



Catalogue no. 81-595-M — No. 065

ISSN 1711-831X

ISBN 978-0-662-48589-6

Research Paper

Culture, Tourism and the Centre for Education Statistics

Doctoral Graduates in Canada: Findings from the Survey of Earned Doctorates, 2004/2005

by Darren King

Culture, Tourism and the Centre for Education Statistics Division
Main Building, Room 2001, Ottawa, K1A 0T6

Telephone: 1-800-307-3382

Fax: 1-613-951-9040



Statistics
Canada

Human Resources and
Social Development Canada

Statistique
Canada

Ressources humaines et
Développement social Canada

Canada

How to obtain more information

For information about this product or the wide range of services and data available from Statistics Canada, visit our website at www.statcan.ca or contact us by e-mail at infostats@statcan.ca or by telephone from 8:30 a.m. to 4:30 p.m. Monday to Friday:

Statistics Canada National Contact Centre

Toll-free telephone (Canada and the United States):

Inquiries line	1-800-263-1136
National telecommunications device for the hearing impaired	1-800-363-7629
Fax line	1-877-287-4369
Depository Services Program inquiries line	1-800-635-7943
Depository Services Program fax line	1-800-565-7757

Local or international calls:

Inquiries line	1-613-951-8116
Fax line	1-613-951-0581

Information to access the product

This product, Catalogue no. 81-595-M, is available for free in electronic format. To obtain a single issue, visit our website at www.statcan.ca and select "Publications."

Standards of service to the public

Statistics Canada is committed to serving its clients in a prompt, reliable and courteous manner. To this end, the Agency has developed standards of service which its employees observe in serving its clients. To obtain a copy of these service standards, please contact Statistics Canada toll free at 1-800-263-1136. The service standards are also published on www.statcan.ca under "About us" > "Providing services to Canadians."

**Culture, Tourism and the Centre for Education Statistics
Research papers**

Doctoral Graduates in Canada: Findings from the Survey of Earned Doctorates, 2004/2005

Darren King

Learning Policy Directorate,
Human Resources and Social Development Canada

Published by authority of the Minister responsible for Statistics Canada

© Minister of Industry, 2008

All rights reserved. The content of this electronic publication may be reproduced, in whole or in part, and by any means, without further permission from Statistics Canada, subject to the following conditions: that it be done solely for the purposes of private study, research, criticism, review or newspaper summary, and/or for non-commercial purposes; and that Statistics Canada be fully acknowledged as follows: Source (or "Adapted from", if appropriate): Statistics Canada, year of publication, name of product, catalogue number, volume and issue numbers, reference period and page(s). Otherwise, no part of this publication may be reproduced, stored in a retrieval system or transmitted in any form, by any means—electronic, mechanical or photocopy—or for any purposes without prior written permission of Licensing Services, Client Services Division, Statistics Canada, Ottawa, Ontario, Canada K1A 0T6.

April 2008

Catalogue no. 81-595-MIE2008065

Frequency: Occasional

ISSN 1711-831X

ISBN 978-0-662-48589-6

Ottawa

Cette publication est disponible en français (n° 81-595-MIF2008065 au catalogue)

Statistics Canada
Human Resources and Social Development Canada

Acknowledgements

The author wishes to thank all those involved in the development and production of the Survey of Earned Doctorates. The assistance of many people was invaluable to the production of this research paper. Special thanks go to those in the Centre for Education Statistics of Statistics Canada, and in the policy research group of the Learning Policy Directorate of Human Resources and Social Development Canada for their contributions, feedback and suggestions.

Note of appreciation

Canada owes the success of its statistical system to a long-standing partnership between Statistics Canada, the citizens of Canada, its businesses, governments and other institutions. Accurate and timely statistical information could not be produced without their continued cooperation and goodwill.

Acronyms

AUCC	Association of Universities and Colleges of Canada
HRSDC	Human Resources and Social Development Canada
PSIS	Post Secondary Information System
OECD	Organisation for Economic Co-operation and Development
SED	Survey of Earned Doctorates

Table of contents

Acknowledgements	4
Acronyms	5
Abstract	8
Introduction	9
Notes on the data	10
Trends in the number of doctoral graduates	11
Field of study of doctoral graduates	12
Gender differences of doctoral graduates	13
Almost one-quarter of PhD graduates in Canada were foreign or visa students	15
Doctoral degrees can be a lengthy investment	15
Universities were the main contributors to doctoral students' financial support	16
Fewer doctoral students were graduating with debt	17
Many doctoral graduates had firm plans by the time of graduation	18
The majority of doctoral graduates will be employed in research and development or in teaching	19
The expected income of doctoral graduates increased	20
Doctoral graduates further training and study	20

Table of contents

Intended country of residence of doctoral graduates	21
Conclusions	23
References	25
Endnotes	26
Appendix – Data tables	27
Cumulative index	50

Abstract

This report presents findings from the 2004/2005 Survey of Earned Doctorates (SED). The survey was administered to all students graduating from a doctoral program at a Canadian University. The 2004/2005 SED is the second edition of the annual survey.

In the 2004/2005 academic year there were approximately 4,000 new doctoral graduates, adding to the stock of highly specialized human capital in Canada. Over three quarters of Canada's PhD graduates are completing their studies in a science or engineering field, with the most popular field of study being biological sciences. Although PhD graduates accounted for roughly 0.4% of the population, Canada lags behind many other OECD countries in this regard.

Most graduates were finding success upon completion of their degrees as a large majority of graduates (73%) had firm plans to be working or continuing their studies by the time of graduation. The proportion of students who graduated without any graduate student debt decreased from the year before to reach 59%. Over three quarters of the graduates plan to stay in Canada to either work or continue their education.

Introduction

Knowledge creation and innovation through research and the development of highly qualified personnel is becoming increasingly important in the global economy. The Government of Canada has stated that the country must improve its “Knowledge Advantage” in order to compete globally and to promote economic growth. A key strategy to achieve this goal is the education of doctoral graduates.

Doctoral graduates form the new generation of professors that teach advanced courses at colleges and universities, playing a key role in the transmission of up to date knowledge to students, particularly graduate students. Since doctoral studies include the design, implementation and the interpretation of research, they also are important additions to the pool of researchers in the education, market and public sectors. Through research they contribute to knowledge creation in a variety of fields as well as product and process innovation.

Each cohort of doctoral students also raises the level of national human capital. The education level of the workforce determines the degree to which new technologies can be adopted and the amount of capital that is utilized in production. One study found that improvements in the education of the US workforce accounted for one third of all growth in the US economy over the last 50 years.¹ The Organisation for Economic Co-operation and Development (OECD) has noted that Canada has a low proportion of people with advanced degrees in the population, particularly those with advanced Science degrees.

Given this, it is important to understand the educational pathways that lead students to doctoral studies, the barriers they face, and the returns to the investment made in the additional years required for such an advanced degree.

The Survey of Earned Doctorates (SED) is a key source of national data for better understanding the development of the supply of doctoral graduates in Canada. SED is an annual survey of PhD graduates, which was conducted for the first time in the 2003/2004 academic year. It captures data on the length of time it took to complete the degree, how the students financed their education, and demographic characteristics of the graduates. The survey also provides information regarding the future plans of doctoral graduates, including their employment prospects and plans for further studies. Additionally, there is labour market information in the survey regarding the stock of these highly specialized graduates across various fields, the proportion of international students and the migration of Canadian and foreign graduates.

The United States has been conducting a similar study (also named the Survey of Earned Doctorates) since 1958. Since many of the questions in the Canadian SED have been modeled on the American doctoral survey it is easy and useful to draw comparisons to the American data to put the Canadian figures into perspective.

Notes on the data

The Survey of Earned Doctorates (SED) consists of a questionnaire given to all graduates completing a doctorate degree from each of the doctorate granting institutions in Canada, thus SED intends to be a census of doctoral graduates. The 2004/2005 survey results represent 3979 graduates who received a questionnaire. Of those who received a questionnaire, 54% responded to the survey, which compares to a response rate of 60% from the previous year. It is estimated that approximately 1% of PhD graduates (or 44 graduates) were excluded from the survey frame due to a non-response from the PhD granting institutions. This is a large improvement over the previous year when approximately 9% of doctorate graduates were excluded from the survey. Thus direct comparisons of the number of graduates between years will not be entirely accurate.

Survey responses in SED have been weighted to adjust for non-response in order to better reflect the population characteristics as reported by doctorate granting institutions. One limitation of SED is that it does not cover Canadians who graduate from a PhD program in a foreign country. Therefore, while the survey does represent graduates from Canadian programs it does not represent all Canadians who have earned a doctoral degree.

In order to meet conditions of confidentiality the fields of study have been compressed in some tables in order to provide samples that are large enough to be reported. Even with these compressed fields there are occasions when there are still insufficient numbers of graduates in a category to report the proportions. The fields are compressed as follows:

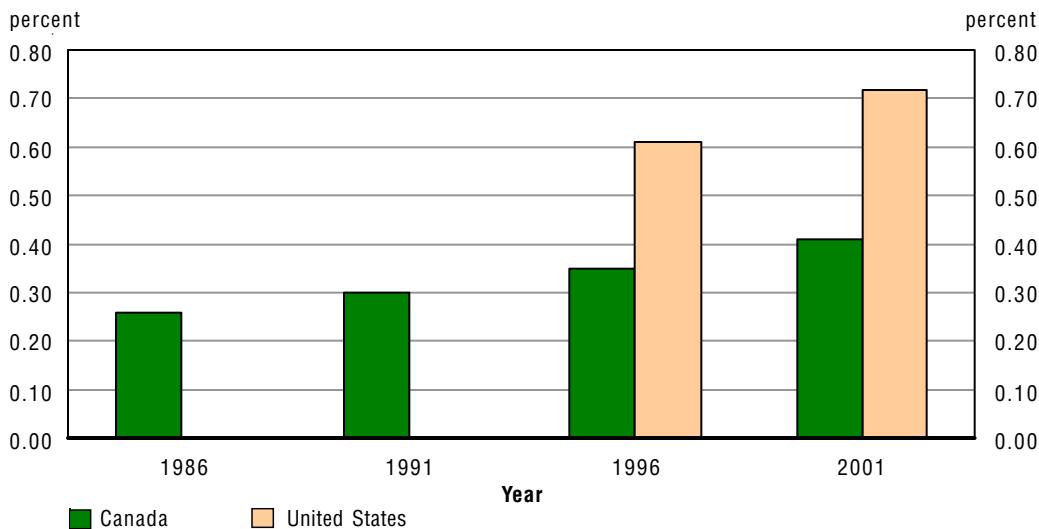
Detailed list	Compressed list
Agricultural sciences Biological sciences Health sciences	Life sciences
Engineering	Engineering
Computer science and Mathematics Chemistry Other Physical sciences	Physical sciences
Psychology Social sciences	Social sciences
Humanities	Humanities
Education Professional fields/Other	Other programs

Trends in the number of doctoral graduates

The number of doctoral students graduating from Canadian Universities has remained steady in recent years, at around 4,000 graduates². The 2004/2005 academic year was no different with approximately 4,000 students graduating with a doctoral degree from a Canadian institution. As of the 2001 census, doctoral graduates accounted for 0.41% of the Canadian population. However, this is below the level of 0.72% in the United States for the same year.

Chart 1

Proportion of earned doctorates in the population, United States and Canada



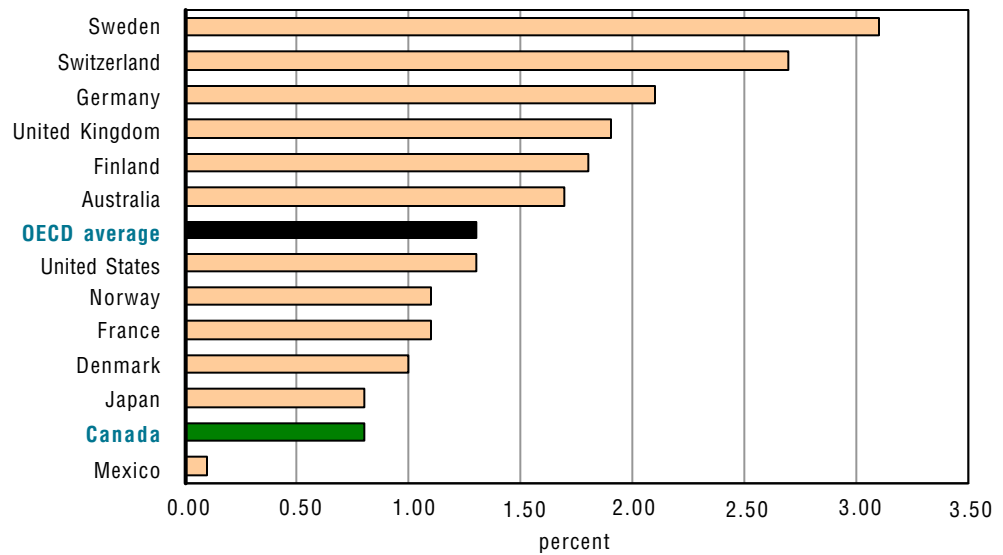
Note: Data for the United States for 1991 and earlier is unavailable.

Source: Canadian Census and the American Current Population Survey (GPS).

