

PhD Career Pathways

**A Quantitative Study of McGill's PhD Graduating Cohorts
2008-2018**



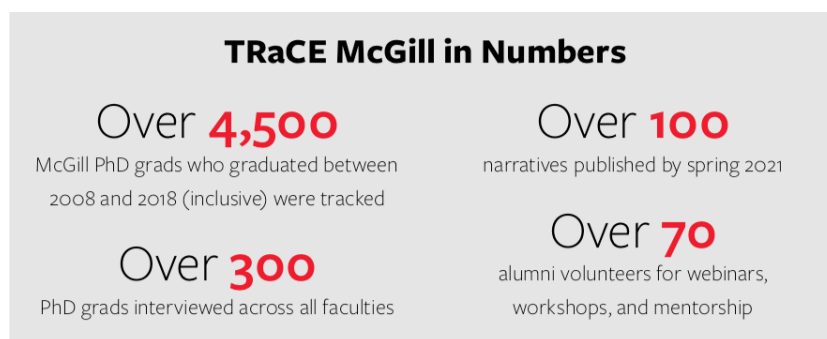
McGill

TRACE
TRACK REPORT CONNECT EXCHANGE

Introduction

TRaCE McGill is a university-wide project that tracks the career outcomes and pathways of McGill PhD alumni who graduated between 2008 and 2018. Led by a team at Graduate and Postdoctoral Studies and graduate student researchers, TRaCE McGill not only gathered **statistical information** on over 4,500 PhD graduates, but also **interviewed** over 300 of them across all faculties. TRaCE McGill's focus on both quantitative and qualitative knowledge shows how a doctoral degree can lead to a multiplicity of successful, socially valuable, and personally fulfilling careers in a variety of sectors both inside and outside academia. As part of its legacy, TRaCE McGill is also building a **mentoring community** of PhD graduates who are committed to helping doctoral students and recent grads find their own career pathways.

TRaCE McGill's integration of statistical data, narrative knowledge, and community building is unique in the world among PhD tracking projects.



This report presents the methods and findings of the **TRaCE McGill quantitative study**. The TRaCE McGill quantitative study successfully tracked over 88% of all 5,523 alumni who earned their PhD at McGill from 2008 to 2018 inclusive (the “cohort”). The first tool used for data collection was a survey sent to our study cohort in the summer of 2019. Survey respondents gave us precious information about their current employment, location, and level of satisfaction with their professional situation. Building on this data, a team of 14 graduate student researchers from each faculty tracked the PhD graduates by searching publicly available data from institutional and other professional websites.

Although this report's only focus is on the quantitative analysis, the unique contribution of the TRaCE project rests on **telling the individual stories** of the PhD graduates and collecting qualitative information that goes beyond the numbers and statistics. Why did McGill grads choose to do a PhD in the first place? What was the role of their graduate studies? How did their career pathways unfold? These were some of the questions answered by over 300 PhD alumni who shared their individual stories with a graduate student from their respective faculty. The interviews were conducted by 17 graduate students over the winter and summer of 2020. A team of four graduate student editors was in charge of transcribing and editing as many interviews as possible over the course of the study; they will complete over **100 published narratives** by spring 2021.

Methodology

TRaCE McGill builds on the methodological know-how acquired during two previous nationwide projects, the TRaCE pilot project (2016-2017) and TRaCE 2.0 (2018-2019). Combined, these two initiatives tracked over 4,500 and interviewed over 330 PhD grads in the humanities, social sciences, and fine arts from 25 Canadian universities¹.

Participants

Participants were McGill alumni who graduated from a doctoral program between 2008 and 2018, inclusive (n=5,253). The McGill office of Analysis, Planning and Budget compiled the names of the alumni who met the inclusion criteria. University Advancement was able to provide email addresses for 4,691 (89.3%) of the target population.

Data Collection

We used two methods of data collection: a) an online survey ("data survey") and b) a search of public websites ("data scrape").

Data survey

The survey instrument was created by the McGill office of Analysis, Planning and Budget in Limesurvey, an online survey tool used by McGill University for institutional research. The survey included several demographic items (gender identity, race, ethnicity, and sexual orientation), and an item on current employment situation (employed, unemployed but looking for a job, in a postdoc, caring for family, or other). Branching was used to guide respondents to the next relevant question based on a previous response. For example, in the survey, only respondents who indicated that they were "employed" received follow-up questions about their employer, job title, field of work, job satisfaction, the relevance of their field of study to their current job, and the fit of their qualifications to their current job.

Alumni email addresses were imported into Limesurvey and a unique token was generated for each address. Tokens were used to create a personalized survey link for each participant that enabled researchers to isolate non-responders with reminder emails and to link participants' survey responses to their McGill student record data. Invitations to this closed-access survey were sent electronically. Reminders were sent to non-responders every two weeks over an 8-week period. The survey closed in August 2019 with a response rate of 12.6%.

Concurrently, a second version of the survey was created to facilitate greater engagement. This survey was open-access; that is, it did not use a token and was accessible to anyone with the survey link. Two

¹ The TRaCE pilot project tracked 2,700 PhD grads in the humanities from 24 Canadian universities. TRaCE 2.0 expanded on the TRaCE pilot project by tracking 1,818 PhD graduates in the humanities, social sciences, and fine arts from 8 Canadian universities. Both projects conducted over 330 interviews combined. [Click here](#) for the full quantitative and qualitative reports. All the published narratives of TRaCE Pilot and TRaCE 2.0 can be [found here](#).

new items were added to the open-link version of the survey to enable the verification of respondents as belonging to the target population. Respondents were required to provide one of two unique identifiers: their 9-digit McGill ID number or McGill student email address. The open-access survey launched in July and was publicized and shared via McGill's social media channels (e.g., Twitter, Facebook) and via websites (LinkedIn). The open-access survey closed in August 2019, and yielded 54 respondents.

A total of 645 responses were collected.

Survey participants were volunteers. Participation in the closed-access survey was incentivized with the chance for respondents of awarding a bursary in their name to a current student from their former department. These bursaries took the form of gift cards (eight in total) to the James McGill Bookstore, ranging in value from \$100 to \$400. The winning respondents were randomly selected by the office of Analysis, Planning and Budget. Gift cards were then awarded to a randomly selected graduate student in the winning respondent's former department or institute.

Data Scrape

The data scrape method sought to collect data on the target population using publicly available information. Survey respondents were not excluded from the data scrape. To conduct this data scrape, graduate student researchers from every faculty (13 PhD students and one Master student) were hired and trained by TRaCE McGill project leaders in the Office of Graduate and Postdoctoral Studies at McGill University.

The complete list of 5,253 PhD alumni was partitioned (primarily by faculty) and each section was given to a graduate student researcher. The list of PhD alumni entrusted to each graduate student researcher contained the graduates' first and last name(s), gender, faculty of enrolment, year of graduation, and dissertation title.

