked with an asterisk (*) show a statistically significant difference from Carleton's 2006 results.

Table 2: Proportions of Student Use of Funding Sources

	Carleton 2006	Carleton 2003	Groups 2/3
Parents / family / spouse	60%	52%*	59%
Personal savings / inheritance	55	35*	46*
Earnings from summer / part-time work	51	42*	42*
Earnings from current employment	44	39	41
University scholarship / financial award / bursary	41	28*	28*
Government loan or bursary	35	32	33
Loan from financial institution	15	12	14
Co-op program / work term	10	7*	8*
Investment income (bonds, dividends, etc.)	7	4*	4*
RESP	5	2*	5
Work-study program	4	5	3
Other	3	8*	3

[7] Examples of other sources include scholarships from other sources, band/Native Reserve/Department of Indian Affairs, employer sponsorship/Armed Forces/union, credit cards, pensions/orphan benefits/disabilities, employment insurance/other government, or parents working at the university.

Carleton's proportions are above those of comparable universities in 5 categories: personal savings, summer earnings, university scholarships, co-op programs and investment income. As mentioned, these categories have also shown significant increases in use by Carleton students from 2003 to 2006.

This may indicate that Carleton's graduating students are using more resources of funding on average than those graduating three years prior and more resources than students graduating at similar institutions. In fact, the average number of funding sources students indicated using is 3.3, which is statistically significantly different from 2.6 reported in 2003 but not statistically significantly different from the average of 2.8 reported by groups 2 and 3 (Carleton excluded).

The large number of categories that show higher rates of use indicate that both proportional growth since 2003 and differences in rates of use from similar universities are not entirely focused in a few sources, but instead are spread out among many. Carleton's rates have decreased in only one category since 2003, the 'other' category, and this is the source that Carleton's respondents reported using the least. This indicates that growth in these rates occurred while the rates of use of the remaining categories stayed relatively consistent.

Along with proportions using each source of funding, we should consider the mean amount that students who are using the sources are receiving. **Table 3** gives these results with CPI adjustments made to 2003 data. Values with an asterisk (*) denote statistically significant difference from Carleton's 2006 averages.

While there is no statistically significant difference in the average total amount of funding, there are some statistically significant differences in the averages of the individual sources. Compared to Carleton's 2003 responses, the mean amount that a student using a co-op program or work term is receiving has fallen by 7,605 dollars (54%) and amounts received through summer work has fallen 673 dollars (17%). The current employment category showed a 1,795 dollar decrease (39%) from 2003 results. The only increase made between the three years was in university scholarships, awards and bursaries. The average amount in

this category jumped 1,067 dollars (63%), the highest statistically significant rate of change in any category.

Table 3: Average Amounts of Funding of Those Indicating Use (2006 Dollars)			
	Carleton 2006	Carleton 2003	Groups 2/3
Government loan or bursary	$8,835	$10,566	$8,836
Co-op program / work term	6,392	13,997*	6,471
Parents / family / spouse	6,043	5,930	6,166
Loan from financial institution	5,326	6,320	6,656*
Other	4,211	6,194	5,402
Investment income (bonds, dividends, etc.)	3,434	3,431	2,603
Earnings from summer / part-time work	3,372	4,045*	3,681
RESP	3,127	2,270	4,287
Earnings from current employment	2,835	4,630*	3,296
University scholarship / financial award / bursary	2,753	1,686*	2,731
Personal savings / inheritance	2,522	4,611	2,341
Work-study program	1,944	1,603	1,913
All sources (Total)	11,880	13,391	12,188

Carleton results showed no statistically significant difference from groups 2 and 3 other than in mean amount of loans from financial institutions. This difference was not seen in the previous section of this report, since survey questions asked for the repayable debt accumulated over their entire university education while sources of funding were requested for only their current year. The responses that indicate sources of financing in the 2006 CUSC survey provide enough evidence to conclude statistical significance in the difference between the averages, while responses indicating repayable debt (see **Figure 2**) do not. This may indicate that students are using bank loans to help them through their first few years, and retaining that debt load throughout their university education.

While graduating students reported using more sources for funding, the average total amount being received in funding (shown in **Table 3**) has not changed significantly from 2003. This trend can help explain the decreases in average amounts of funding by category observed between 2003 and 2006. Summer employment and Co-op programs have both

shown increased proportional use since 2003, and yet decrease in the average amounts being received.