Although the number of PhD graduates in recent years remained stable at 4,000, enrolment in doctoral programs has increased substantially. Between 2000 and 2004 enrolment in doctoral programs has grown at an average rate of almost 7% a year. In the 2004/2005 academic year there were over 34,000 students enrolled in all years of doctoral programs. The Association of Universities and Colleges of Canada (AUCC) attributes the growth in enrolment to two factors. The first is an increase in the number of faculty at Canadian institutions, which has increased the institutional capacity for training graduate students. The second is an increase in the level of funding for graduate students through student financial assistance and research grants from both governments and universities. The increase in enrolment means that there should be a commensurate increase in the number of earned doctorates in the near future.³

Despite recent growth in enrolment, Canada ranks quite low in international comparisons of doctoral graduates. The OECD reports on the proportion of the population at the typical graduating age who had graduated from an Advanced Research Program. The OECD uses the typical graduating age in the country of question in order to make the proportions comparable across countries that have diverse education systems, particularly at the graduate level. While these figures do not accurately reflect the entire population, they are useful for comparisons. At 0.8% of the population Canada is well below the OECD average of 1.3%.⁴

Chart 2
Proportion of PhD graduates in the population at graduating age



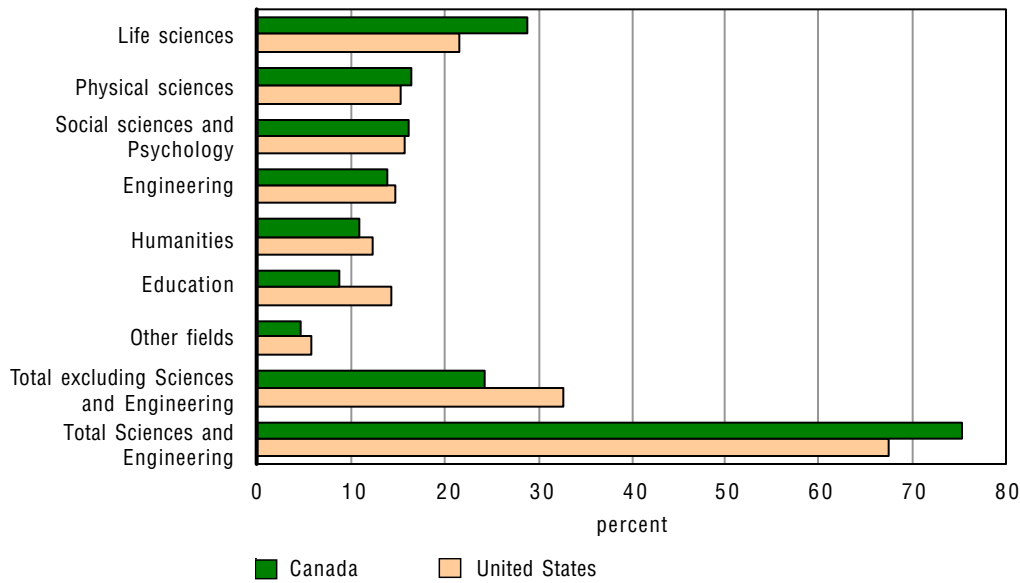
Field of study of doctoral graduates

About one fifth of the 2004/2005 graduates (21%) were enrolled in biological sciences. Engineering and humanities each account for over 10% of graduates. As was the case in 2003/2004, similar proportions graduated from psychology (9%), social sciences (8%), and education (9%).

Physical sciences, life sciences, social sciences, and engineering, which together constitute the broad category of “science and engineering,” accounted for over 75% of Canadian doctoral graduates. In the United States this category accounted for 68% of doctoral graduates. There were more doctoral graduates in education in the United States compared to Canada (14% compared to 9% in Canada). Appendix Table 1 contains a complete list of graduates in Canada by field of study.

Chart 3

Distribution of doctoral graduates by field of study in Canada and the United States



Source: Canadian Survey of Earned Doctorates 2004/2005; American Survey of Earned Doctorates 2005.

Gender differences of doctoral graduates

There was a slightly more equitable distribution of male and female graduates in the 2004/2005 academic year than in the previous year. In 2004/2005 almost 46% of graduates were women compared to almost 43% the year before. While gender differences were less pronounced overall, there remained large differences within fields of study. Engineering remained the most male dominated field, while psychology had become the most female dominated field of study.

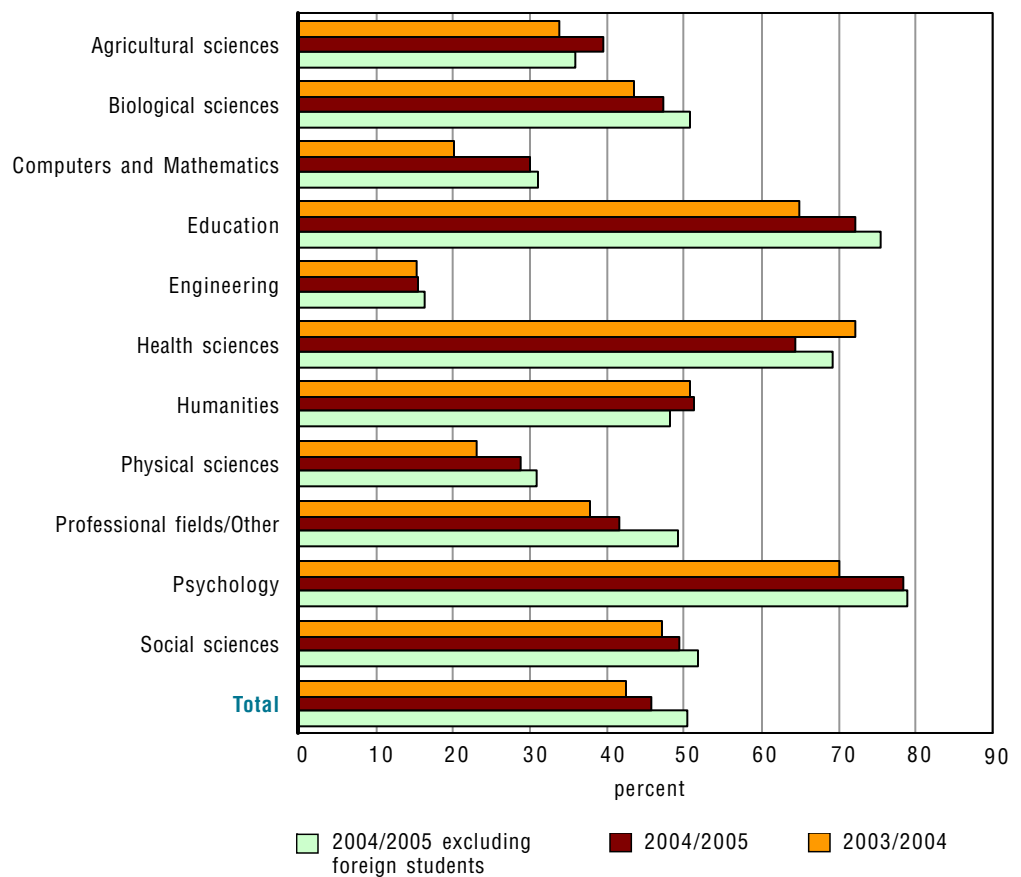
Some of the increase in the proportion of women came from substantial gains in fields that have traditionally been male dominated. In computer and information sciences and mathematics, as well as in physical sciences, the numbers of female graduates grew much faster than the number of male graduates. Between the 2003/2004⁵ and the 2004/2005 academic year, the proportion of women graduating from computer and information sciences and mathematics grew by almost 49%. Likewise, the proportion of women graduating from physical sciences grew by over 23%.⁶

Foreign students in Canadian universities are disproportionately male. When foreign and visa students were excluded from the population, the proportion of women graduating from Canadian doctoral programs was just over 50%. This compares to 47% of Canadian graduates from the 2003/2004 academic year who were women.

In the United States women accounted for 45% of doctoral graduates in the 2004/2005 academic year (compared to 46% in Canada). This marks the tenth straight year that the proportion of female doctorate recipients in the United States has been greater than 40%.

Chart 4

Proportion of doctoral graduates who are women by field of study



Almost one-quarter of PhD graduates in Canada were foreign or visa students

In the 2004/2005 academic year, approximately 23% of all graduates were foreign or visa students. Foreign graduates were disproportionately represented in engineering and the physical sciences. Over 42% of engineering graduates and more than 32% of physical science graduates were foreign or visa students. Conversely, less than 12% of social science graduates and less than 17% of humanities graduates were foreign or visa students. Perhaps this indicates that foreign students were interested in the more technical fields that have greater job prospects in their country of origin and which have a smaller language barrier to overcome. It may also be that foreign students were less interested in Canadian programs that have regional content, as in the humanities.

A notable proportion of Canadians pursued their doctoral studies as foreign students at American institutions. Canada was the fifth largest country of origin for foreign doctoral graduates in American universities. Canadians accounted for 556 graduates in the 2004/2005 academic year, or 1.3% of all students who earned a doctorate degree in the United States in that year. Over 61% of Canadian students in US universities reported that they intended to stay in the United States upon completion of their degree. This represents a loss of about 340 doctoral graduates from Canada.

The United States is a desired destination for many foreign students, particularly for students from emerging economies. Approximately 35% of all doctoral graduates in the United States were foreign or visa students.⁷ Canada had a smaller proportion of foreign graduate students (12 percentage points lower) than the US in 2004/2005.

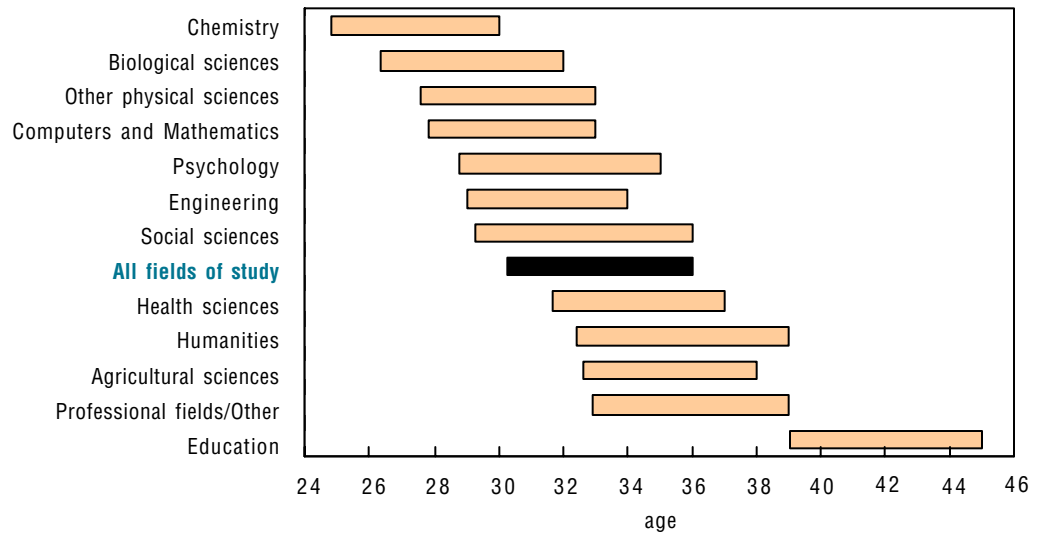
Doctoral degrees can be a lengthy investment

The age of graduation is a reflection of the student's age at enrolment and the length of time required to complete the degree. The average age of graduation for doctoral students was 36 years old and the average time for completion of a doctoral degree was 5 years and 9 months, although there was considerable variation among fields of study. Degrees in social sciences took the longest time to complete, a full year longer than the overall average. Humanities and psychology also had longer average times for completion. On the other hand, engineering required an average of only 5 years of study. Chemistry, computer and information sciences and mathematics, and health sciences were also relatively short.

Students in certain fields appeared to enroll only after gaining work experience. The average age at enrolment was over 30 years for fields such as agriculture, education, health sciences, humanities, and professional fields/other. Those in scientific fields such as chemistry appeared to complete doctoral degrees as part of their initial education.

When examined by field of study there was a high degree of correlation between the time to completion and the average age at graduation, with some notable exceptions. Education students were the oldest graduates at 45 years despite having an average length program. Similarly, professional fields/other and agricultural sciences graduates were above the average age upon completion even though these programs were of average length. In contrast, biological science students were among the youngest graduates despite having an average length program.