Data were scraped between October 2019 and January 2020 from public websites including university websites, LinkedIn, ResearchGate, etc. Following data collection, faculty sections were merged. The TRaCE project manager reviewed and standardized the data, and undertook quality control measures (more information in the section on the scope of the data scrape).

Graduate student researchers were provided data collection guidelines that used a standardized taxonomy to categorize each graduate's position and employer by sector, main field of employer, graduate's job function, country of employer, and province (if living in Canada). If the graduate was unemployed but the country of residence was known, the latter data was included. The taxonomy can be found in appendix of this report.

A standardized approach for the categorization of higher order employment situations (e.g., employment sector) was used, whereas the categorization of granular employment details (e.g., job function) was more variable. The question of whether academic positions were tenure track or non-tenure track, for instance, was of great interest to the project, yet sometimes difficult to verify across institutions, educational systems, and nations. Graduate researchers were instructed to categorize academic positions as non-tenure track by default if they had doubts about a position's tenure status.

Scrape results were not validated against survey results, since there was a gap of up to seven months between the time graduates responded to the survey and when researchers performed the data scrape. Employment situations may indeed have changed at any time over those seven months. For 31 graduates, survey data was available to fill gaps in the scrape data (e.g., cases where current information could not be found or confirmed online). Survey data on employment status, location of employer, sector of employment, and job function was added to the scrape data set for these 31 graduates (more information on the scope of the scrape data below).

Analysis

Prior to analysis, datasets were cleaned. The data scrape and survey data were analysed separately. Analysis was performed using R (R Core Team, 2019). We explored both datasets using basic descriptive statistics (which describes the data as is) and simple inferential statistics (which allows predictions based on the data).

Our descriptive analysis focused on exploring differences and similarities between faculties/departments, gender, employment, and geography. Our inferential analysis focused on associations between variables in the survey data which could be generalizable to the cohort. As this study is cross-sectional and more advanced statistical methods were not deployed, results should be taken as descriptive and associations should not be viewed as causal.

There is also potential for selection bias to skew the results of the data scrape. A potential impact of selection bias is an over-representation of individuals who are employed and who work in certain sectors. It may indeed be systemically easier to find graduates who are employed and who work for companies or institutions that make information about their employees publicly available online. The survey may also have selection bias, since some individuals who chose to participate could have career pathways substantially different from some of those who did not participate. Selection bias could skew the results of the descriptive and inferential statistics.

Scrape Data: A Global portrait

Scope of The Data

From the beginning of 2008 to the end of 2018, 5,253 individuals graduated from doctoral programs at McGill (the "cohort"). A search of public websites enabled us to track 84% of the cohort with high confidence ($n = 4427$). This means we are confident to know their current employment situation and know the location of their employer (country at the least). For 4% of the cohort, we were able to gather some data, but it was not clear if this data was up to date ($n = 194$). For 12% of the cohort, no information relating to the grad was found.

In 31 cases where no information or incomplete information was found for individuals, survey data was added to the data scrape data set. Since in 17 of these cases the survey captured an employment status that proved difficult for researchers to capture via data scrape (e.g., unemployed but looking for a job, retired, caring for family, pursuing further studies, etc.), it was decided that the data should be added as

a supplement to provide a fuller picture of graduate employment. We expect that, within the 12% of the cohort we were unable to find, there are more graduates who are unemployed but looking for a job, retired, caring for family, or pursuing other studies. This brought the final total of data capture to 4,446 graduates with complete data, 191 graduates with some data, and 616 graduates with no data.

Data on gender, immigration status at enrolment, graduation year, and faculty of enrolment were supplied from McGill University records, allowing us to have complete data for these variables. There does not appear to be a difference in data capture rate by gender or immigration status. There was an 85% and 84% capture rate for complete data on women and men, respectively. It was an 85% and 83% capture rate for domestic and international alumni, respectively. We postulate that some international graduates likely used romanised first names while at McGill, but might not be using these names post graduation, making them harder to find via search engines. We thus expect we may have missed a number of graduates using different names post graduation (such as international graduates or those who might have changed their surname after marriage).

There was a difference, though slight, in capture rates by year of graduation and faculty (Table 1; Table 2). This suggests we were less successful at tracking alumni who graduated in the last couple of years. This may be due to their not having entered the job market yet. Employed individuals are generally easier to find due to their larger online presence. Graduates who were not part of the traditional workforce at the moment of the data scrape (e.g., caregivers or currently unemployed) were likely harder to find and are therefore likely missing in this dataset. It is also worth noting that individuals working in the academic sector (e.g. post-docs, tenure-track positions, and non-tenure-track faculty positions) most likely had an institutional online presence that highlighted their academic credentials, making it easier to find them and to validate their identities online.

Table 1: Rate of complete data capture for data scrape by year of graduation for PhD graduates

Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
%	82	86	83	84	86	86	88	88	87	82	80

Table 2: Rate of complete data capture for data scrape by faculty for PhD graduates

Faculty	%
Agricultural and Environmental Sciences	85
Arts	85
Dentistry	77
Desautels Faculty Management	91
Education	80
Engineering	80
Interfaculty Studies	87
Law	94
Medicine and Health Sciences	85
Schulich School of Music	93
Science	89

Who Are The Graduates?

From the basic descriptive analysis of the data supplied directly by McGill University, the majority of the cohort was male (54%). McGill Enrolment data does not currently include a non-binary gender option, so this option could not be included in the data scrape, but it was a question included in the TRaCE McGill survey (see the survey results section below).

Between 400 and 550 PhDs graduated per year from McGill (Table 3). The faculty with the most graduates was Medicine and Health Sciences ($n = 1184$) (Table 4) or 23% of the cohort (Figure 1). While most faculties had similar rates of male and female graduates, Engineering, Science, and Medicine and Health Sciences were more gender-skewed with Engineering and Science having more male graduates and Medicine and Health Sciences having more female graduates. Data on trends and patterns in PhD enrollment have been evaluated elsewhere and can be seen in enrollment statistics².