An area of clear improvement is financial support from university scholarships. The proportion of students receiving scholarships, awards and bursaries showed significant increase from 2003, and is above proportions from similar universities by the same amount. This was also the only category which showed a statistically significant increase in the average amount of funds students were receiving from the source. These two trends together give a high importance to this category, specifically for Carleton students.

The survey also asked students to indicate if they had at any point in time received an academic scholarship from the university. Sixty percent of Carleton's respondents reported having received a scholarship, compared to only 34 percent of groups 2 and 3. In 2003, this proportion was very similar (58% of survey respondents had received a scholarship).

Summary of Findings:

- Carleton showed an increase in the use of seven sources of funding since 2003
- Proportional use of sources of funding is above Groups 2 and 3 in five categories
- Decrease in amount received through employment (current, summer, and co-op)
- Increase in amount received through university scholarships, awards and bursaries
- Lower mean funding from bank loans is the only difference from similar universities
- Total mean amount of funding shows no difference from 2003 or Groups 2 and 3

Student Employment

When we look at student employment as a source of funding, it is meaningful to consider the potential impact that working can have on a student's academic studies. While we would like to see that students are finding jobs to help fund their university career and that those who are seeking employment are successful in their search, this is only advantageous to the

student when working does not have too much of a negative impact on the student's academic performance.

Of those who responded, 61 percent were employed during the academic term that the survey was conducted[8]. The results are detailed in **Table 4**, along with Carleton's 2003 responses and those of similar institutions. An asterisk (*) denotes a statistically significant difference from Carleton's 2006 proportions.

Table 4: Employment During Academic Term[9]

	Carleton 2006	Carleton 2003	Groups 2/3
Not employed / not seeking	26%	29%	27%
Not employed / seeking	14	10*	11
Total not employed	40	39	38
Employed on campus	13	11	9*
Employed off campus	43	47	49*
Employed on and off campus	5	4	4
Total employed	61	62	62

In terms of proportions of students who were and were not employed, not much has changed from 2003. Carleton's results are very similar to comparable universities as well. The variations are found within the two responses. A significantly larger proportion of students reported not being employed and seeking a job than in 2003. There are also significant differences between Carleton's results and groups 2 and 3. Carleton has a higher proportion of students employed on campus, and less employed off campus.

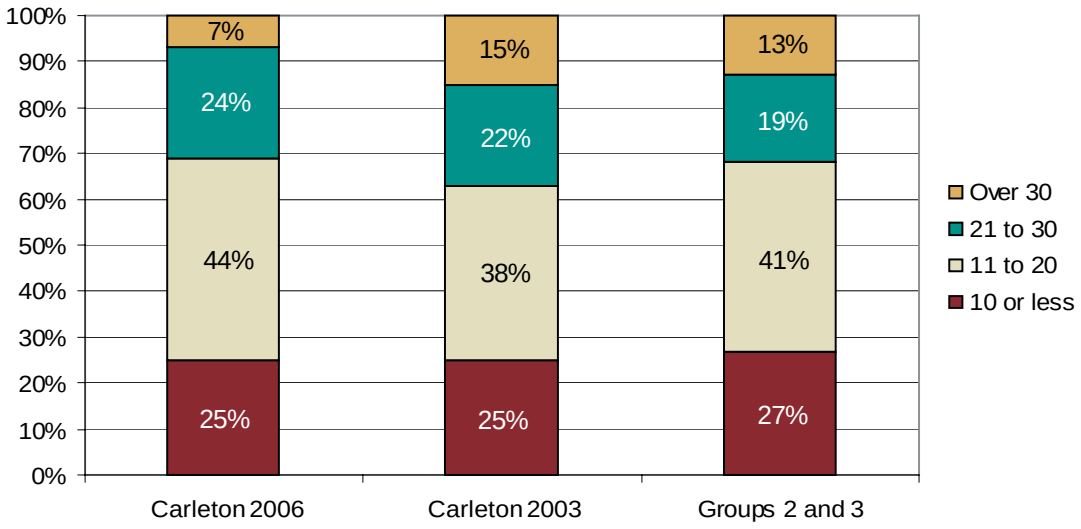
Students were asked on average how many hours they were employed per week. The average number of hours worked dropped two hours from 20 in 2003 to 18 in 2006, although there was not enough evidence for this to be a statistically significant difference. However, the one hour difference in averages from Carleton and groups 2 and 3 (19 hours per week) is statistically significant, and so we can say that Carleton's graduating students in

[8] This excludes work related to a co-op program.
[9] Totals may not add up to 100% due to rounding.

general work slightly less hours than students at similar universities. **Figure 4** shows the results of the survey grouped into categories.