Chart 5
Average age of graduates at start and completion

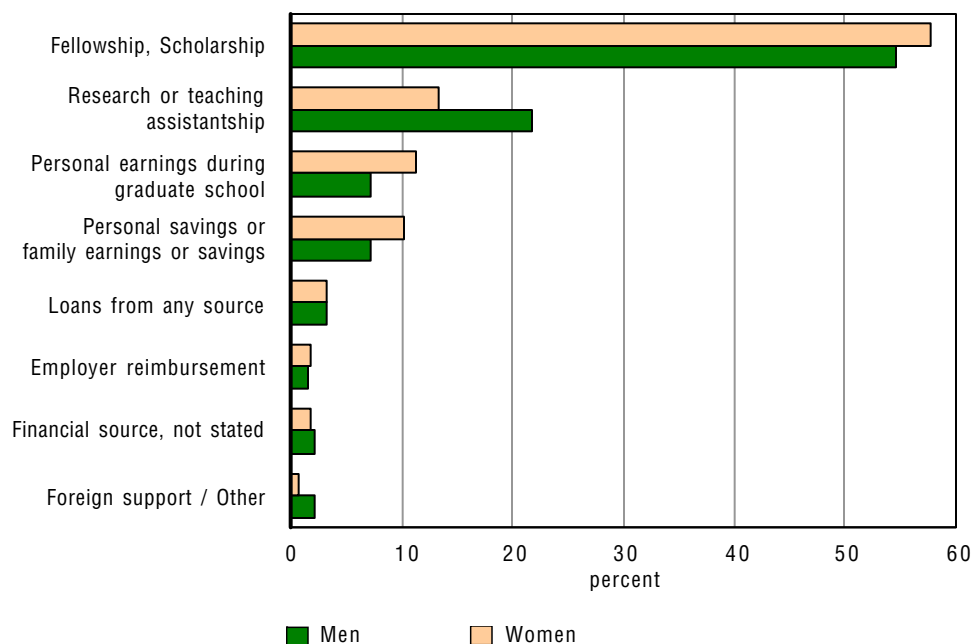


Universities were the main contributors to doctoral students’ financial support

Graduates reported using multiple sources to finance their education. The majority of students received funding from the university or institution where they did their graduate studies. About 65% of students said they received a fellowship or scholarship through their university, 63% reported receiving a teaching assistantship, and 32% reported receiving a research assistantship. Fellowships and scholarships were also received from national research councils, provincial governments and other sources. Smaller proportions of students (25% to 40%) also reported using loans, personal savings, employment earnings, and savings or earnings from family (spouse, partner or other family members) to finance their education.

Graduates were also asked about their primary financial source to pay for their studies (Chart 6). Fellowships and scholarships from all sources were reported as the primary source of financial support for 56% of graduates, while research and teaching assistantships were reported as the primary financial support for nearly 18% of graduates. Other sources cited as the primary source of financial support include personal earnings during graduate school, personal savings or family earnings or savings, loans, and employer reimbursement and assistance.

Chart 6

Primary source of financial support for graduate studies


Some differences were observed in the reported primary source of financial support across genders. Women were more likely to report fellowships and scholarships than men were, however, men were more likely to report receiving a research or teaching assistantship. Women were also more likely to use money from personal earnings and savings or family earnings or savings as their primary source of financing. But given the uneven distribution of genders between fields of study it is difficult to draw conclusions about genders without first controlling for program choice.

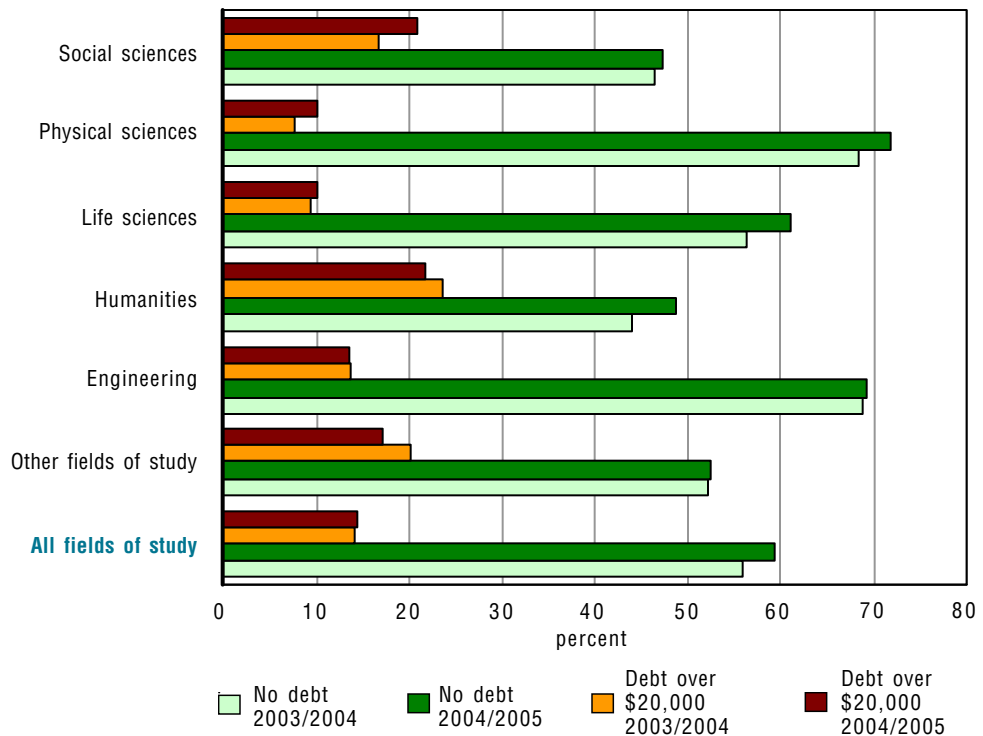
Fewer doctoral students were graduating with debt

The 2004/2005 graduates were less likely to have student debt than were the graduates from the previous year. In 2004/2005, 59% of students reported having no debt from their graduate studies and 50% reported having no debt from either their graduate or undergraduate studies upon completion. This compares to 56% and 46% respectively for the doctoral graduates from a year earlier.

While the proportion of graduates holding education debt had decreased from the previous year, the proportion of graduates owing greater than \$20,000 from their graduate or undergraduate degrees remained constant. Fifteen percent of the 2004/2005 graduates reported owing over \$20,000 from their graduate studies.

Among fields of study, physical sciences and engineering had the greatest proportion (70%) of graduates without any graduate student debt, while social sciences and humanities had the fewest graduates with no graduate student debt. Additionally, about one fifth of graduates from social sciences and humanities had amassed debt over \$20,000.

Chart 7
Doctoral graduate debt by field of study



A greater proportion of doctoral students in the United States, 67% of graduates, reported no debt accruing from their graduate studies (compared to 59% in Canada). However, a similar proportion of graduates (51% compared with 50% in Canada) reported no debt from both their graduate and undergraduate degrees. A larger proportion of students in the United States (20% compared to Canada's 15%) reported graduate debt of over \$20,000.

Many doctoral graduates had firm plans by the time of graduation

Almost three quarters of doctoral graduates (73%) in 2004/2005 reported having firm plans for either employment or for further studies by the time of their graduation. About 20% of graduates reported that they would return to a position held prior to the completion of their degree, and almost 53% of graduates had made a definite commitment to begin work or further studies in a new situation. The remaining graduates (27%) had no firm plans by the time of graduation: 7% were in negotiations with an employer, 18% were seeking a position but did not have any specific prospects, and a further 1% had no plans for either work or further studies.

Graduates of social sciences, life sciences, and physical sciences were the most likely to have firm plans, with about 75% of these graduates having firm plans for after graduation. Graduates of humanities were the least likely to have firm plans with less than 57% either returning to an employer or having made a definite commitment for other work or study.

There was a similar proportion of graduates from the previous year who reported having firm plans upon graduation. In the 2003/2004 academic year, 74% of all graduates had firm plans with an additional 7% in negotiations.

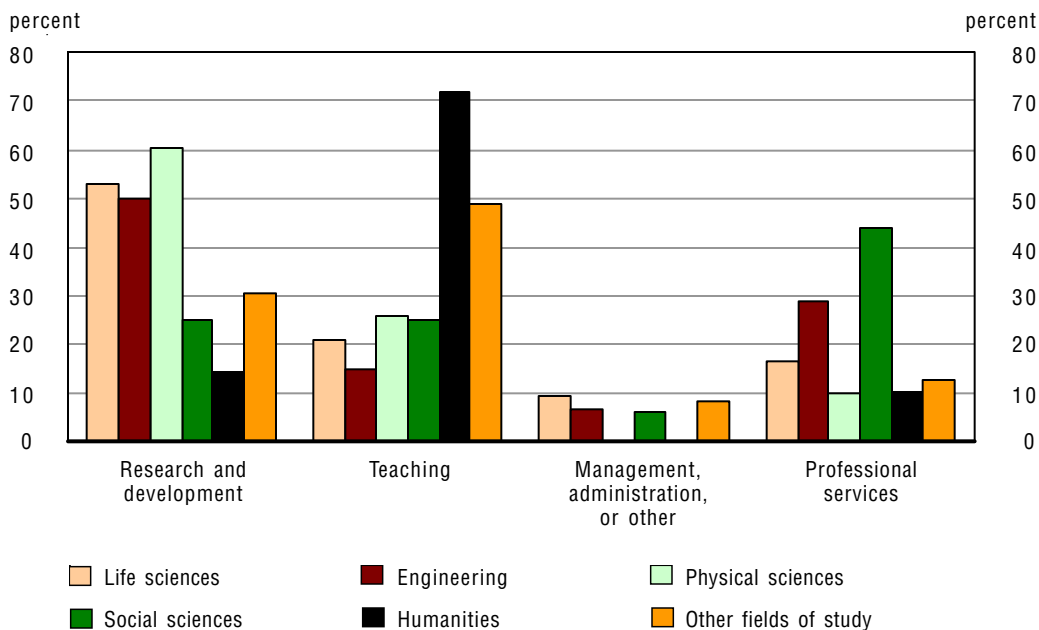
In the United States a comparable proportion of graduates (71% compared to Canada's 73%) had firm plans for work or study upon graduation.

The majority of doctoral graduates will be employed in research and development or in teaching

Graduates with firm plans for employment were asked about their primary activities for the coming year. Nearly 38% of graduates reported that they would be conducting research and development and one third of graduates would be employed in teaching. Over 22% of graduates were going to be employed in professional services. There were large differences in activities across fields of study with the sciences more directed to research and development (50% to 60%) and the humanities more inclined to teaching (72%).

Chart 8

Primary activity of employment of doctoral graduates by field of study



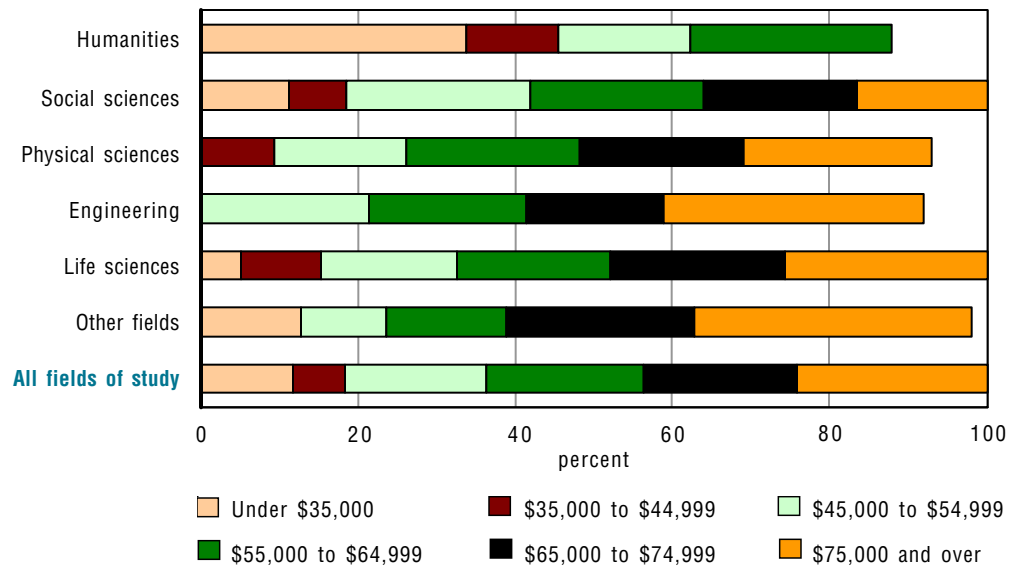
Graduates were also asked about the sector of the economy in which they would be employed. The service industries were reported most often as an employer of doctoral graduates with 54% of graduates employed in educational services, 16% in professional, scientific and technical services, 13% in health care and social assistance, 8% in public administration, and 6% in all other service industries. Only 4% of graduates had firm plans to be employed in a goods producing industry. Engineering was the only exception to this pattern, with 23% of graduates having firm plans for employment in a goods producing industry.

The expected income of doctoral graduates increased

Among graduates with firm plans for employment, almost 64% expected that their annual wage or salary would be \$55,000 or greater. This was an increase over the previous year of almost 4 percentage points⁸. The number of those expecting to earn less than \$35,000 remained unchanged from the previous year at 12%. Large differences in expected earnings existed between fields of study. The category “other fields of study” (which includes education, professional fields and others) had the greatest proportion of graduates expecting to earn more than \$55,000, followed by engineering. The smallest proportion of graduates expecting to be in the higher income range came from humanities.

Chart 9

Expected income of doctoral graduates with firm plans by field of study – proportion by income range



Note: Fields of study may not sum to 100 percent due to the suppression of figures for the purpose of confidentiality and/or data accuracy.

Doctoral graduates further training and study

Almost three quarters of all graduates pursuing further education reported that they would be doing so in a postdoctoral fellowship. The proportion of postdoctoral fellowships was greatest for graduates in humanities (92%).

Over 90% of graduates in all fields, except the social sciences, reported that their primary activity during their continued studies would be related to research and development. Of the graduates in social sciences pursuing further studies, 14% would be doing so in the area of professional services, while 83% would be in research and development. Overall, only 4% of graduates pursuing further studies would be doing so in professional services with an additional 4% in other areas.