Table 3: Number of McGill doctoral graduates per year

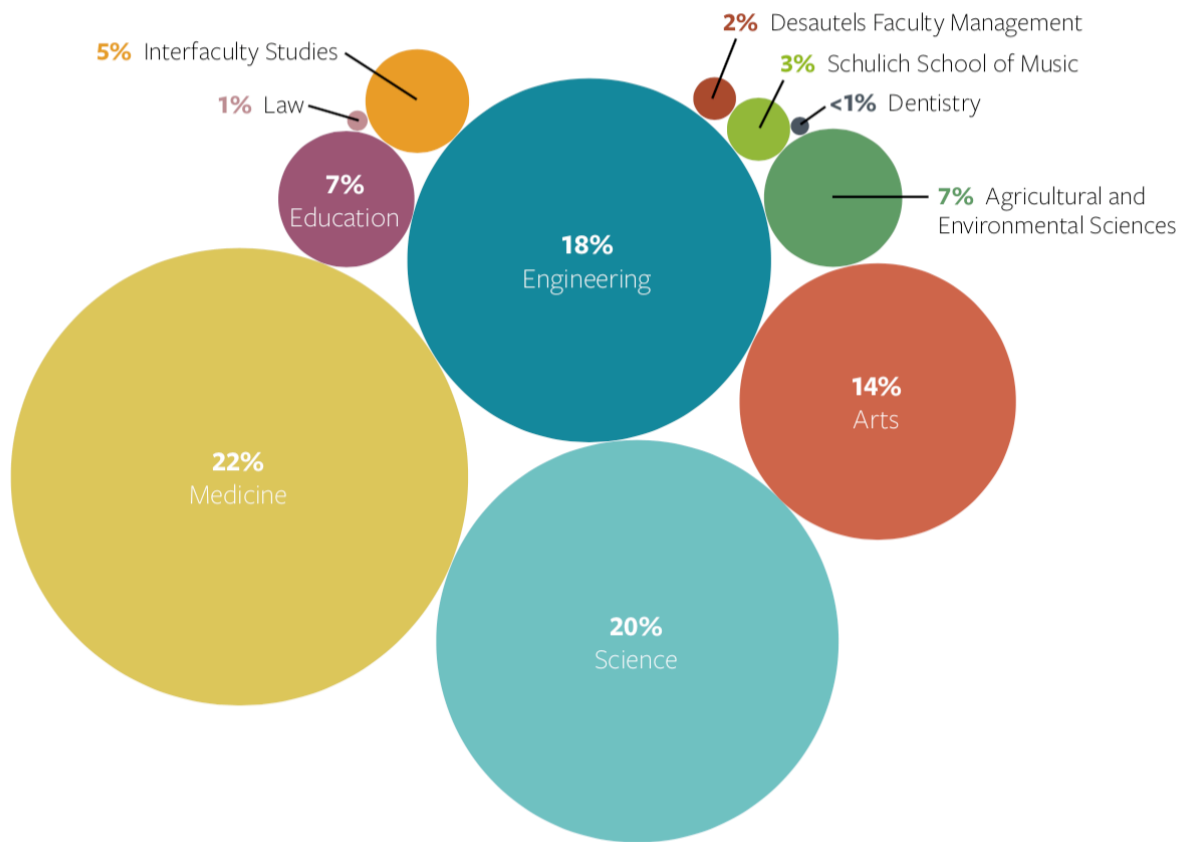
Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
No. of graduates	421	439	445	401	445	480	526	542	519	530	504

Table 4: Number of McGill doctoral graduates by faculty

Faculty	Number
Agricultural and Environmental Sciences	355
Arts	712
Education	353
Engineering	939
Dentistry	48
Desautels Faculty Management	115
Interfaculty Studies	270
Law	78
Medicine and Life Sciences	1184
Schulich School of Music	161
Science	1038

² Annual McGill University Enrolment Reports are available at www.mcgill.ca/es/registration-statistics.

Figure 1: Proportion of McGill PhD Graduates from 2008-2018 by Faculty



Where Are They?

The majority of the cohort still works in Canada (Figure 2). We determined the country and province (if in Canada) of employer for 4,635 individuals. This number also included country of residence for individuals who are not working. While it is possible that some graduates might be working remotely, the country where the employer is located was selected as the country of residence for graduates. Of the 4,635 graduates, 2,723 live or work in Canada (59%) and 34% in Quebec.

Roughly a third of domestic students we have data on appear to be working outside Canada (34%), while two thirds of international students (66%) are not currently working in Canada. The percentage of graduates working in Canada by faculty ranges from 49% to 60%, with the exception of the Faculty of Education where 77% of the graduates are working in Canada.

Figure 2: Proportion of PhD graduates with Canadian vs. Non-Canadian employers based on immigration status at time of enrolment

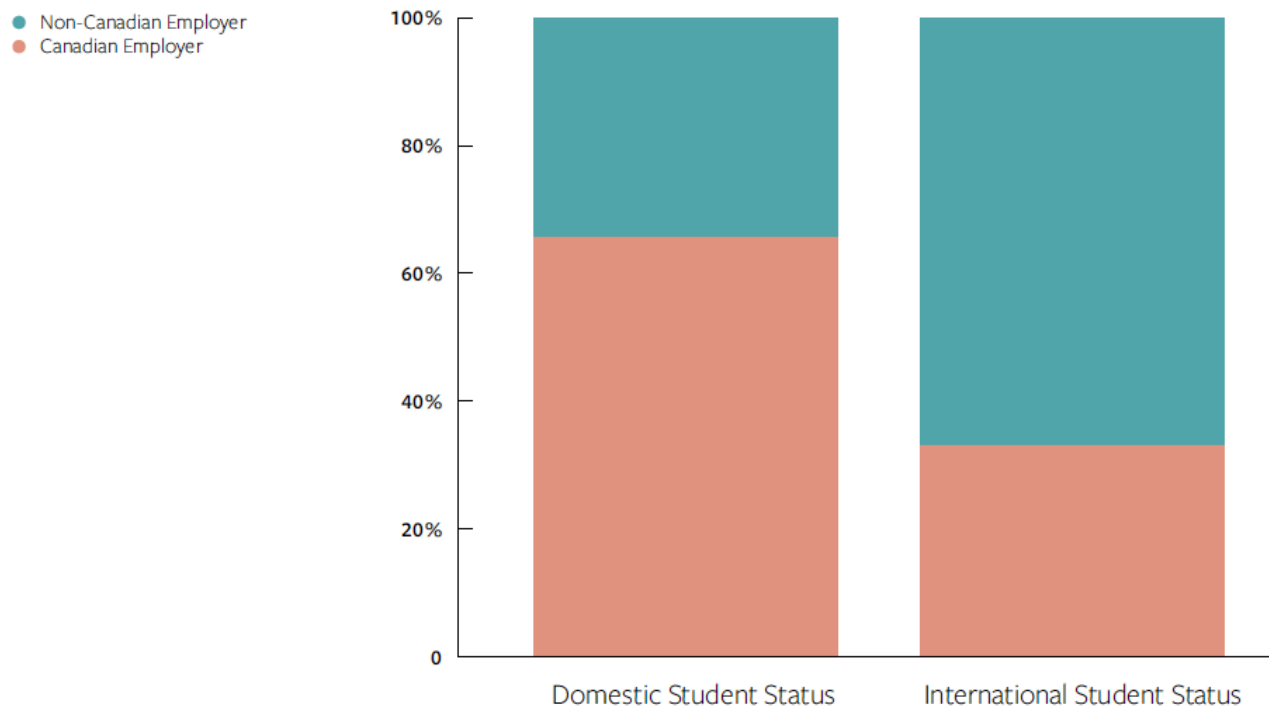


Table 5: The number and percentage of graduates living in Canada by faculty

Faculty	Number in Canada	% in Canada
Agricultural and Environmental Sciences	197	60
Arts	350	57
Education	220	77
Engineering	469	60
Dentistry	24	56
Desautels Faculty of Management	53	49
Interfaculty Studies	134	57
Law	40	54
Medicine and Health Sciences	643	60
Schulich School of Music	85	57
Science	508	54

In What Sector Are They Working?

