

# TRaCE

TRACK REPORT CONNECT EXCHANGE

## STAGE 1 (PILOT) SUMMARY

### Introduction

TRaCE was a one-year pilot project tracking over 2,700 PhD graduates in the humanities from 24 Canadian universities. The overarching objective of this project, which included both a quantitative and qualitative/narrative component, was to examine what happens to PhD graduates post-completion: where they went, what they did, and how they felt about their experiences.

The present report summarizes the project's **quantitative** findings. We begin with a brief description of our pilot study methodology; a more comprehensive description can be found elsewhere ([www.iplaitrace.com](http://www.iplaitrace.com)). We then report our analytical findings with respect to employment, gender, geography, and time. We conclude with a discussion of key limitations and potential next steps.

### Data collection & analysis

The TRaCE pilot study was a joint effort between collaborating Canadian universities and the central TRaCE office, located at the Institute for the Public Life of Arts and Ideas (IPLAI) at McGill University. Participating institutions/departments provided the central TRaCE office with lists of PhD graduates from 2004 to 2015. These lists reflected graduates' names, year of graduation, and dissertation titles. Supplementary data were then added by the project's research assistants (RAs), who used the basic lists supplied by departments to search public electronic employment/professional profiles (i.e., LinkedIn) and gather data on graduates' current occupation and geographic location. Links to the relevant source(s) of retrieved data were also captured in the dataset for verification purposes. RAs were provided with a data collection template to facilitate and streamline data retrieval. All RAs received training and guidance from the central office.

Data analysis was undertaken at the central TRaCE office. Institutional datasets were cleaned and merged to create a de-identified master file for analysis. All analyses were conducted in Stata 14 (StataCorp. 2015. *Stata Statistical Software: Release 14*. College Station, TX: StataCorp LP.). We assessed demographic characteristics of the sample and conducted a series of basic descriptive analyses to explore associations between discipline/department, graduation year, gender, occupation, and geography. We began to publish preliminary reports/analyses on the project website when approximately 90% of the populated institutional datasets had been submitted to the central TRaCE office. The full dataset was officially complete in October 2016; the findings conveyed in the present report reflect our final analyses based on these data.

The central TRaCE office was responsible for merging the institutional datasets, conducting the analyses, and presenting the findings. Beyond basic cleaning and streamlining, the central office was only minimally involved in ensuring the validity of the collected data; this responsibility remained primarily with the RAs, who all received the same training/guidance prior to data collection. This was intentional and an important part of assessing the feasibility of the pilot project's methodology; we discuss the possibilities of misclassification and bias later in this report. Results are summarized below; given the cross-sectional

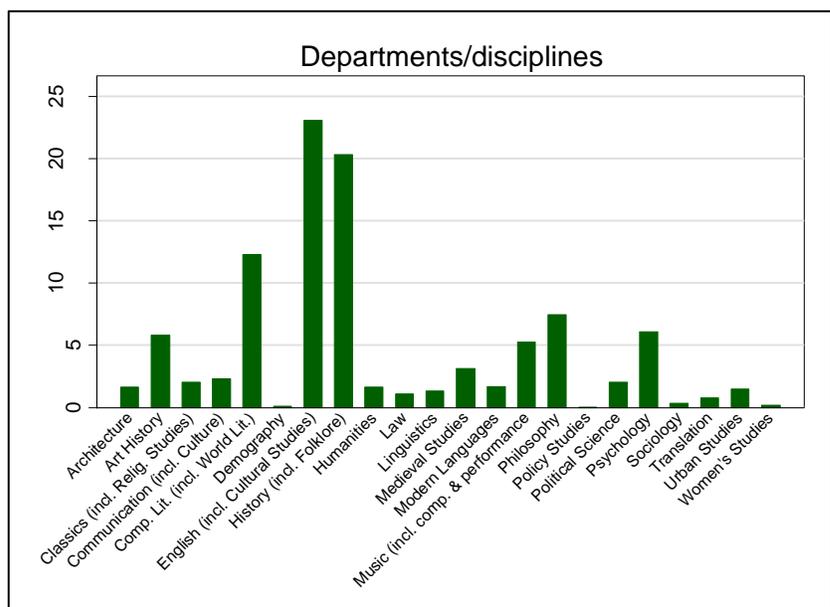
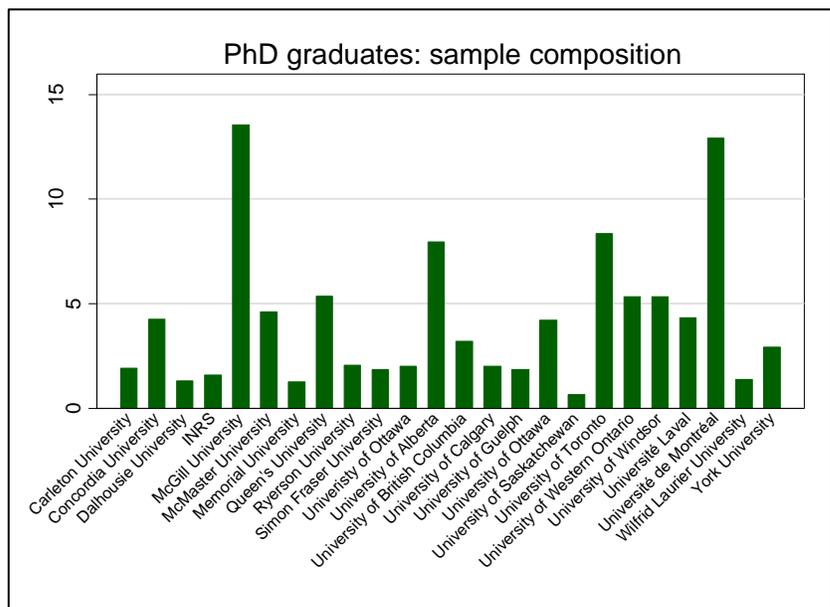
nature of the dataset and the pilot design of this exercise, all findings should be viewed as exploratory/descriptive.