Graduates reported obtaining funding from a variety of sources to finance their postdoctoral studies. Sources included funding agencies (47%), industry and business (8%), colleges and universities (24%), private foundations and non-profits

(5%). Significant differences were observed for the source of funding across fields of study. Engineering graduates were more likely to use funding from industry or business as their primary source than were other fields of study.

Graduates pursuing further studies were most likely to be involved in an academic environment. Eighty-six percent of graduates reported plans to continue studies at an educational institution, 7% would be doing so within the government sector, and a further 6% would be continuing their studies in the private sector.

Intended country of residence of doctoral graduates

The international mobility of graduates is important due to the international nature of academic research. About 23% of doctoral graduates in 2004/2005 planned to live outside of Canada upon the completion of their degree. This was about the same as the proportion from the 2003/2004 academic year when 21% of doctoral graduates reported intentions to leave the country.

While about 46% of graduates intending to leave were born in Canada, this represents only 18% of Canadian born doctoral graduates. Conversely, while American born graduates make up a small percentage of all those intending to remain in Canada, this group accounts for 60% of all US born graduates studying in Canada. An even greater proportion of graduates born outside Canada or the United States, over 72%, intended to remain in Canada upon completion of their doctoral studies.

Compared to those who intended to stay in Canada, graduates who were planning on living outside of Canada were more likely to have had firm plans for work. Over half of those leaving reported firm plans for employment in their intended country, while only 29% of those planning to stay in Canada had firm plans to work. On the other hand, graduates who were planning on continuing their studies were more likely to do so in Canada. Only 27% of those who were intending to leave planned on post-doctoral studies, while almost 46% of those who were staying said they will continue their education.

Graduates who had a spouse or a partner were less likely to have had plans to leave, however, graduates with dependents were actually more likely to have had plans to live outside of Canada. Over 27% of graduates with dependents had plans to leave while just 13% of graduates without dependents expected to leave Canada. It is, however, unclear how foreign born students influence these findings. Men were more likely to have plans to leave than were women.

Graduates from life sciences and from physical sciences were more likely to have had plans to leave Canada than were graduates from other fields, particularly the “other” category where graduates were the least likely to leave. About 27% of graduates from life sciences and 34% of graduates from physical sciences had plans to live outside Canada, while only 15% of social science graduates and 13% of “other” fields had plans to leave. No doubt this is partially influenced by the number of foreign and visa students enrolled in the various fields, however, life sciences had a relatively low proportion of foreign students, while engineering graduates, which included by far the largest proportion of foreign students, were below average in the proportion with plans to leave Canada.

Chart 10

Foreign born doctoral graduates and the proportion planning to leave Canada by field of study

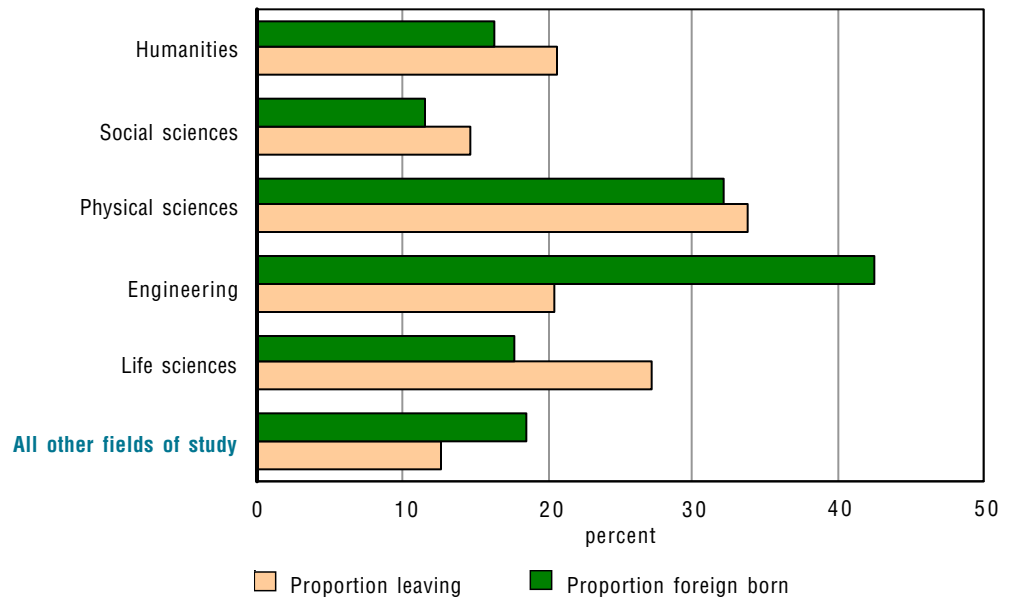


Table 1

Proportion of doctoral graduates planning to stay in Canada or leave

	2003/2004		2004/2005	
	Intending to stay	Intending to leave	Intending to stay	Intending to leave
	percent			
Total	79.0	21.0	77.2	22.8
Firm plans	73.6	79.4	74.4	78.1
No firm plans	26.4	20.6	26.0	22.1
Country of birth				
Canada	59.9	44.7	60.7	45.9
United States	2.0	7.9	2.7	6.2
Another country	38.1	47.4	36.7	48.0
Gender				
Male	54.7	66.9	50.1	65.9
Female	45.3	33.1	49.9	34.1
Dependents				
Has dependent(s) ¹	40.7	25.2	37.2	19.7
No dependents ¹	59.3	74.8	62.8	80.3
Field of study				
Life sciences	24.7	42.4	27.5	34.8
Engineering	14.3	10.0	14.1	12.3
Physical sciences	13.8	21.1	14.3	24.7
Social sciences	20.1	10.3	17.9	10.5
Humanities	14.5	9.4	11.1	9.8
Other fields of study	12.7	6.9	15.1	7.4

1. Excluding spouse or partner.

Conclusions

The 2004/2005 Survey of Earned Doctorates provides a profile of highly trained individuals as they enter the work force or move on to further education. The number of doctoral graduates graduating from Canadian universities was maintained at around 4,000 graduates. However, enrolment into doctoral programs has increased substantially. Between 2000 and 2004 enrolment in doctoral programs grew at an average rate of almost 7% a year so that in the 2004/2005 academic year there were over 34,000 students enrolled in all years of doctoral programs. Therefore, the number of future doctoral graduates is expected to increase in the coming years.

Participation in doctoral education has been encouraged by the availability of financial support and by strong income expectations. The 2004/2005 Survey of Earned Doctorates revealed that nearly 64% of graduates reported that they expected to earn over \$55,000 in their future employment.

Doctoral graduates found multiple sources to finance their education, particularly from their academic institutions through fellowships or scholarships and teaching or research assistantships. Accordingly, 59% of students graduated without any debt related to their graduate studies. The proportion of students without any debt from either their graduate or undergraduate studies also improved since the previous year, with 50% of graduates debt free in 2004/2005 compared to 46% in the 2003/2004 academic year.

The majority of doctoral graduates found employment in research and development, or teaching. Almost 38% of graduates intended to work in research and development, while 33% planned to teach. Furthermore, for graduates who were continuing their studies, most chose post-doctoral programs with a focus on research and development.

Canada continued to be a desired destination for foreign doctoral students. Nearly 23% of doctorate earners were foreign or visa students and a majority of these students planned to remain in Canada.

The proportion of doctoral graduates in the Canadian population (0.41%) was much lower than in the United States (0.72%). However, the Canadian education system compares well with the United States in many other regards. For instance, Canada had a higher proportion of graduates in science and engineering and a lower proportion of students with graduate student debt of over \$20,000.

The fundamentals for ensuring growth in the pool of highly qualified personnel in Canada are in place. Enrolment is on the rise and graduates' income expectations remain strong. Students are able to finance their advanced education, often by working at their university, gaining valuable experience while providing teaching and research expertise to their institution. These factors, however, will have to be considered relative to other developments in Canada and abroad and their influence

on the global supply and demand of doctoral graduates. As such, it will also be interesting to study future waves of the Survey of Earned Doctorates in order to follow the evolution of doctoral education in Canada.

References

- Allen, Mary and Vaillancourt, Chantal. *Class of 2000: Profile of Postsecondary Graduates and Student Debt*. Statistics Canada (2004).
- Blundell, Richard, Dearden, Lorraine, Meghir, Costas and Siansesi, Barbara. *Human Capital Investment: The Returns from Education and Training to the Individual, the Firm and the Economy*. Institute for Fiscal Studies (1999).
- Gluszynski, Tomasz and Peters, Valerie. *Survey of Earned Doctorates: A Profile of Doctoral Degree Recipients*. Statistics Canada and Human Resources and Skills Development Canada, 2005.
- Hoffer, T.B., V. Welch, Jr., K. Webber, K. Williams, B. Lisek, M. Hess, D. Loew, and I. Guzman-Barron. 2006. *Doctorate Recipients from United States Universities: Summary Report 2005*. Chicago: National Opinion Research Center. (The report gives the results of data collected in the Survey of Earned Doctorates, conducted for six federal agencies, NSF, NIH, USED, NEH, USDA, and NASA by NORC.)
- Trends in Higher Education*. Association of Universities and Colleges of Canada (2007).
- Education at a Glance: OECD Indicators 2006*. Organization for Economic Cooperation and Development (2006).

Endnotes

1. *Human Capital Investment: The Returns from Education and Training to the Individual, the Firm and the economy* by Richard Blundell, Lorraine Dearden, Costas Meghir and Barbara Sianesi. Institute for Fiscal Studies (1999).
2. According to the Post Secondary Information System (PSIS), which tracks enrolment and graduates using institutional records.
3. *Trends in Higher Education*. Association of Universities and Colleges of Canada (2007).
4. Education at a Glance 2006, OECD. Table A3.1.
5. The source for all comparisons to the 2003/2004 academic year comes from *Survey of Earned Doctorates: A Profile of Doctoral Degree Recipients* by Tomasz Gluszynski and Valerie Peters. Statistics Canada (2005).
6. The observed large increases in the proportions of female graduates in certain fields are the result of substantial increases in the number of female graduates combined with relatively small numbers of female graduates to begin with, in these programs.
7. The source for American figures is the American Survey of Earned Doctorates *Summary Report 2005*.
8. The difference in expected earnings between years was not statistically significant due to the method of reporting income within ranges. Readers should also note that the expected income has not been controlled for inflation.

Appendix – Data tables

Table 1
Characteristics of doctoral graduates, 2004/2005

	Proportion	Confidence limits (95%)		Coefficient of variation
	percent	lower	upper	percent
Distribution of graduates by fields of study				
Agricultural sciences	2.4	1.9	2.9	10.95
Biological sciences	20.6	19.4	21.8	2.96
Health sciences	5.9	5.2	6.7	6.41
Engineering	13.8	12.7	14.8	3.90
Computer and information sciences	3.0	2.5	3.5	8.94
Mathematics	2.3	1.8	2.8	11.16
Astronomy	x	x	x	x
Atmospheric sciences and meteorology	0.4	0.2	0.6	26.57 ^E
Chemistry	5.1	4.4	5.8	6.89
Geological and related sciences	1.9	1.4	2.3	12.00
Physics	2.5	2.0	3.1	10.47
Other physical sciences	1.3	0.9	1.8	15.84
Psychology	8.6	7.7	9.4	4.99
Social sciences	7.6	6.8	8.4	5.47
Humanities	10.9	10.0	11.8	4.17
Education	8.8	7.8	9.7	5.57
Professional fields / other	4.6	4.0	5.2	7.01
Gender				
Men	54.1	53.1	55.1	0.92
Women	45.9	44.9	46.9	1.08
Marital status				
Never legally married (single, not common-law)	26.9	25.5	28.3	2.68
Married or common-law	68.3	66.8	69.8	1.10
Separated, but still legally married	1.9	1.4	2.3	12.91
Divorced	2.8	2.3	3.3	8.86
Widowed	x	x	x	x
Distribution of graduates who have dependents¹				
Have no dependent	66.8	65.2	68.3	1.17
Have dependents	33.2	31.7	34.8	2.34
Distribution of graduates who were foreign students				
Foreign or visa student	22.6	21.3	23.8	2.79
Canadian student	77.4	76.2	78.7	0.81
Distribution of graduates by age groups				
Less than 22	x	x	x	x
22 to 24	x	x	x	x
25 to 29	22.6	21.3	24.0	3.02
30 to 39	53.6	52.0	55.2	1.51
40 and over	23.7	22.3	25.1	2.96

x suppressed to meet the confidentiality requirements of the *Statistics Act*

^E use with caution

1. Excludes spouse/partner.

Source: Survey of Earned Doctorates, Statistics Canada, 2004/2005.