We looked at the sectors in which graduates are working: academia, for-profit, government, healthcare, self-employment (entrepreneur/freelancing), non-profit, and education.

The Prevalence of the Academic Sector

While a portion of the graduates work in the for-profit sector (28%) or the government (8%), the majority of the cohort is working in academia (Figures 3 and 4). Of the 4,624 graduates on whom we have information and who are employed, 54% work in academia. Our definition of the academic sector includes universities, colleges, CEGEPS, and university research centres or institutes. While a majority of graduates work in the academic sector, they hold a range of different positions within that sector, including post-doctoral positions.

Figure 3: Sector of employment for doctoral graduates

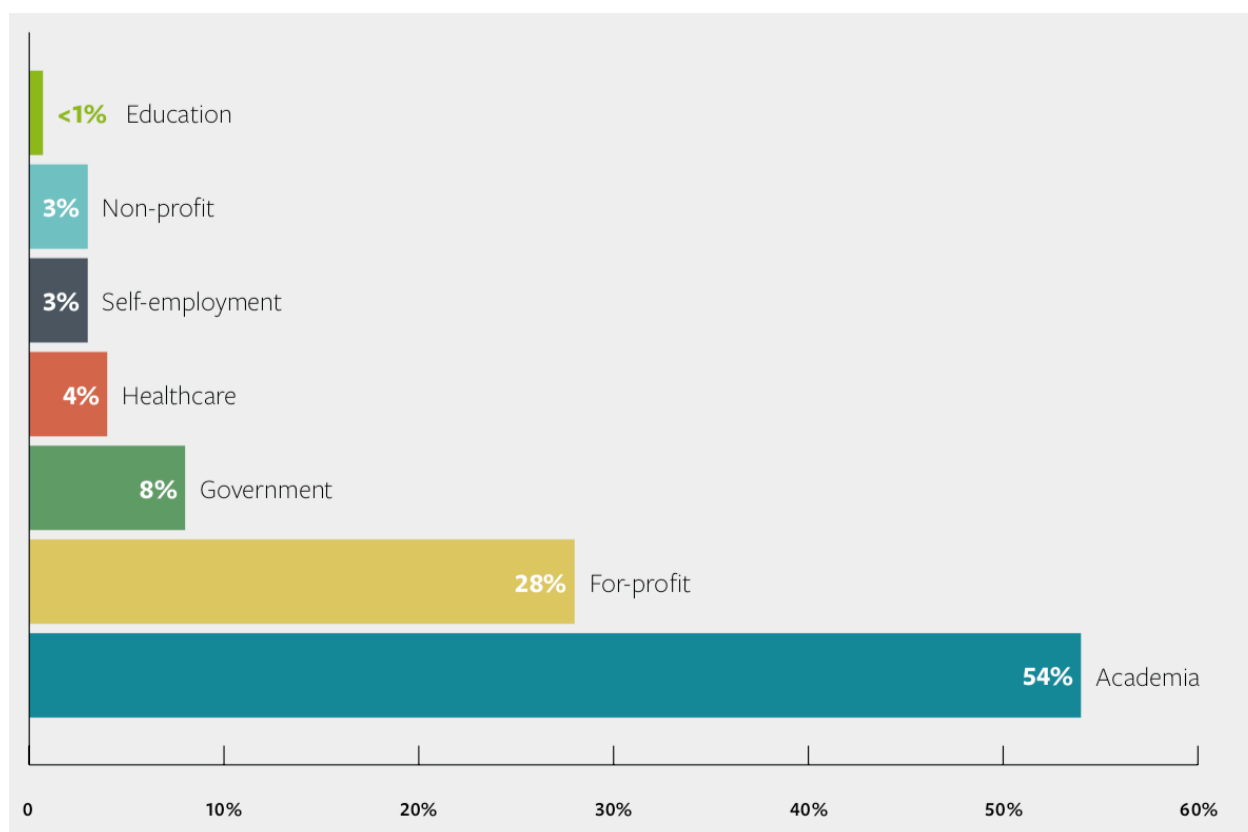
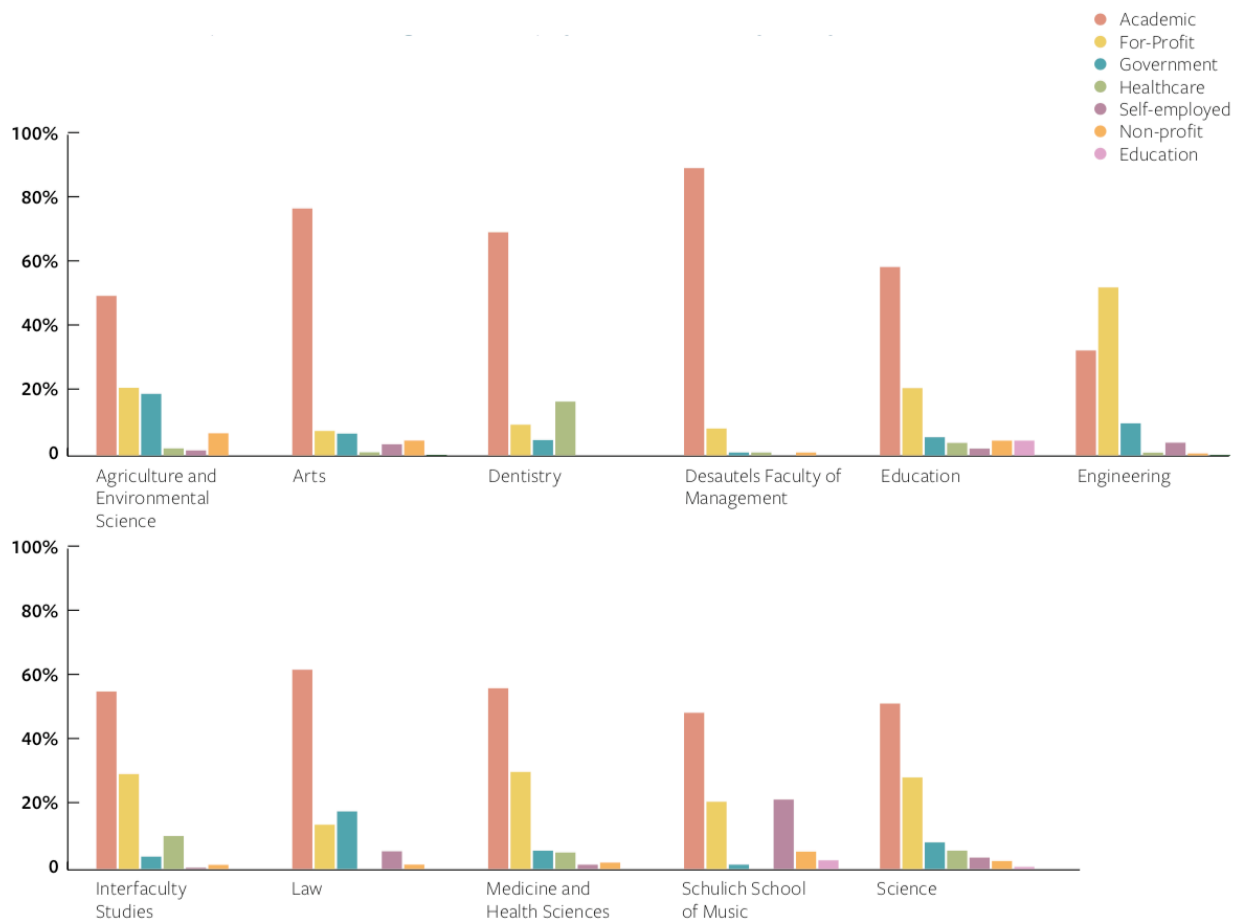