The graph shows that there are fewer instances of students working over 20 hours per week, down by 8 percent from 2003 and 6 percent below similar institutions. This helps explain the differences in the averages, and also why in **Table 3** the mean amount of earnings from 'current employment' has dropped from 4,630 dollars in 2003 to only 2,835 dollars in 2006.

Figure 4: Hours per Week Respondents Spent Working

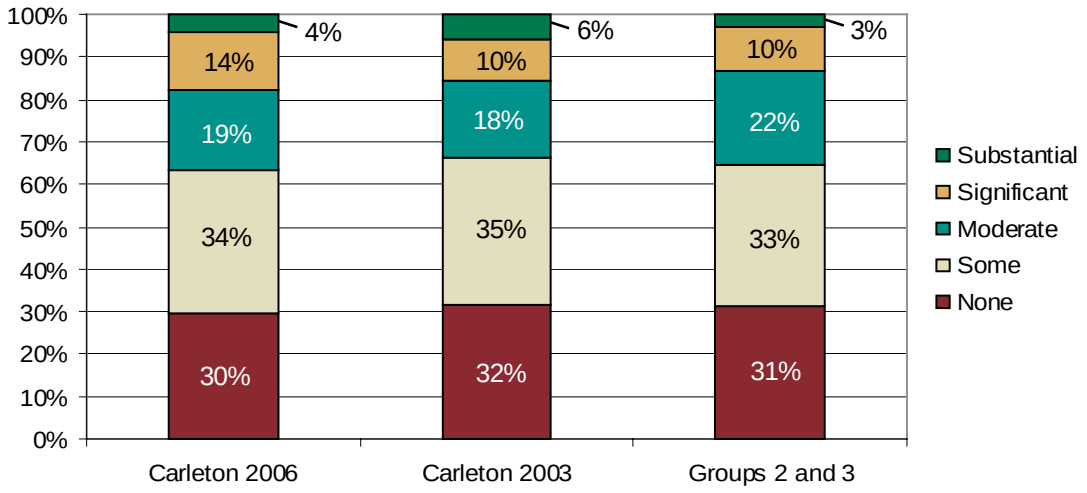


While this trend does not help students to fund their education, it may be beneficial for those who wish to invest their time on their university studies. In **Figure 5**, we see if these lesser hours are moving Carleton closer to or farther away from a balance between academic funding and academic performance.

Employed students were asked to indicate what level of negative impact their employment was having on their academic performance. We see that a smaller proportion of the respondents indicate substantial negative impact to their schooling than three years earlier, while a larger proportion indicate that the impact is significant, however these differences

between Carleton's 2006 results and those of 2003 are slight, and not statistically significant[10].

Figure 5: Level of Negative Impact of Employment on Academic Performance



Carleton's results are very similar to the results of groups 2 and 3 as well. We see that a larger percent of Carleton's respondents indicated that their employment had at least a significant impact on their studies, though again this is not statistically significant[11].

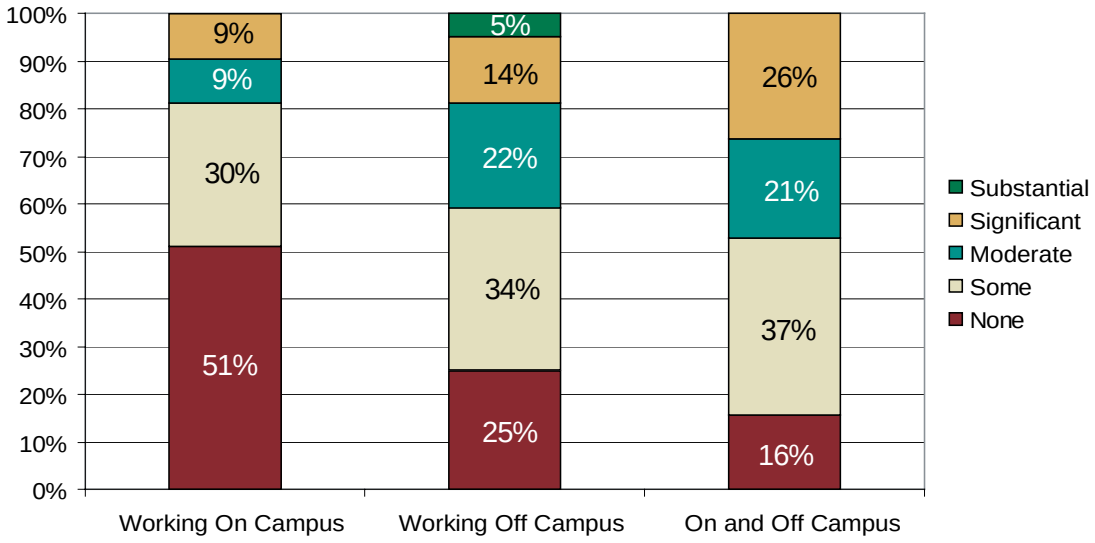
Seeking employment also has the potential to distract from academic study and as we've seen the proportion of students who indicated that they were seeking work has grown from 2003. The survey results indicate that a higher percentage of students at similar universities are employed off campus than students at Carleton, but this has not yielded any measurable effect on the negative impact of their employment. **Figure 6** shows that Carleton's respondents had very different opinions of this impact depending on where they worked.