Table 2.A
Distribution of doctoral graduates by detailed field of study and gender, 2004/2005

	Proportion	Confidence limits (95%)		Coefficient of variation
		percent	lower	
Agricultural sciences				
Male	60.4	49.4	71.3	9.27
Female	39.6	28.7	50.6	14.11
Biological sciences				
Male	52.8	49.9	55.8	2.85
Female	47.2	44.2	50.1	3.19
Health sciences				
Male	35.6	29.2	41.9	9.13
Female	64.4	58.1	70.8	5.04
Engineering				
Male	84.5	81.3	87.7	1.94
Female	15.5	12.3	18.7	10.59
Computer and information sciences, and mathematics				
Male	70.0	63.5	76.4	4.70
Female	30.0	23.6	36.5	10.96
Physical sciences				
Male	71.3	67.2	75.4	2.92
Female	28.7	24.6	32.8	7.28
Psychology				
Male	21.6	17.5	25.7	9.62
Female	78.4	74.3	82.5	2.65
Social sciences				
Male	50.5	45.0	55.9	5.50
Female	49.5	44.1	55.0	5.60
Humanities				
Male	48.9	44.7	53.0	4.31
Female	51.1	47.0	55.3	4.11
Education				
Male	27.8	22.3	33.3	10.13
Female	72.2	66.7	77.7	3.90
Professional fields / other fields of study				
Male	58.4	51.6	65.2	5.96
Female	41.6	34.8	48.4	8.37

Source: Survey of Earned Doctorates, Statistics Canada, 2004/2005.

Table 2.B
Distribution of doctoral graduates by detailed field of study and gender excluding foreign born and visa students, 2004/2005

	Proportion	Confidence limits (95%)		Coefficient of variation
		percent	lower	
Agricultural sciences				
Male	64.0	50.9	77.1	10.45
Female	36.0	22.9	49.1	18.56 ^E
Biological sciences				
Male	49.3	46.2	52.5	3.29
Female	50.7	47.5	53.8	3.20
Health sciences				
Male	30.8	24.2	37.3	10.85
Female	69.2	62.7	75.8	4.83
Engineering				
Male	83.6	79.1	88.0	2.73
Female	16.4	12.0	20.9	13.89
Computer and information sciences, and mathematics				
Male	68.9	60.8	77.0	5.98
Female	31.1	23.0	39.2	13.23
Physical sciences				
Male	69.3	64.5	74.0	3.49
Female	30.7	26.0	35.5	7.88
Psychology				
Male	21.0	16.9	25.1	10.03
Female	79.0	74.9	83.1	2.66
Social sciences				
Male	48.2	42.1	54.3	6.47
Female	51.8	45.7	57.9	6.02
Humanities				
Male	51.8	47.2	56.3	4.48
Female	48.2	43.7	52.8	4.82
Education				
Male	24.4	18.8	30.1	11.82
Female	75.6	69.9	81.2	3.82
Professional fields / other				
Male	50.9	42.8	59.1	8.19
Female	49.1	40.9	57.2	8.50
All fields of study				
Male	49.5	48.5	50.6	1.09
Female	50.5	49.4	51.5	1.07

^E use with caution

Source: Survey of Earned Doctorates, Statistics Canada, 2004/2005.

Table 3

Average age of doctoral graduates at graduation and average time to completion by field of study, 2004/2005

	Average age at graduation	Confidence limits (95%)	
	in years	lower	upper
Agricultural sciences	38	37	39
Biological sciences	32	32	32
Health sciences	37	36	38
Engineering	34	34	35
Computer and information sciences, and mathematics	33	32	34
Chemistry	30	30	31
Other physical sciences	33	32	33
Psychology	35	34	36
Social sciences	36	36	37
Humanities	39	38	39
Education	45	44	46
Professional fields / other	39	38	40
All fields of study	36	35	36

	Average time to completion	Confidence Confidence limits (95%)	
	in months	lower	upper
Agricultural sciences	65	61	70
Biological sciences	68	67	69
Health sciences	64	61	67
Engineering	60	58	62
Computer and information sciences, and mathematics	62	59	64
Chemistry	62	60	64
Other physical sciences	65	62	68
Psychology	75	72	78
Social sciences	81	77	85
Humanities	79	76	82
Education	71	68	74
Professional fields / other	73	70	77
All fields of study	69	68	70

Source: Survey of Earned Doctorates, Statistics Canada, 2004/2005.

Table 4

Canadian and foreign or visa doctoral students by field of study, 2004/2005

	Proportion	Confidence limits (95%)		Coefficient of variation
		percent	lower	
Life sciences				
Foreign or visa student	17.7	15.5	20.0	6.52
Canadian student	82.3	80.0	84.5	1.40
Engineering				
Foreign or visa student	42.4	38.0	46.7	5.26
Canadian student	57.6	53.3	62.0	3.87
Physical sciences				
Foreign or visa student	32.2	28.5	36.0	5.93
Canadian student	67.8	64.0	71.5	2.82
Social sciences				
Foreign or visa student	11.5	9.1	13.9	10.51
Canadian student	88.5	86.1	90.9	1.37
Humanities				
Foreign or visa student	16.4	13.3	19.5	9.65
Canadian student	83.6	80.5	86.7	1.89
Other fields of study				
Foreign or visa student	18.6	14.9	22.3	10.24
Canadian student	81.4	77.7	85.1	2.34
All fields of study				
Foreign or visa student	22.6	21.3	23.8	2.79
Canadian student	77.4	76.2	78.7	0.81

Source: Survey of Earned Doctorates, Statistics Canada, 2004/2005.

Table 5

Source and number of sources of financial support during graduate school, 2004/2005

Source of financial support	Proportion percent	Confidence limits (95%)		Coefficient of variation percent
		lower	upper	
Fellowship or scholarship from:				
National Sciences and Engineering Research Council	18.30	17.10	19.40	3.34
Social Sciences and Humanities Research Council	11.40	10.40	12.30	4.26
Medical Research Council / Canadian Institutes of Health Research	8.30	7.50	9.10	4.83
Your institution	65.60	64.10	67.10	1.15
Provincial	36.10	34.70	37.60	2.08
Another	22.60	21.30	23.90	2.96
Unknown	1.40	1.10	1.70	11.78
Teaching assistantship from:				
National Sciences and Engineering Research Council	0.40	0.20	0.50	24.22 ^E
Social Sciences and Humanities Research Council	0.30	0.20	0.50	25.51 ^E
Medical Research Council / Canadian Institutes of Health Research	0.30	0.20	0.40	23.46 ^E
Your institution	63.00	61.50	64.40	1.19
Provincial	x	x	x	x
Another	0.40	0.20	0.70	28.08 ^E
Unknown	0.40	0.20	0.60	28.50 ^E
Research assistantship from:				
National Sciences and Engineering Research Council	11.70	10.70	12.70	4.38
Social Sciences and Humanities Research Council	5.60	4.80	6.30	6.72
Medical Research Council / Canadian Institutes of Health Research	2.80	2.20	3.30	9.86
Your institution	32.10	30.60	33.60	2.33
Provincial	3.50	2.90	4.10	8.58
Another	11.00	10.10	12.00	4.54
Unknown	2.30	1.70	2.80	11.97
Loans (from any source)	25.70	24.40	27.00	2.63
Foreign (non-Canadian) support	4.70	3.90	5.40	7.99
Personal savings	38.00	36.50	39.50	2.03
Personal earnings during graduate school (other than sources listed above)	34.90	33.40	36.40	2.15
Spouse's, partner's or family earnings or savings	32.70	31.30	34.20	2.24
Employer reimbursement or assistance	6.60	5.70	7.40	6.39
Other source	2.30	1.80	2.90	11.26
Average number of financial sources reported by doctoral graduates				
	Average number of sources percent	Confidence limits (95%)		Coefficient of variation percent
		lower	upper	
Life sciences	4.15	4.04	4.25	1.28
Engineering	4.16	4.02	4.31	1.76
Physical sciences	4.51	4.39	4.63	1.37
Social sciences	4.97	4.81	5.13	1.64
Humanities	4.87	4.72	5.02	1.56
Others	4.22	4.04	4.39	2.11
All fields of study	4.43	4.37	4.48	0.65

 x suppressed to meet the confidentiality requirements of the *Statistics Act*
^E use with caution

Source: Survey of Earned Doctorates, Statistics Canada, 2004/2005.

Table 6

Distribution of graduates reporting source of financial support during graduate school, 2004/2005

	Proportion	Confidence limits (95%)		Coefficient of variation
	percent	lower	upper	percent
Primary source of financial support				
Fellowship, Scholarship	56.0	54.5	57.6	1.41
Research or teaching assistantship	17.8	16.6	19.0	3.39
Loans from any source	3.2	2.6	3.8	9.07
Personal savings or spouse's, partner's or family earnings or savings	8.6	7.7	9.4	5.17
Personal earnings during graduate school (other than those listed above)	9.1	8.2	10.0	5.02
Employer reimbursement / assistance	1.7	1.3	2.2	13.33
Foreign support / other	1.5	1.1	1.9	13.28
Financial source, not stated	2.0	1.5	2.5	13.05
Secondary source of financial support				
Fellowship, Scholarship	34.9	33.4	36.4	2.18
Research or teaching assistantship	30.0	28.6	31.5	2.44
Loans from any source	3.9	3.4	4.5	7.43
Personal savings or spouse's, partner's or family earnings or savings	11.0	10.1	12.0	4.32
Personal earnings during graduate school (other than those listed above)	7.7	6.9	8.6	5.82
Employer reimbursement / assistance	1.7	1.3	2.2	12.79
Foreign support / other	1.2	0.8	1.6	17.66 ^E
No secondary source of financial support	7.4	6.7	8.2	5.25
Financial source, not stated	2.0	1.5	2.5	13.05

^E use with caution

Source: Survey of Earned Doctorates, Statistics Canada, 2004/2005.

Table 7

Primary sources of financial support by gender, 2004/2005

	Proportion	Confidence limits (95%)		Coefficient of variation
	percent	lower	upper	percent
Male				
Fellowship, Scholarship	54.7	52.6	56.8	1.98
Research or teaching assistantship	21.7	20.0	23.5	4.12
Loans from any source	3.2	2.4	4.0	13.09
Personal savings or spouse's, partner's or family earnings or savings	7.1	6.0	8.2	8.19
Personal earnings during graduate school (other than those listed above)	7.2	6.1	8.2	7.48
Employer reimbursement / assistance	1.6	1.1	2.2	16.50
Foreign support / other	2.2	1.6	2.9	15.75
Financial source, not stated	2.2	1.5	3.0	16.58 ^E
Female				
Fellowship, Scholarship	57.6	55.4	59.9	2.01
Research or teaching assistantship	13.3	11.7	14.8	6.07
Loans from any source	3.3	2.5	4.1	12.39
Personal savings or spouse's, partner's or family earnings or savings	10.3	8.9	11.6	6.63
Personal earnings during graduate school (other than those listed above)	11.3	9.8	12.8	6.74
Employer reimbursement / assistance	1.8	1.1	2.5	21.09 ^E
Foreign support / other	0.7	0.4	1.0	21.25 ^E
Financial source, not stated	1.8	1.0	2.5	21.32 ^E

^E use with caution

Source: Survey of Earned Doctorates, Statistics Canada, 2004/2005.

Table 8
Combinations of source of financial support during graduate school, 2004/2005

Primary source of funding combined with a secondary source of funding	Proportion	Confidence limits (95%)		Coefficient of variation
		percent	lower	
Fellowship, scholarship				
Fellowship, scholarship	21.8	20.6	23.1	3.01
Research or teaching assistantship	18.8	17.5	20.0	3.35
Personal savings or spouse's, partner's or family earnings or savings	6.0	5.3	6.7	5.78
Personal earnings during graduate school (other than those listed above)	4.1	3.4	4.7	7.97
Other sources	2.9	2.3	3.4	9.62
Research or teaching assistantship				
Fellowship, scholarship	7.0	6.2	7.9	6.11
Research or teaching assistantship	7.3	6.4	8.1	5.83
Personal savings or spouse's, partner's or family earnings or savings	1.1	0.8	1.4	15.22
Personal earnings during graduate school (other than those listed above)	0.7	0.5	1.0	16.88 ^E
Other sources	1.3	0.9	1.6	14.41
Personal savings or spouse's, partner's or family earnings or savings				
Fellowship, scholarship	2.5	2.1	2.9	8.75
Research or teaching assistantship	1.6	1.2	2.0	12.91
Personal savings or spouse's, partner's or family earnings or savings	0.8	0.6	1.1	16.13
Personal earnings during graduate school (other than those listed above)	2.0	1.5	2.5	12.90
Other sources	0.9	0.6	1.2	17.72 ^E
Personal earnings during graduate school (other than those listed above)				
Fellowship, scholarship	2.7	2.2	3.2	9.37
Research or teaching assistantship	1.3	0.9	1.8	16.15
Personal savings or spouse's, partner's or family earnings or savings	2.2	1.8	2.7	10.05
Personal earnings during graduate school (other than those listed above)	x	x	x	x
Other sources	1.6	1.2	2.0	12.46
Other sources				
Fellowship, scholarship	1.6	1.2	2.0	12.71
Research or teaching assistantship	1.7	1.2	2.1	12.91
Personal savings or spouse's, partner's or family earnings or savings	1.1	0.7	1.5	17.80 ^E
Personal earnings during graduate school (other than those listed above)	1.1	0.7	1.4	17.82 ^E
Other sources	x	x	x	x

x suppressed to meet the confidentiality requirements of the *Statistics Act*

^E use with caution

Source: Survey of Earned Doctorates, Statistics Canada, 2004/2005.