Figure 4: Proportion of doctoral graduates employed in each sector by faculty



Main Employment Sectors

In addition to identifying what sectors graduates are working in, the data scrape collected data about the types of work graduates are engaged in within those sectors. Below, we look at the top four sectors where graduates find themselves post graduation as of 2019: academic, for-profit, government, and self-employment.

The Academic Sector

Women in the Academic Sector

Women are employed in the academic sector at slightly higher rates than men. Of female PhD graduates, 57% are in the academic sector as against 51% of male graduates. In absolute numbers, slightly more

men work in academia ($n = 1285$) than women ($n = 1206$) as there are more male graduates overall in the cohort. The exceptions are those who work in for-profit organizations.

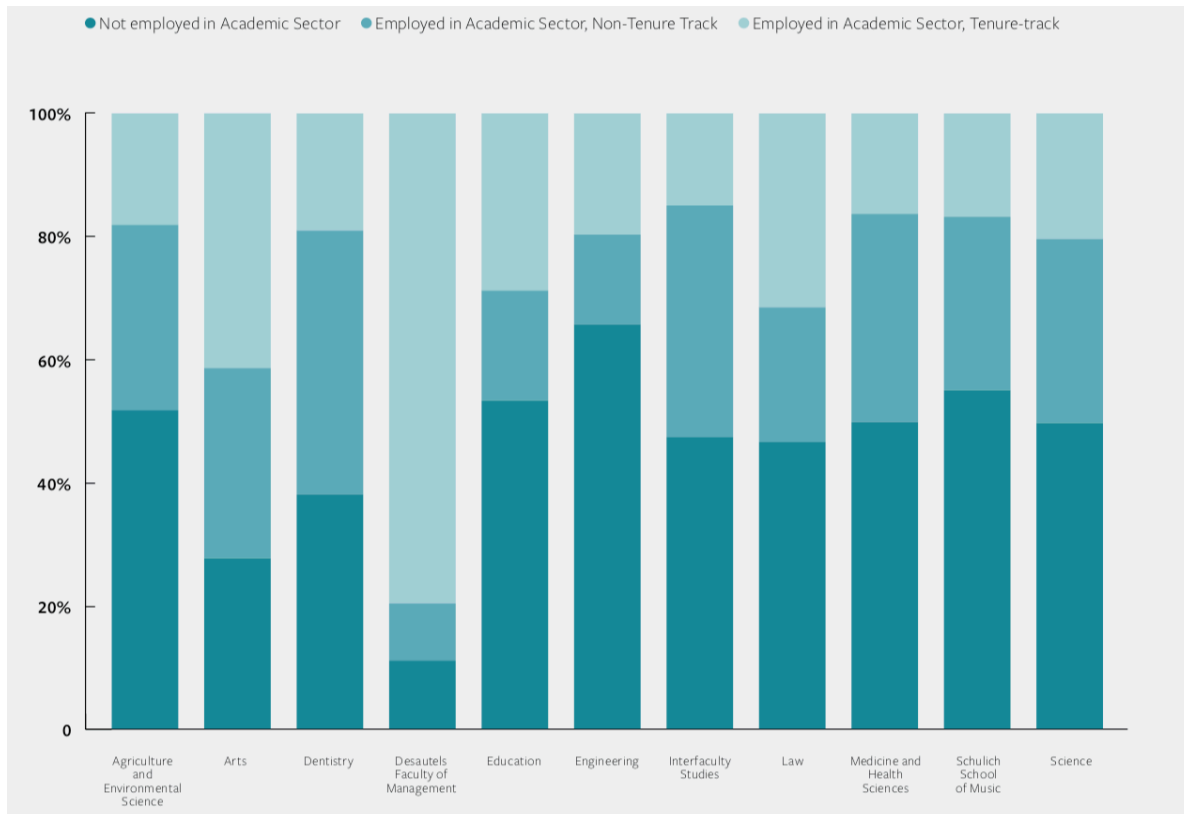
Tenure-track Jobs

Of the 2,491 graduates who work in academia in a research/teaching capacity, 43% are in tenure-track jobs ($n = 1071$) (Figure 4). Of the 4,624 graduates we have data on and who are employed, 23% have tenure-track jobs. This percentage is the same for men and women.

The percentage of graduates in tenure-track positions is similar across faculties, except for the Desautels Faculty of Management, where the rate of tenure-track placement is higher. Some faculties have higher percentages of their graduates in academia and in tenure-track positions. For example, graduates from the Desautels Faculty of Management and the Faculty of Arts both had higher rates of tenure-track placement. Recent graduates are less likely to be in a tenure-track position. This may be partly due to tenure-track positions requiring successful applicants to have finished a postdoc or gained experience in non-tenure track positions prior to entering tenure-track positions.

Gender did not appear to be a factor in relation to securing a tenure-track position. Working for an employer based in Canada was associated with a decreased chance of being in a tenure-track position. This may be an artifact of bias in the data capture since we might have been better at finding graduates in non-tenure track positions in Canada than we were at finding non-tenure-track graduates outside of Canada.

Figure 5: Percentage per faculty of graduates working in and outside academia, with and without tenure-track jobs



For-Profit Sector

Of those graduates working in the for-profit sector ($n = 1289$), 44% work as experts (e.g., lawyers, doctors, engineers, architects, librarians, consultants), 26% as non-academic researchers, 18% in management or policy positions, and 5% in administration positions. The remaining 6% include artists, communication or information professionals, sales or marketing professionals, teachers or trainers, and post-doctoral researchers in for-profit organizations.