Over 50 percent of Carleton's respondents who were employed on campus reported that their work had no negative impact on their schooling. As the chart indicates, this opinion is

[10] A Kolmogorov-Smirnov Z Test indicates that it is reasonable to assume that the two samples come from a single underlying distribution, indicating no change in the levels of negative impact among students.
[11] The same test shows that differences in responses between the two groups are not significant.

significantly different from students who are employed off campus[12]. This trend is also true within the results of similar institutions. With this conclusion, we observe that Carleton's higher rate of on-campus employment is beneficial to its students.

Figure 6: Negative Impact of Employment (Carleton 2006)



Results from groups 2 and 3 show a statistically significant difference in negative impact of academic performance between those who work less than 20 hours per week and those who work more (the latter group tended to give more negative responses) however Carleton respondents gave no such indication[13]. This makes the difference in the average reported number of hours worked (see **Figure 4**) harder to interpret in terms of its impact on a student's academic performance and its relevance to Carleton students.

Summary of Findings:

- 61% of Carleton's respondents were employed during the time of the survey
- Employment rates are similar to 2003 and those from comparable universities
- More students who are not working are seeking employment than in 2003
- Percentage of respondents employed on campus is higher than in Groups 2 and 3
- Graduating students are working less hours than those at similar universities
- On-campus employment shows a lesser negative impact on a student's schooling

[12] A Kolmogorov-Smirnov Z Test indicates that the underlying distribution of responses by those working on campus is significantly different than those employed off campus, or both on and off campus.
[13] Both determined with a Kolmogorov-Smirnov Z Test with 0.05 used as a level of significance.

Conclusions

In summary, of the 55 percent of respondents who reported having debt, the median amount of repayable debt was $20,000. The proportion of students who were receiving financial support from university scholarships, awards and bursaries during their graduating year has shown increase from 2003 and is above the aggregate results of comparable universities. Also, the majority of graduating students indicated that they had at some time received an academic scholarship from Carleton. This is much higher than the rates of groups 2 and 3 of the Consortium.

Another finding is that the proportion of students who work on-campus is higher at Carleton than at similar institutions. Students at Carleton who are employed on-campus report a lesser negative impact on their academic performance than students employed elsewhere.

When we compare Carleton's 2006 results in each category to those of the 2003 survey or groups 2 and 3 of the Consortium, the report shows that totals aren't differing as much as the details that they are made up of. Each calculated total has shown no statistically significant variation from the results of comparable institutions or change from three years prior. Differences are instead found in more specific areas such as where debt is coming from, amounts of funding being received from specific sources, and where students are employed.

These results will help Carleton further understand the financial situation of its graduating students as it continually strives to provide all of its students with the best learning experience possible.

For further reports on CUSC and other surveys or for information on Carleton University, please visit www.carleton.ca/oirp.

APPENDIX A

Supplementary Tables

From Figure 1: Average Debt of All Respondents			
	Carleton 2006	Carleton 2003	Groups 2/3
Government	$8,085	$8,923	$8,200
Financial Institutions	2,301	1,941	2,346
Parents/Family	2,548	1,608	2,496
Other Sources	391	785	430
Total Debt	13,325	13,256	13,472

From Figure 2: Percent of Respondents Reporting Debt			
	Carleton 2006	Carleton 2003	Groups 2/3
Government	38%	44%	40%
Financial Institutions	18	20	19
Parents/Family	18	16	17
Other Sources	9	8	6
Any Source (Total)	55	58	55