Table 9
Debt for graduate and undergraduate programs, 2004/2005

	Proportion	Confidence limits (95%)		Coefficient of variation
		percent	lower	
Debt from graduate studies				
No debt	59.4	57.8	60.9	1.3
\$10,000 or less	15.8	14.6	16.9	3.8
\$10,001 to \$20,000	10.3	9.5	11.2	4.3
\$20,001 or more	14.5	13.4	15.7	3.9
Debt from undergraduate studies				
No debt	73.6	72.2	74.9	1.0
\$10,000 or less	9.2	8.3	10.1	5.2
\$10,001 to \$20,000	9.1	8.2	10.0	5.0
\$20,001 or more	8.1	7.3	8.9	5.0
No debt from graduate studies or undergraduate studies	50.3	48.7	51.9	1.6
Debt from undergraduate studies only	9.2	8.3	10.1	5.0
of these, proportion with debt of:				
\$10,000 or less	34.8	30.0	39.6	7.1
\$10,001 to \$20,000	38.1	33.1	43.1	6.7
\$20,001 or more	27.1	22.6	31.6	8.5
Debt from graduate studies only	23.1	21.7	24.4	2.9
of these, proportion with debt of:				
\$10,000 or less	40.8	37.6	44.0	4.0
\$10,001 to \$20,000	25.3	22.6	27.9	5.4
\$20,001 or more	34.0	30.9	37.1	4.7
Debt from undergraduate and graduate studies¹	17.5	16.3	18.7	3.4
of these, amount of debt:				
less than \$20,000	16.3	13.4	19.2	9.1
\$20,000 or more	65.4	61.7	69.0	2.8
uncertain but between \$10,000 and \$30,000	18.3	15.4	21.3	8.2

1. Exact totals of the graduate and undergraduate debt cannot be calculated because the debt totals were reported as ranges.

Source: Survey of Earned Doctorates, Statistics Canada, 2004/2005.

Table 10
Graduate debt by field of study, 2004/2005

	Proportion	Confidence limits (95%)		Coefficient of variation
		percent	lower	
Life sciences				
No debt	61.1	58.4	63.8	2.27
\$10,000 or less	15.8	13.7	17.8	6.78
\$10,001 to \$20,000	12.9	11.1	14.8	7.20
\$20,001 or more	10.2	8.6	11.8	8.02
Engineering				
No debt	69.3	65.3	73.3	2.93
\$10,000 or less	11.4	8.6	14.2	12.55
\$10,001 to \$20,000	5.7	3.8	7.5	16.54
\$20,001 or more	13.6	10.7	16.6	10.99
Physical sciences				
No debt	71.8	68.3	75.4	2.52
\$10,000 or less	12.5	10.1	14.9	9.80
\$10,001 to \$20,000	5.6	3.9	7.4	15.46
\$20,001 or more	10.0	7.4	12.6	13.24
Social sciences				
No debt	47.3	43.4	51.3	4.23
\$10,000 or less	20.1	16.8	23.3	8.29
\$10,001 to \$20,000	11.7	9.5	14.0	9.85
\$20,001 or more	20.9	17.5	24.2	8.15
Humanities				
No debt	48.8	44.4	53.1	4.58
\$10,000 or less	15.5	12.5	18.4	9.75
\$10,001 to \$20,000	14.1	11.1	17.2	10.93
\$20,001 or more	21.7	18.1	25.2	8.39
Other fields of study				
No debt	52.4	47.7	57.0	4.54
\$10,000 or less	19.6	15.7	23.6	10.29
\$10,001 to \$20,000	10.7	8.3	13.2	11.76
\$20,001 or more	17.3	13.9	20.6	9.85
All fields of study				
No debt	59.4	57.8	60.9	1.32
\$10,000 or less	15.8	14.6	16.9	3.77
\$10,001 to \$20,000	10.3	9.5	11.2	4.33
\$20,001 or more	14.5	13.4	15.7	3.91

Source: Survey of Earned Doctorates, Statistics Canada, 2004/2005.

Table 11
Status of postgraduate plans of doctoral graduates by field of study, 2004/2005

	Proportion	Confidence limits (95%)		Coefficient of variation
	percent	lower	upper	percent
Life sciences				
Returning to, or continuing in, same employment/position as prior to PhD completion	14.7	12.7	16.7	6.96
Signed contract or made definite commitment for other work or study	64.1	61.4	66.9	2.19
Negotiating with one of more organizations	7.5	5.8	9.1	11.20
Seeking position, but have no specific prospects	13.2	11.3	15.1	7.50
No plan to work or study, or other	x	x	x	x
Engineering				
Returning to, or continuing in, same employment/position as prior to PhD completion	18.3	14.9	21.7	9.55
Signed contract or made definite commitment for other work or study	47.5	43.1	52.0	4.80
Negotiating with one of more organizations	10.7	7.9	13.4	13.01
Seeking position, but have no specific prospects	22.9	19.2	26.6	8.30
No plan to work or study, or other	x	x	x	x
Physical sciences				
Returning to, or continuing in, same employment/position as prior to PhD completion	14.2	11.4	17.0	10.13
Signed contract or made definite commitment for other work or study	60.6	56.6	64.7	3.38
Negotiating with one of more organizations	6.6	4.4	8.7	16.58 ^E
Seeking position, but have no specific prospects	18.1	14.8	21.4	9.28
No plan to work or study, or other	x	x	x	x
Social sciences				
Returning to, or continuing in, same employment/position as prior to PhD completion	31.4	27.6	35.3	6.26
Signed contract or made definite commitment for other work or study	47.9	44.0	51.8	4.18
Negotiating with one of more organizations	6.3	4.6	8.0	13.89
Seeking position, but have no specific prospects	12.3	9.8	14.8	10.34
No plan to work or study, or other	2.0	1.2	2.9	21.96 ^E
Humanities				
Returning to, or continuing in, same employment/position as prior to PhD completion	17.1	13.7	20.4	9.99
Signed contract or made definite commitment for other work or study	39.5	35.1	43.9	5.68
Negotiating with one of more organizations	8.0	5.8	10.3	14.39
Seeking position, but have no specific prospects	32.4	28.3	36.5	6.40
No plan to work or study, or other	2.9	1.7	4.2	21.53 ^E
Other fields of study				
Returning to, or continuing in, same employment/position as prior to PhD completion	32.4	28.1	36.8	6.83
Signed contract or made definite commitment for other work or study	41.8	37.1	46.5	5.74
Negotiating with one of more organizations	4.4	2.5	6.3	21.95 ^E
Seeking position, but have no specific prospects	18.3	14.8	21.8	9.68
No plan to work or study, or other	3.1	1.1	5.0	32.16 ^E
All fields of study				
Returning to, or continuing in, same employment/position as prior to PhD completion	20.4	19.1	21.7	3.25
Signed contract or made definite commitment for other work or study	52.9	51.3	54.5	1.54
Negotiating with one of more organizations	7.2	6.4	8.1	5.92
Seeking position, but have no specific prospects	18.1	16.9	19.3	3.46
No plan to work or study, or other	1.4	1.0	1.7	12.93

x suppressed to meet the confidentiality requirements of the *Statistics Act*

^E use with caution

Source: Survey of Earned Doctorates, Statistics Canada, 2004/2005.

Table 12

Primary activity for doctoral graduates with firm employment for the coming year, 2004/2005

	Proportion percent	Confidence limits (95%)		Coefficient of variation percent
		lower	upper	
Life sciences				
Research and development	53.1	47.5	58.7	5.35
Teaching	20.9	16.2	25.5	11.35
Management, administration, or other	9.5	6.5	12.5	16.10
Professional services	16.5	12.6	20.4	12.08
Engineering				
Research and development	50.1	42.7	57.5	7.56
Teaching	14.6	10.1	19.1	15.79
Management, administration, or other	6.6	3.2	10.0	26.03 ^E
Professional services	28.7	21.6	35.8	12.62
Physical sciences				
Research and development	60.2	53.0	67.4	6.08
Teaching	25.9	19.3	32.6	13.15
Management, administration, or other	x	x	x	x
Professional services	9.9	5.5	14.2	22.39 ^E
Social sciences				
Research and development	24.9	20.4	29.3	9.18
Teaching	25.1	20.8	29.4	8.68
Management, administration, or other	6.3	3.4	9.1	22.92 ^E
Professional services	43.7	38.4	49.1	6.25
Humanities				
Research and development	14.2	9.7	18.7	16.11
Teaching	71.6	65.6	77.5	4.24
Management, administration, or other	x	x	x	x
Professional services	10.4	6.4	14.4	19.75 ^E
Other fields of study				
Research and development	30.4	24.8	36.0	9.45
Teaching	48.8	43.0	54.6	6.04
Management, administration, or other	8.1	5.0	11.2	19.53 ^E
Professional services	12.7	9.0	16.5	14.91
All fields of study				
Research and development	37.6	35.1	40.1	3.38
Teaching	33.3	30.9	35.6	3.62
Management, administration, or other	6.7	5.5	8.0	9.41
Professional services	22.4	20.2	24.6	5.02

x suppressed to meet the confidentiality requirements of the *Statistics Act*

^E use with caution

Source: Survey of Earned Doctorates, Statistics Canada, 2004/2005.

Table 13

Employment by industry of doctoral graduates with firm employment for the coming year, 2004/2005

	Proportion percent	Confidence limits (95%)		Coefficient of variation percent
		lower	upper	
Life sciences				
Goods producing industries	4.2	2.3	6.2	23.55 ^E
Professional, scientific and technical services	20.8	16.0	25.6	11.75
Educational services	42.1	36.6	47.5	6.57
Health care and social assistance	14.0	10.7	17.3	11.87
All other services industries	7.9	5.0	10.8	18.76 ^E
Public administration	11.0	7.0	15.0	18.57 ^E
Engineering				
Goods producing industries	22.7	16.3	29.0	14.27
Professional, scientific and technical services	44.7	37.3	52.2	8.51
Educational services	21.3	15.9	26.6	12.81
Health care and social assistance	x	x	x	x
All other services industries	x	x	x	x
Public administration	7.7	3.7	11.8	26.35 ^E
Physical sciences				
Goods producing industries	x	x	x	x
Professional, scientific and technical services	32.9	26.1	39.6	10.49
Educational services	40.7	33.4	48.0	9.17
Health care and social assistance	x	x	x	x
All other services industries	10.3	6.6	13.9	18.01 ^E
Public administration	10.5	5.7	15.3	23.24 ^E
Social sciences				
Goods producing industries	x	x	x	x
Professional, scientific and technical services	2.8	1.3	4.2	26.62 ^E
Educational services	47.5	42.1	52.8	5.71
Health care and social assistance	35.6	30.4	40.8	7.45
All other services industries	4.5	2.7	6.3	20.49 ^E
Public administration	9.7	6.2	13.2	18.40 ^E
Humanities				
Goods producing industries	x	x	x	x
Professional, scientific and technical services	x	x	x	x
Educational services	84.2	79.4	89.1	2.93
Health care and social assistance	x	x	x	x
All other services industries	10.5	6.5	14.6	19.63 ^E
Public administration	x	x	x	x
Other fields of study				
Goods producing industries	x	x	x	x
Professional, scientific and technical services	4.7	1.8	7.6	31.62 ^E
Educational services	83.2	78.8	87.5	2.66
Health care and social assistance	5.5	2.7	8.3	25.73 ^E
All other services industries	4.0	2.0	6.0	25.55 ^E
Public administration	2.6	1.4	3.9	23.78 ^E
All fields of study				
Goods producing industries	4.2	3.2	5.3	12.22
Professional, scientific and technical services	15.8	13.8	17.7	6.27
Educational services	53.7	51.2	56.3	2.42
Health care and social assistance	12.6	10.9	14.2	6.85
All other services industries	6.2	5.2	7.3	8.62
Public administration	7.5	6.0	8.9	9.72

 x suppressed to meet the confidentiality requirements of the *Statistics Act*
^E use with caution

Source: Survey of Earned Doctorates, Statistics Canada, 2004/2005.