Figure 6: Proportion of graduates from each department that are employed in the for-profit sector



As the numbers indicate, graduates from the Faculty of Arts are some of the least likely to find themselves in the for-profit sector while engineers are the most likely (Figure 6). Graduates from the departments of Electrical and Computer Engineering, Mechanical Engineering, Air and Space Law, and Mining and Materials work in for-profit organizations post graduation at the highest rates. From those departments, 61%, 55%, 54%, and 52% of graduates, respectively, have gone into the for-profit sector. In the Faculty of Science, Computer Science graduates are the most likely to go into the for-profit sector at 48%. Chemistry grads (47%) are the next most likely. Economics graduates are the grads from the Faculty of

Arts who work in the for-profit sector at the highest rate (22%), followed by East Asian Studies graduates (17%).

Fewer women work in the for-profit sector, where we find 23% of female graduates compared with 32% of male graduates. This may be due to lower numbers of women who graduated in the departments that are most likely to have graduates working in the for-profit sector. Overall, within the for-profit sector, most of the graduates were working for employers whose main fields were related to STEM, life-sciences or health.

Government Sector

Those working in government (n = 361) tend to work as non-academic researchers (45%) or in professional expert practice (24%). Expert practice in our data brings together occupations which require a professional designation, such as lawyers, doctors, architects, engineers, librarians, and other fields.³ Graduates from the Faculties of Agricultural and Environmental Sciences, Law, Engineering, and Science have a higher probability of going into this sector. Seven percent of female graduates and eight percent of male graduates work in government.

Self-Employment sector

The self-employment/entrepreneur/freelancing sector is a very diverse group. The most common job titles in this sector are the following: consultant, musician/composer, co-founder/founder, and writer/editor/translator.

For both male and female graduates, only 3% overall are primarily self-employed. It is possible, however, that selection bias factors into this finding since we may have missed forms of part-time freelance work that graduates do.

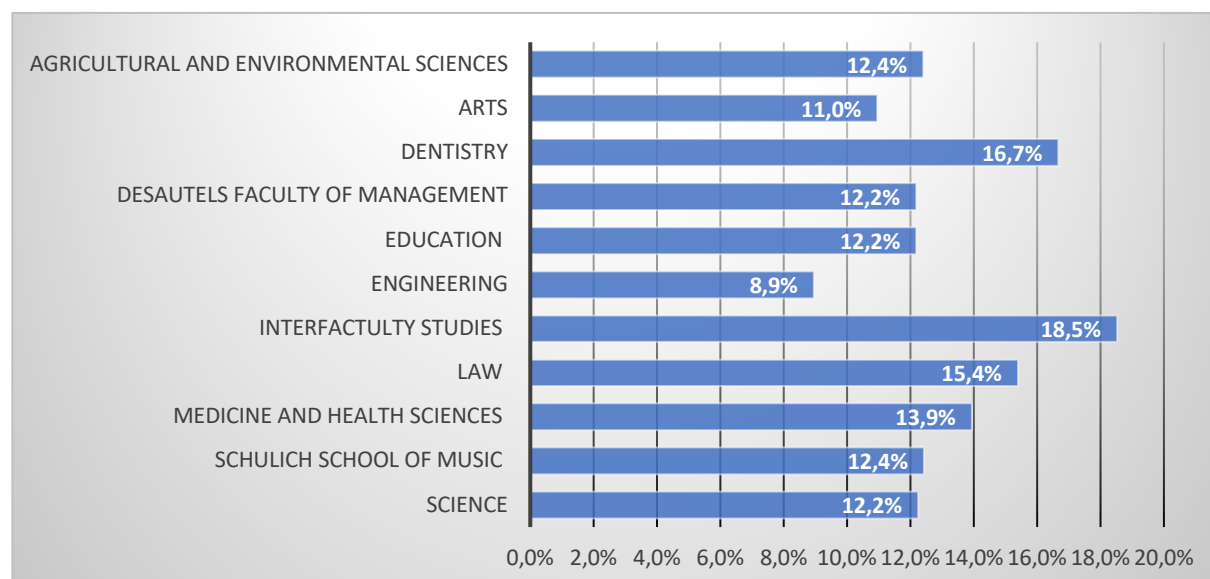
³ The Professional: Expert Practice category did not include K-12 teachers, who had their own separate professional category.

Survey Data

How it Compares to the Data Scrape

The individuals from the survey were a subset of the larger 2008-2018 cohort. The survey captured 12% (n = 642) of the total cohort. In terms of gender, it captured 14% of females and 11% of males from the total cohort. There was not a large difference in the response rate among the faculties (Figure 7)⁴.

Figure 7: Survey response rate by faculty relative to full cohort



In the survey data, 18% of respondents identified as being on the tenure track. In the data scrape, the number in a tenure-track-position was 23%.⁵ It appears that those in tenure-track positions were slightly less likely to respond. However, most survey respondents were relatively new graduates. 55% had graduated in the past 5 years, between 2015-2018 and 25% had graduated in the past 3 years, between 2017-2018. As could be anticipated, the data scrape suggests that graduation year affects one's chances of being in a tenure-track position in 2019, and that more recent graduates are less likely to be in tenure-track positions within their first few years post graduation. The survey data also seems to support the trend identified in the data scrape suggesting that recent grads are more likely to be in contingent positions, such as post-doctoral fellowships, than they are likely to be in permanent tenure-track positions (if they are working in the academic sector).

⁴ A chi-squared test of independence did not suggest that there was any difference by faculty in response rate, based on a 95% confidence level (p-value = 0.23).

⁵ The denominator for this percentage is all individuals we had at least some data on, not just the employed, to make it comparable to the percentage of the survey data.

The open-access survey was accessible to McGill graduates via a web link and the closed-access survey was sent directly to graduates using the graduate's last known email address (often a McGill student email address). We expect that the alumni who graduated some time ago were less likely to access their student email addresses (and/or that we may not have had their current emails on file), explaining why recent graduates responded at a higher rate. We can also postulate that graduates who completed the survey differ in some ways from those who didn't, perhaps feeling more compelled to tell us about where they are now. We however can't know precisely if and how this self-selection might bias our results.

Who Are They?

Self-identified Demographic Characteristics

In the finalized survey dataset, of those that answered ($n = 626$), 47% identified as men, 52% as women, 0.2% as non-binary, 0.3% as transgender, and 0.2% identified as two-spirited. The majority of the participants identified as White/Caucasian (56%) (Table 6). Asians also made up a large portion of the sample with these proportions: Chinese (9%), South Asian (8%), West Asian (6%), Southeast Asian (2%), Korean (1%), Filipino (1%), and Japanese (1%). Five percent of the sample identified as Arab, 6% as Latin American, 3% as Black, and 0.5% of the sample identified as Indigenous. These ethnicity/race groups were not mutually exclusive and 5% of the sample identified as mixed race.

Table 6 : Self-identified ethnicity/race in the survey dataset participants ($n = 622$)

Ethnicity /Race	Number	%
Indigenous	3	<1
Arab	34	5
Black	17	3
Chinese	53	9
Filipino	5	1
Korean	9	1
Latin American	35	6
Japanese	4	1
South Asian	49	8
Southeast Asian	15	2
West Asian	36	6
White	351	56
Mixed	31	5
Other	22	4
Do not know	2	<1

Eighty-two percent of the sample identified as straight/heterosexual, 2% identified as asexual, 2% identified as bisexual, 3% identified as gay, 1% identified as lesbian, 1% identified as queer or pansexual, and 1% didn't know how they identify (Table 7). A large proportion of the dataset (8%) checked that they preferred not to answer.

Table 7: Self-identified sexual orientation in the survey dataset participants (n = 622)

Sexual orientation	N	%
Asexual	15	2
Bisexual	12	2
Gay	18	3
Lesbian	7	1
Heterosexual	507	82
Queer/Pansexual	7	1
Don't know	3	<1
Preferred not to answer	49	8

Background of the Individuals in the Survey

The survey asked several about the PhD graduates' backgrounds, seeking to learn more about access to graduate education at McGill. The survey asked respondents to select the highest educational attainment of their most highly-educated parent or guardian, and also asked whether respondents currently have one or more dependents for whom they consider themselves the primary caregiver.

The sample had highly educated parents/guardians, with 71% having a university or professional degree (24% with a doctoral degree). Domestic students were slightly more likely to have parents/guardians with doctoral degrees (26% as against 17% for international students).⁶ Of those that answered, 42% had dependents (n = 255) and 57% did not (n = 352). These numbers were comparable across genders.

What Do They Do?

The majority of the individuals in the survey are employed (excluding postdoctoral studies) at a rate of 74% (Table 8). The majority of employed graduates are working in the academic sector, followed by the for-profit sector. The percentage of graduates working in the academic sector varies by faculty with the two highest faculties being Desautels Faculty of Management (86%; n = 14) and the Faculty of Arts (74%; n = 58). This matched the data scrape results.

We found a higher percentage of postdocs in the survey data set than the data scrape. This higher percentage of postdocs is expected given that the survey respondents tended to be recent graduates.

The survey data allowed us to examine the situations of graduates who were not currently employed (e.g., caring for family, unemployed but looking for work). Unemployment seemed low at 3% (the overall Canadian unemployment rate in November 2019 was 5.9%).⁷ It is important to remember however that this data may be skewed due to selection bias and this rate may not be representative.

⁶ Using a chi-squared test of independence, we reject the null hypothesis at the 95% confidence level that parents/guardians high education attainment is independent of domestic or international status of students.

⁷ Statistics Canada. [Table 14-10-0287-01 Labour force characteristics, monthly, seasonally adjusted and trend-cycle, last 5 months](https://doi.org/10.25318/1410028701-eng). DOI: <https://doi.org/10.25318/1410028701-eng>.

Table 8: Current situation of employment in the survey participants

Current Situation	Numbers	%
Employed / Self-employed / Freelancing (not including postdoctoral studies)	473	74
Pursuing postdoctoral studies	117	18
Not currently employed, but looking for a job	18	3
Other	19	3
Pursuing further studies, not including postdoctoral studies	12	2
Caring for family	3	<1

How do they feel about their jobs?

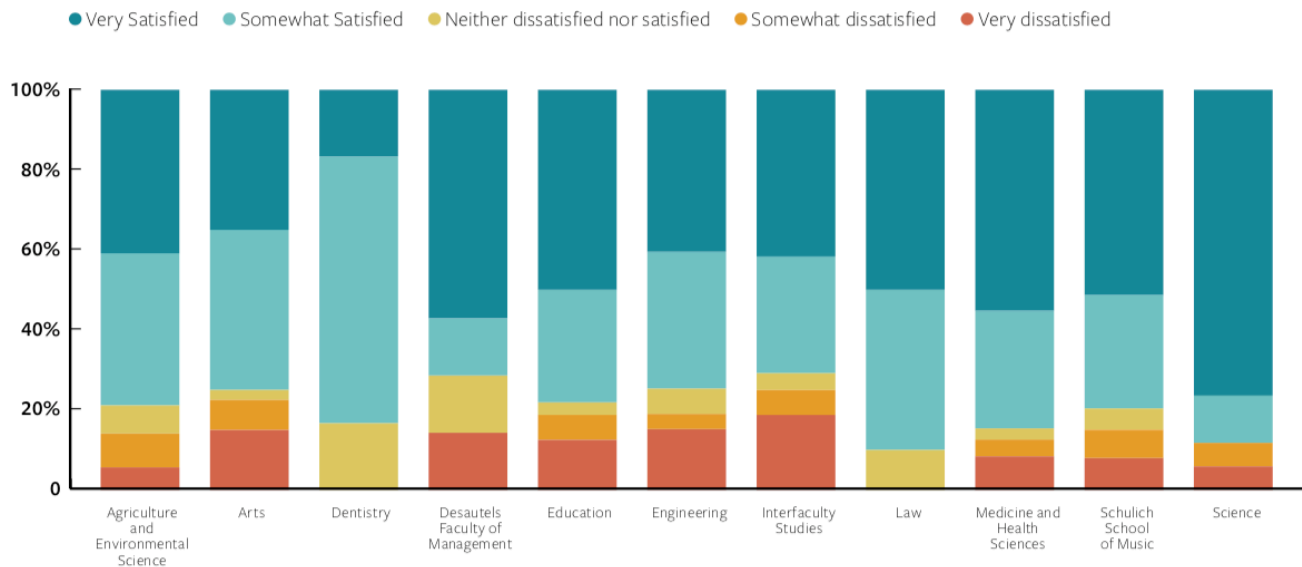
Of those with jobs that answered, overall satisfaction with their jobs was high (Table 9). There was no evidence of any association between job satisfaction and the sector they are employed in or their PhD faculty (Figure 8).⁸ Men and women were almost equally satisfied with their jobs. Overall, there did not appear to be strong associations between the variables identified in the survey and job satisfaction. Furthermore, most individuals felt their doctoral studies were at least partly relevant to their present employment (94%). The majority also felt that they were qualified for their job. Eighty-three percent thought they were adequately qualified, 15% thought they were overqualified, and only 1% thought they were unqualified.

Table 9: Overall job satisfaction for those with employment in the survey dataset

	Number	%
Very satisfied	275	48
Somewhat satisfied	179	31
Neither dissatisfied nor satisfied	27	5
Somewhat dissatisfied	33	6
Very dissatisfied	59	10

⁸ Multivariate logistic regression modelling was used to evaluate associations between job satisfaction and other variables.