Table 14

Expected earnings of doctoral graduates with firm employment plans for the coming year, 2004/2005

	Proportion	Confidence limits (95%)		Coefficient of variation
	percent	lower	upper	percent
Life sciences				
Under \$35,000	5.2	3.1	7.2	20.04 ^E
\$35,000 to \$44,999	10.1	6.7	13.5	17.13 ^E
\$45,000 to \$54,999	17.3	13.4	21.2	11.38
\$55,000 to \$64,999	19.4	14.6	24.3	12.71
\$65,000 to \$74,999	22.3	17.5	27.1	11.03
\$75,000 and over	25.7	20.8	30.5	9.60
Engineering				
Under \$35,000	F	F	F	F
\$35,000 to \$44,999	x	x	x	x
\$45,000 to \$54,999	21.3	14.7	27.9	15.73
\$55,000 to \$64,999	20.1	14.0	26.3	15.54
\$65,000 to \$74,999	17.6	12.1	23.1	16.00
\$75,000 and over	32.9	26.0	39.8	10.65
Physical sciences				
Under \$35,000	F	F	F	F
\$35,000 to \$44,999	9.3	4.5	14.1	26.20 ^E
\$45,000 to \$54,999	16.9	11.4	22.4	16.60 ^E
\$55,000 to \$64,999	21.9	15.7	28.2	14.61
\$65,000 to \$74,999	21.0	15.3	26.7	13.84
\$75,000 and over	23.7	17.6	29.7	13.08
Social sciences				
Under \$35,000	11.2	7.8	14.5	15.27
\$35,000 to \$44,999	7.4	4.9	9.9	17.36 ^E
\$45,000 to \$54,999	23.4	19.0	27.8	9.57
\$55,000 to \$64,999	22.0	17.7	26.2	9.86
\$65,000 to \$74,999	19.6	15.1	24.1	11.71
\$75,000 and over	16.5	12.5	20.5	12.45
Humanities				
Under \$35,000	33.8	27.3	40.2	9.70
\$35,000 to \$44,999	11.6	7.3	15.9	18.69 ^E
\$45,000 to \$54,999	16.9	12.1	21.7	14.35
\$55,000 to \$64,999	25.4	18.8	32.1	13.32
\$65,000 to \$74,999	x	x	x	x
\$75,000 and over	x	x	x	x
Other fields of study				
Under \$35,000	12.8	9.3	16.2	13.86
\$35,000 to \$44,999	x	x	x	x
\$45,000 to \$54,999	10.7	7.1	14.3	17.09 ^E
\$55,000 to \$64,999	15.4	11.4	19.4	13.20
\$65,000 to \$74,999	23.7	18.8	28.7	10.62
\$75,000 and over	35.3	29.6	40.9	8.17
All fields of study				
Under \$35,000	11.7	10.1	13.3	7.00
\$35,000 to \$44,999	6.7	5.5	7.9	9.27
\$45,000 to \$54,999	17.8	15.9	19.7	5.51
\$55,000 to \$64,999	20.2	18.2	22.3	5.21
\$65,000 to \$74,999	19.4	17.3	21.5	5.51
\$75,000 and over	24.2	22.1	26.4	4.55

 x suppressed to meet the confidentiality requirements of the *Statistics Act*
^E use with caution

F too unreliable to be published

Source: Survey of Earned Doctorates, Statistics Canada, 2004/2005.

Table 15

Type of further training or study for doctoral graduates with firm plans for further training or study, 2004/2005

	Proportion	Confidence limits (95%)		Coefficient of variation
		percent	lower	
Life sciences				
Postdoctoral fellowship	74.0	70.5	77.5	2.43
Other ¹	26.0	22.5	29.5	6.92
Engineering				
Postdoctoral fellowship	67.3	58.6	76.1	6.61
Other ¹	32.7	23.9	41.4	13.64
Physical sciences				
Postdoctoral fellowship	72.1	67.0	77.2	3.58
Other ¹	27.9	22.8	33.0	9.25
Social sciences				
Postdoctoral fellowship	71.2	63.2	79.2	5.73
Other ¹	28.8	20.8	36.8	14.18
Humanities				
Postdoctoral fellowship	91.8	86.2	97.3	3.08
Other ¹	x	x	x	x
Other fields of study				
Postdoctoral fellowship	67.9	43.2	92.5	18.52 ^E
Other ¹	x	x	x	x
All fields of study				
Postdoctoral fellowship	73.4	70.9	75.9	1.75
Other¹	26.6	24.1	29.1	4.82

x suppressed to meet the confidentiality requirements of the *Statistics Act*

^E use with caution

1. Includes postdoctoral research associateships, traineeships, internships, clinical residencies and other, unspecified training or study options.

Source: Survey of Earned Doctorates, Statistics Canada, 2004/2005.

Table 16
Primary activity for doctoral graduates with firm plans for further training or study, 2004/2005

	Proportion	Confidence limits (95%)		Coefficient of variation
		percent	lower	
Life sciences				
Research and development	91.7	89.4	94.0	1.28
Professional services	5.0	3.0	6.9	20.18 ^E
Other ¹	3.3	2.0	4.6	20.16 ^E
Engineering				
Research and development	94.3	90.7	97.8	1.92
Professional services	x	x	x	x
Other ¹	x	x	x	x
Physical sciences				
Research and development	94.9	92.7	97.1	1.19
Professional services	x	x	x	x
Other ¹	4.1	2.0	6.1	25.84 ^E
Social sciences				
Research and development	82.7	75.3	90.1	4.56
Professional services	14.2	7.6	20.7	23.61 ^E
Other ¹	x	x	x	x
Humanities				
Research and development	92.9	87.3	98.4	3.05
Professional services	x	x	x	x
Other ¹	x	x	x	x
Other fields of study				
Research and development	100.0	100.0	100.0	0.00
Professional services	x	x	x	x
Other ¹	x	x	x	x
All fields of study				
Research and development	92.1	90.6	93.6	0.85
Professional services	4.2	3.0	5.4	14.71
Other¹	3.7	2.7	4.8	14.26

x suppressed to meet the confidentiality requirements of the *Statistics Act*

^E use with caution

1. Includes teaching, management or administration and other.

Source: Survey of Earned Doctorates, Statistics Canada, 2004/2005.

Table 17

Main source of financial support for doctoral graduates undertaking postdoctoral study or research, 2004/2005

	Proportion	Confidence limits (95%)		Coefficient of variation
	percent	lower	upper	percent
Life sciences				
Funding agencies	47.7	43.5	51.8	4.44
Industry / Business	6.6	4.4	8.8	17.05 ^E
College or university	15.0	12.3	17.8	9.34
Private foundation	5.0	3.2	6.8	18.07 ^E
Nonprofit, other than private foundation	3.8	1.9	5.7	25.47 ^E
Other	14.3	11.5	17.2	10.07
Unknown	7.6	5.2	10.0	15.79
Engineering				
Funding agencies	31.2	23.1	39.3	13.28
Industry / Business	21.6	13.7	29.5	18.67 ^E
College or university	37.6	28.3	46.9	12.58
Private foundation	x	x	x	x
Nonprofit, other than private foundation	x	x	x	x
Other	x	x	x	x
Unknown	x	x	x	x
Physical sciences				
Funding agencies	45.6	39.4	51.8	6.91
Industry / Business	5.5	3.2	7.9	21.80 ^E
College or university	37.9	32.1	43.7	7.82
Private foundation	x	x	x	x
Nonprofit, other than private foundation	x	x	x	x
Other	5.1	2.8	7.5	23.11 ^E
Unknown	x	x	x	x
Social sciences				
Funding agencies	57.0	48.8	65.2	7.32
Industry / Business	x	x	x	x
College or university	20.7	15.1	26.2	13.59
Private foundation	x	x	x	x
Nonprofit, other than private foundation	x	x	x	x
Other	x	x	x	x
Unknown	x	x	x	x
Humanities				
Funding agencies	65.7	54.2	77.2	8.91
Industry / Business	x	x	x	x
College or university	28.6	17.8	39.4	19.26 ^E
Private foundation	x	x	x	x
Nonprofit, other than private foundation	x	x	x	x
Other	x	x	x	x
Unknown	x	x	x	x
Other fields of study				
Funding agencies	46.4	24.6	68.3	23.95 ^E
Industry / Business	x	x	x	x
College or university	x	x	x	x
Private foundation	x	x	x	x
Nonprofit, other than private foundation	x	x	x	x
Other	x	x	x	x
Unknown	x	x	x	x

Table 17 (concluded)

Main source of financial support for doctoral graduates undertaking postdoctoral study or research, 2004/2005

	Proportion percent	Confidence limits (95%)		Coefficient of variation percent
		lower	upper	
All fields of study				
Funding agencies	47.4	44.6	50.3	3.06
Industry / Business	7.8	6.1	9.5	10.94
College or university	24.3	21.9	26.6	4.91
Private foundation	2.9	2.0	3.9	16.42
Nonprofit, other than private foundation	2.3	1.2	3.3	23.01^E
Other	9.5	7.9	11.0	8.53
Unknown	5.9	4.4	7.3	12.96

^x suppressed to meet the confidentiality requirements of the *Statistics Act*

^E use with caution

Source: Survey of Earned Doctorates, Statistics Canada, 2004/2005.

Table 18

Type of employer for doctoral graduates with firm plans for further training or study, 2004/2005

	Proportion	Confidence limits (95%)		Coefficient of variation
		percent	lower	
Life sciences				
Education	84.1	80.1	88.2	2.44
Government	7.8	4.8	10.8	19.72 ^E
Private sector	7.4	4.4	10.4	20.49 ^E
Self-employed	x	x	x	x
Other / don't know	x	x	x	x
Engineering				
Education	80.7	72.4	89.0	5.23
Government	x	x	x	x
Private sector	F	F	F	F
Self-employed	x	x	x	x
Other / don't know	x	x	x	x
Physical sciences				
Education	86.3	81.2	91.3	3.00
Government	8.0	4.3	11.7	23.61 ^E
Private sector	F	F	F	F
Self-employed	x	x	x	x
Other / don't know	x	x	x	x
Social sciences				
Education	94.2	87.5	100.0	3.64
Government	x	x	x	x
Private sector	x	x	x	x
Self-employed	x	x	x	x
Other / don't know	x	x	x	x
Humanities				
Education	97.4	92.8	100.0	2.38
Government	x	x	x	x
Private sector	x	x	x	x
Self-employed	x	x	x	x
Other / don't know	x	x	x	x
Other fields of study				
Education	100.0	100.0	100.0	0.00
Government	x	x	x	x
Private sector	x	x	x	x
Self-employed	x	x	x	x
Other / don't know	x	x	x	x
All fields of study				
Education	86.3	83.6	88.9	1.55
Government	6.9	4.9	8.8	14.48
Private sector	5.6	3.8	7.3	16.11
Self-employed	x	x	x	x
Other / don't know	x	x	x	x

 x suppressed to meet the confidentiality requirements of the *Statistics Act*
^E use with caution

F too unreliable to be published

Source: Survey of Earned Doctorates, Statistics Canada, 2004/2005.

Table 19.A
Characteristics of doctoral graduates by intending country of residence, 2004/2005

	Graduates intending to remain in Canada			
	Proportion percent	Confidence limits (95%)		Coefficient of variation percent
		lower	upper	
Proportion of graduates:				
With firm plans to work or study	74.4	72.9	76.0	1.07
Without firm plans to work or study ¹	25.6	24.0	27.1	3.13
Of graduates with firm plans the proportion who have:				
Same employment/position as prior to PhD completion	32.4	30.4	34.4	3.19
Signed contract or made definite commitment for other work or study	67.6	65.6	69.6	1.53
Of graduates without firm plans the proportion who are:				
in negotiations with one of more organizations seeking position, but have no specific prospects	25.7 74.3	22.6 71.1	28.9 77.4	6.25 2.16
Country of birth				
Born in Canada	60.7	59.0	62.3	1.39
Born in the United States	2.7	2.1	3.3	11.91
Born in another country	36.7	35.0	38.3	2.26
Citizenship				
Canadian citizenship	73.4	71.9	75.0	1.06
Dual citizenship (Canadian and another)	11.2	10.1	12.2	4.84
Non-Canadian citizen	15.4	14.1	16.7	4.22
Gender				
Men	50.1	48.9	51.4	1.28
Women	49.9	48.6	51.1	1.29
Marital status				
Never legally married (single, not common-law)	22.2	20.7	23.6	3.42
Married or living common-law	72.5	70.9	74.1	1.12
Other marital status (separated, divorced, widowed)	5.3	4.5	6.1	7.66
Dependents²				
Has dependents	37.2	35.4	39.0	2.44
Has no dependents	62.8	61.0	64.6	1.45
Fields of study				
Life sciences	27.5	25.9	29.0	2.90
Engineering	14.1	12.9	15.3	4.25
Physical sciences	14.3	13.0	15.5	4.44
Social sciences	17.9	16.6	19.3	3.85
Humanities	11.1	10.1	12.1	4.73
Other fields of study	15.1	13.8	16.5	4.53

Table 19.A (concluded)

Characteristics of doctoral graduates by intending country of residence, 2004/2005

	Graduates intending to move to another country			
	Proportion	Confidence limits (95%)		Coefficient of variation
		percent	lower	
Proportion of graduates:				
With firm plans to work or study	78.1	75.0	81.2	2.04
Without firm plans to work or study ¹	21.9	18.8	25.0	7.28
Of graduates with firm plans the proportion who have:				
Same employment/position as prior to PhD completion	12.8	10.4	15.2	9.50
Signed contract or made definite commitment for other work or study	87.2	84.8	89.6	1.39
Of graduates without firm plans the proportion who are:				
in negotiations with one of more organizations	42.1	34.1	50.0	9.59
seeking position, but have no specific prospects	57.9	50.0	65.9	6.96
Country of birth				
Born in Canada	45.9	42.6	49.2	3.69
Born in the United States	6.2	4.7	7.7	12.54
Born in another country	48.0	44.5	51.4	3.63
Citizenship				
Canadian citizenship	54.8	51.4	58.1	3.13
Dual citizenship (Canadian and another)	10.3	8.3	12.4	10.06
Non-Canadian citizen	34.9	31.7	38.1	4.66
Gender				
Men	65.9	63.1	68.8	2.24
Women	34.1	31.2	36.9	4.33
Marital status				
Never legally married (single, not common-law)	41.0	37.5	44.4	4.29
Married or living common-law	56.0	52.5	59.5	3.16
Other marital status (separated, divorced, widowed)	3.0	1.8	4.3	21.28 ^E
Dependents²				
Has dependents	19.7	16.8	22.5	7.41
Has no dependents	80.3	77.5	83.2	1.82
Fields of study				
Life sciences	34.8	31.7	37.9	4.61
Engineering	12.3	9.8	14.8	10.34
Physical sciences	24.7	21.6	27.8	6.40
Social sciences	10.5	8.6	12.5	9.42
Humanities	9.8	7.9	11.7	9.95
Other fields of study	7.4	5.5	9.3	13.22

^E use with caution

1. Excludes respondents who reported no plans to work or study, other plans (specified) or did not respond.

2. Excludes spouse/partner.

Source: Survey of Earned Doctorates, Statistics Canada, 2004/2005.