Figure 8: Overall satisfaction with current job by faculty of respondent



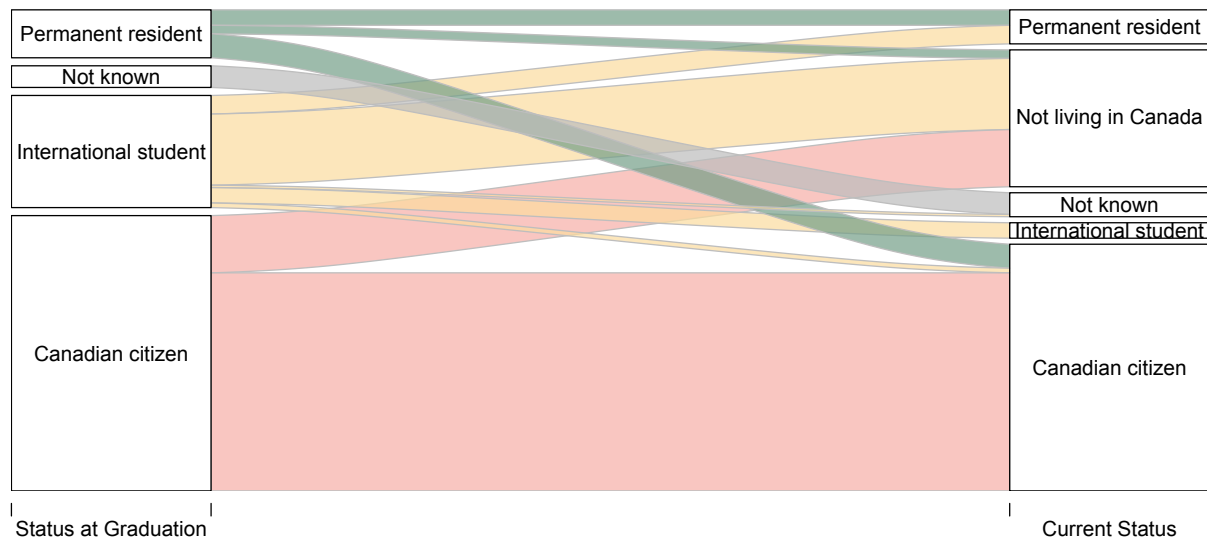
Did They Stay in Canada?

The majority in the survey dataset is working in Canada, a finding similar to the data scrape. Of those who are employed, 62% (n = 270) are working in Canada. The United States is the next most common country of employment (n = 91; 21%). This was also seen in the data scrape dataset. We also asked graduates to identify their immigration status upon graduation, and to then identify their current status in Canada. In Figure 9, we looked at the change in immigration status in Canada between graduation and when the survey was taken, as well as their current country of residence.

The majority of permanent residents at graduation had become full Canadian citizens by the time the survey went out to the graduates. Only 17% of permanent residents (at graduation) had left Canada. The majority of international students (at graduation) were now living outside of Canada (61%). Of these international students still in Canada, the majority were now permanent residents.

Of the students that were not Canadian citizens during their PhD at McGill, 50% were still in Canada at the time of the survey. This suggests a significant retention of non-Canadian citizen PhD graduates in the country. Again, this data may be skewed by selection bias.

Figure 9: Flow of Canadian immigration status between graduation and the present



Conclusion and Legacy

TRaCE McGill's quantitative results demonstrate that McGill PhD graduates find employment in a variety of fields. With a slight prevalence of academia, the doctoral alumni work in other key sectors such as the for-profit and government sectors. We also saw that the trajectory of men and women are very similar in most sectors and that career outcomes can vary substantially between faculties and departments.

While the scrape data provides a snapshot of how diverse career outcomes were for McGill PhD graduates in Fall 2019, the survey data provides insight into what those outcomes mean for the graduates themselves in terms of the relevance of their doctoral training to their current position and their overall satisfaction with their current situation. We saw that the great majority of PhD alumni who responded to the survey are satisfied with their current job and find their doctoral degree relevant to their work.

Further research will be required to explore the career trajectories of McGill PhD graduates over time, and to explore populations of graduate students not included in this study (e.g., Master's students).

Now that TRaCE McGill is in its final phase, our sights turn to building a vast mentoring community. Over 70 graduates (and counting!) from our study cohort have volunteered as mentors for current graduate students and recent grads, who can reach out to them individually via the TRaCE McGill website. In addition, a series of round tables, webinars and other events – such as speed mentoring sessions, in partnership with the Post-Graduate Student Society – bring students in contact with our PhD alumni. Open to all who wish to attend, [these events](#) feature graduates from all faculties who share their own career pathways, their successes and challenges, and their words of advice to current and prospective PhD students.

By reaching out to grads from their faculty, doctoral students have the opportunity to explore careers beyond the academy, get the mentorship they need, and make sense of their own narratives in the making.

The people behind TRaCE McGill

The TRaCE McGill project has been the work of many individuals:

Project Director: Prof. Paul Yachnin

Project Managers: Dr. Marie-Claude Felton and Dr. Chantelle Thauvette

Graduate student researchers: Renzo Calderon Anyosa, Ashley Chin, Collins Chukwuma, Claudia Claros, Jarred Dunn, Claire Edrington, Sam Howes, Felicia Huang, Dongyun Jung, Gabrielle Kielich, André Liberati, Heba Madi, Sara Mahabadi, Helen Martin, Samuel Preston, Elena Corella Puertas, Joanne Smith and Hongyu Zhang

Narrative editors: Claire Edrington, Catherine Nygren, Sonja Soo and Willow White

Quantitative report: Martha Lee

Appendix: - Categories used in the Data Scrape

Employment Sector Classifications:

- Academic Sector (e.g. college, university, university research centre or institute)
- Government (federal, provincial, municipal, public service, governmental research centre)
- Health care system
- Educator (K-12)
- For-profit organization
- Non-for-profit organization
- Self-employed/Entrepreneur/Freelancing
- Unknown

Main Field of Employer Classifications:

- Arts, Communications, & Entertainment
- Business, Financial Services, & Logistics
- Education, Public & Human Services
- Food & Agriculture; Environmental & Natural Resources
- Life Sciences & Health
- STEM Related
- Unknown

Job Function Classifications:

ACADEMIC: Research/teaching Tenure-Track (e.g. Assistant professor)

ACADEMIC: Research/teaching Non-Tenure-Track (Research associate; Adjunct; Lecturer; postdoc...)

PROFESSIONAL: non-academic research (Researcher at pharmaceutical company, at policy agency...)

PROFESSIONAL: Administration (Administrator, Project Coordinator...)

PROFESSIONAL: Information, Communications, Media (Comm. Officer, Journalist...)

PROFESSIONAL: Sales and Marketing (Sales rep., Marketing specialist...)

PROFESSIONAL: Management, policy, and leadership (Financial Director, Lead Policy Advisor, Politician)

PROFESSIONAL: Artist (musician, composer, dancer, writer...)

PROFESSIONAL: teaching and training (non-college or CEGEP, non-university) (music teacher, K-12, ESL, Instructor...)

PROFESSIONAL: Expert practice (doctor, Engineer, Architect, Librarian, Lawyer, Consultant,...)

UNKNOWN