Table 19.B
Characteristics of doctoral graduates by intending country of residence, 2004/2005

	Graduates intending to remain in Canada			
	Proportion	Confidence limits (95%)		Coefficient of variation
	percent	lower	upper	percent
Proportion of graduates intending to remain in Canada:	77.2	75.9	78.5	0.86
With firm plans to work or study	76.3	74.8	77.9	1.04
Without firm plans to work or study ¹	79.8	76.9	82.6	1.82
Of graduates with firm plans the proportion who have:				
same employment/position as prior to PhD completion	89.1	87.1	91.1	1.16
signed contract or made definite commitment for other work or study	71.4	69.5	73.4	1.39
Of graduates without firm plans the proportion who are:				
in negotiations with one of more organizations	70.7	65.2	76.2	3.97
seeking position, but have no specific prospects	83.5	80.3	86.7	1.95
Country of birth				
Born in Canada	81.8	80.2	83.4	0.99
Born in the United States	59.6	51.2	68.0	7.17
Born in another country	72.2	69.9	74.5	1.65
Citizenship				
Canadian citizenship	81.9	80.4	83.3	0.91
Dual citizenship (Canadian and another)	78.4	74.5	82.3	2.53
Non-Canadian citizen	59.8	56.1	63.5	3.13
Gender				
Men	72.1	70.1	74.0	1.38
Women	83.3	81.6	84.9	1.00
Marital status				
Never legally married (single, not common-law)	64.6	61.6	67.6	2.39
Married or living common-law	81.4	79.9	82.9	0.92
Other marital status (separated, divorced, widowed)	85.6	80.1	91.2	3.31
Dependents²				
Has dependents	72.8	71.1	74.6	1.24
Has no dependents	86.7	84.8	88.6	1.13
Fields of study				
Life sciences	72.8	70.3	75.3	1.73
Engineering	79.6	75.7	83.4	2.48
Physical sciences	66.2	62.3	70.1	2.99
Social sciences	85.3	82.6	87.9	1.59
Humanities	79.4	75.8	83.1	2.37
Other fields of study	87.4	84.3	90.6	1.85

Table 19.B (concluded)

Characteristics of doctoral graduates by intending country of residence, 2004/2005

	Graduates intending to move to another country			
	Proportion	Confidence limits (95%)		Coefficient of variation
		percent	lower	
Proportion of graduates intending to move to another country:	22.8	21.5	24.1	2.92
With firm plans to work or study	23.7	22.1	25.2	3.34
Without firm plans to work or study ¹	20.2	17.4	23.1	7.19
Of graduates with firm plans the proportion who have:				
same employment/position as prior to PhD completion	10.9	8.9	12.9	9.48
signed contract or made definite commitment for other work or study	28.6	26.6	30.5	3.48
Of graduates without firm plans the proportion who are:				
in negotiations with one of more organizations	29.3	23.8	34.8	9.58
seeking position, but have no specific prospects	16.5	13.3	19.7	9.86
Country of birth				
Born in Canada	18.2	16.6	19.8	4.44
Born in the United States	40.4	32.0	48.8	10.59
Born in another country	27.8	25.5	30.1	4.27
Citizenship				
Canadian citizenship	18.1	16.7	19.6	4.11
Dual citizenship (Canadian and another)	21.6	17.7	25.5	9.21
Non-Canadian citizen	40.2	36.5	43.9	4.66
Gender				
Men	27.9	26.0	29.9	3.57
Women	16.7	15.1	18.4	4.97
Marital status				
Never legally married (single, not common-law)	35.4	32.4	38.4	4.36
Married or living common-law	18.6	17.1	20.1	4.03
Other marital status (separated, divorced, widowed)	14.4	8.8	19.9	19.67 ^E
Dependents²				
Has dependents	27.2	25.4	28.9	3.32
Has no dependents	13.3	11.4	15.2	7.37
Fields of study				
Life sciences	27.2	24.7	29.7	4.65
Engineering	20.4	16.6	24.3	9.65
Physical sciences	33.8	29.9	37.7	5.85
Social sciences	14.7	12.1	17.4	9.23
Humanities	20.6	16.9	24.2	9.16
Other fields of study	12.6	9.4	15.7	12.83

^E use with caution

1. Excludes respondents who reported no plans to work or study, other plans (specified) or did not respond.

2. Excludes spouse/partner.

Source: Survey of Earned Doctorates, Statistics Canada, 2004/2005.

Culture, Tourism and the Centre for Education Statistics

Research Papers

Cumulative index

Statistics Canada's **Division of Culture, Tourism and the Centre for Education Statistics** develops surveys, provides statistics and conducts research and analysis relevant to current issues in its three areas of responsibility.

The **Culture Statistics Program** creates and disseminates timely and comprehensive information on the culture sector in Canada. The program manages a dozen regular census surveys and databanks to produce data that support policy decision and program management requirements. Issues include the economic impact of culture, the consumption of culture goods and services, government, personal and corporate spending on culture, the culture labour market, and international trade of culture goods and services. Analysis is also published in *Focus on Culture* (87-004-XIE, free, <http://www.statcan.ca/bsolc/english/bsolc?catno=87-004-X>).

The **Tourism Statistics Program** provides information on domestic and international tourism. The program covers the Canadian Travel Survey and the International Travel Survey. Together, these surveys shed light on the volume and characteristics of trips and travellers to, from and within Canada.

The **Centre for Education Statistics** develops and delivers a comprehensive program of pan-Canadian education statistics and analysis in order to support policy decisions and program management, and to ensure that accurate and relevant information concerning education is available to the Canadian public and to other educational stakeholders. The Centre conducts fifteen institutional and over ten household education surveys. Analysis is also published in *Education Matters* (81-004-XIE, free, <http://www.statcan.ca/bsolc/english/bsolc?catno=81-004-X>), and in the *Analytical Studies Branch research paper series* (11F0019MIE, free, <http://www.statcan.ca/bsolc/english/bsolc?catno=11F0019M>).

Following is a cumulative index of Culture, Tourism and the Centre for Education Statistics research papers published to date

Research papers

81-595-MIE2002001	Understanding the rural-urban reading gap
81-595-MIE2003002	Canadian education and training services abroad: the role of contracts funded by international financial institution
81-595-MIE2003003	Finding their way: a profile of young Canadian graduates
81-595-MIE2003004	Learning, earning and leaving – The relationship between working while in high school and dropping out
81-595-MIE2003005	Linking provincial student assessments with national and international assessments
81-595-MIE2003006	Who goes to post-secondary education and when: Pathways chosen by 20 year-olds
81-595-MIE2003007	Access, persistence and financing: First results from the Postsecondary Education Participation Survey (PEPS)
81-595-MIE2003008	The labour market impacts of adult education and training in Canada
81-595-MIE2003009	Issues in the design of Canada’s Adult Education and Training Survey
81-595-MIE2003010	Planning and preparation: First results from the Survey of Approaches to Educational Planning (SAEP) 2002
81-595-MIE2003011	A new understanding of postsecondary education in Canada: A discussion paper
81-595-MIE2004012	Variation in literacy skills among Canadian provinces: Findings from the OECD PISA
81-595-MIE2004013	Salaries and salary scales of full-time teaching staff at Canadian universities, 2001-2002: final report
81-595-MIE2004014	In and out of high school: First results from the second cycle of the Youth in Transition Survey, 2002
81-595-MIE2004015	Working and Training: First Results of the 2003 Adult Education and Training Survey
81-595-MIE2004016	Class of 2000: Profile of Postsecondary Graduates and Student Debt
81-595-MIE2004017	Connectivity and ICT integration in Canadian elementary and secondary schools: First results from the Information and Communications Technologies in Schools Survey, 2003-2004

Following is a cumulative index of Culture, Tourism and the Centre for Education Statistics research papers published to date

Research papers

81-595-MIE2004018	Education and labour market pathways of young Canadians between age 20 and 22: an Overview
81-595-MIE2004019	Salaries and salary scales of full-time teaching staff at Canadian universities, 2003-2004
81-595-MIE2004020	Culture Goods Trade Estimates: Methodology and Technical Notes
81-595-MIE2004021	Canadian Framework for Culture Statistics
81-595-MIE2004022	Summary public school indicators for the provinces and territories, 1996-1997 to 2002-2003
81-595-MIE2004023	Economic Contribution of Culture in Canada
81-595-MIE2004024	Economic Contributions of the Culture Sector in Ontario
81-595-MIE2004025	Economic Contribution of the Culture Sector in Canada – A Provincial Perspective
81-595-MIE2004026	Who pursues postsecondary education, who leaves and why: Results from the Youth in Transition Survey
81-595-MIE2005027	Salaries and salary scales of full-time teaching staff at Canadian universities, 2002-2003: final report
81-595-MIE2005028	Canadian School Libraries and Teacher-Librarians: Results from the 2003/04 Information and Communications Technologies in Schools Survey
81-595-MIE2005029	Manitoba Postsecondary Graduates from the Class of 2000: How Did They Fare?
81-595-MIE2005030	Salaries and Salary Scales of Full-time teaching Staff at Canadian Universities, 2004-2005: Preliminary Report
81-595-MIE2005031	Salaries and salary scales of full-time teaching staff at Canadian universities, 2003-2004: final report
81-595-MIE2005032	Survey of Earned Doctorates: A Profile of Doctoral Degree Recipients
81-595-MIE2005033	The Education Services Industry in Canada
81-595-MIE2005034	Connectivity and ICT Integration in First Nations Schools: Results from the Information and Communications Technologies in Schools Survey, 2003/04
81-595-MIE2005035	Registered Apprentices: A Class Ten Years Later

Following is a cumulative index of Culture, Tourism and the Centre for Education Statistics research papers published to date

Research papers

81-595-MIE2005036	Participation in Postsecondary Education: Evidence from the Survey of Labour Income Dynamics
81-595-MIE2006037	Economic Contribution of the Culture sector to Canada's Provinces
81-595-MIE2006038	Profile of Selected Culture Industries in Ontario
81-595-MIE2006039	Factors Affecting the Repayment of Student Loans
81-595-MIE2006040	Culture Goods Trade Data User Guide
81-595-MIE2006041	Health Human Resources and Education: Outlining Information Needs
81-595-MIE2006042	How Students Fund Their Postsecondary Education: Findings from the Postsecondary Education Participation Survey
81-595-MIE2006043	Educational Outcomes at Age 19 Associated with Reading Ability at Age 15
81-595-MIE2006044	Summary Public School Indicators for the Provinces and Territories, 1997-1998 to 2003-2004
81-595-MIE2006045	Follow-up on Education and Labour Market Pathways of Young Canadians Aged 18 to 20 – Results from YITS Cycle 3
81-595-MIE2006046	Salaries and Salary Scales of Full-time Teaching Staff at Canadian Universities, 2005/2006: Preliminary Report
81-595-MIE2006047	Canada Student Loans Repayment Assistance: Who Does and Does Not Use Interest Relief?
81-595-MIE2006048	Salaries and Salary Scales of Full-time Teaching Staff at Canadian Universities, 2004/2005: Final Report
81-595-MIE2007049	Educating Health Workers: A Statistical Portrait
81-595-MIE2007050	Summary Public School Indicators for the Provinces and Territories, 1997-1998 to 2003-2004
81-595-MIE2007051	Culture Employment in a North American Context
81-595-MIE2007052	Salaries and Salary Scales of Full-time Teaching Staff at Canadian Universities, 2006/2007: Preliminary Report
81-595-MIE2007053	Towards a Geography of Culture: Culture Occupations Across the Canadian Urban-Rural Divide
81-595-MIE2007054	Education-to-Labour Market Pathways of Canadian Youth: Findings from the Youth in Transition Survey

Following is a cumulative index of Culture, Tourism and the Centre for Education Statistics research papers published to date

Research papers

81-595-MIE2007055	High School Dropouts Returning to School
81-595-MIE2007056	Trade in Culture Services A Handbook of Concepts and Methods
81-595-MIE2007057	Educational Outcomes at Age 19 by Gender and Parental Income: A First Look at Provincial differences
81-595-MIE2007058	Postsecondary Enrolment Trends to 2031: Three Scenarios
81-595-MIE2007059	Participation in Postsecondary Education: Graduates, Continuers and Drop Outs, Results from YITS Cycle 4
81-595-MIE2008060	Sport Participation in Canada, 2005
81-595-MIE2008061	Salaries and Salary Scales of Full-time Teaching Staff at Canadian Universities, 2005/2006: Final Report
81-595-MIE2008062	Salaries and Salary Scales of Full-time Teaching Staff at Canadian Universities, 2007/2008: Preliminary Report
81-595-MIE2008063	Registered Apprentices: The Cohort of 1993, a Decade Later, Comparisons with the 1992 Cohort
81-595-MIE2008064	Creative Input: The Role of Culture Occupations in the Economy During the 1990s
81-595-MIE2008065	Doctoral Graduates in Canada: Findings from the Survey of Earned Doctorates, 2004/2005