## Results

### Sample characteristics

Our master dataset contained 2,782 PhD graduates from 24 Canadian universities. Supplementary data (the data collected/append by the RAs) were over 90% complete for gender, institution, graduation year, and province of residence (for graduates residing in Canada), and over 80% complete for current country of residence. Our dataset reflects two different levels of occupational information: one variable represents general occupational categories (e.g., higher education, non-profit, government), and a second variable represents specific occupational type (e.g., tenure-track, lawyer, writer/artist). Data on broad employment-related variables were nearly 80% complete, but there was a substantial amount of missing data for the more granular category, and a potentially large amount of misclassification. As such, we rely primarily on the general occupational data for the purposes of this summary. We offer a more detailed discussion of this issue in the *Limitations* section.

Participating institutions were asked to self-select a minimum of two departments for inclusion in the pilot project. The number of graduates therefore varied by institution, as some institutions selected more than the minimum and/or supplied lists of graduates from large departments (English, History), whereas others supplied lists from comparatively smaller departments (Women's Studies, Demography). Consequently, although our sample represents over 20 broad disciplines (and many more departments), the majority of our graduates (56%) come from 3 disciplines: English (including Cultural Studies), History (including Folklore), and Comparative



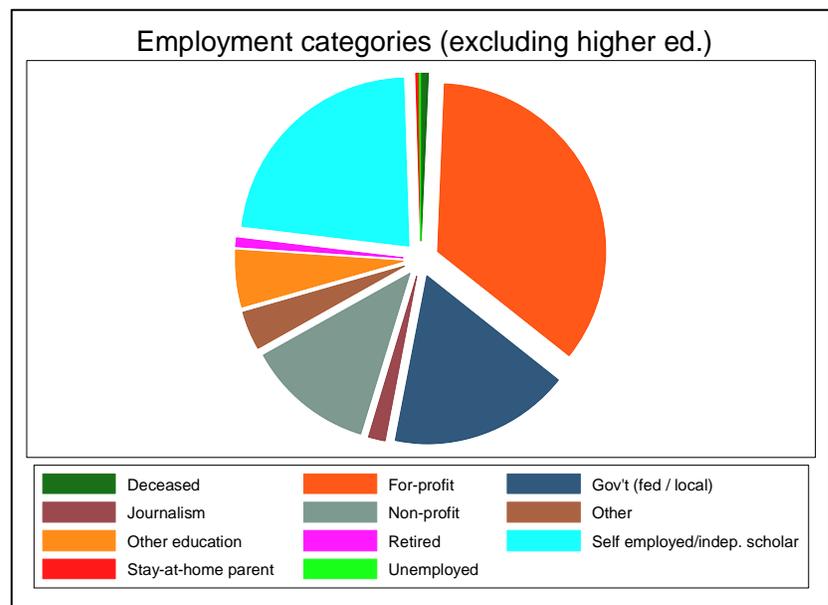
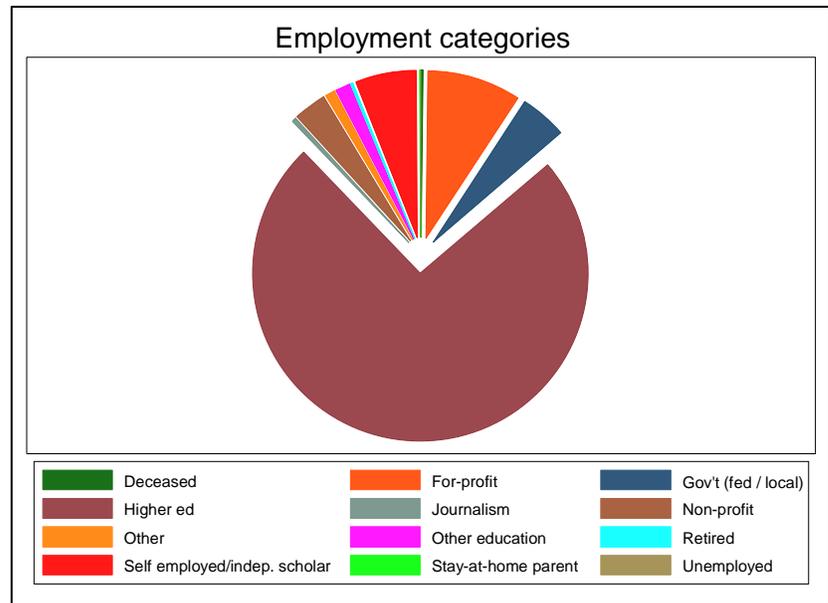
Literature (including World Literature). Readers should note that we grouped similar departments together as “disciplines” for clarity and ease of reporting; our classification scheme was functional but imperfect, and will likely be revisited in future work based on valuable feedback from our collaborators.

## EMPLOYMENT

It is no secret that many PhD graduates hope to secure jobs in higher education upon completion, so assessing trends in higher education employment was accordingly one of our first analytical objectives. We also explored other common types of employment among humanities PhDs.

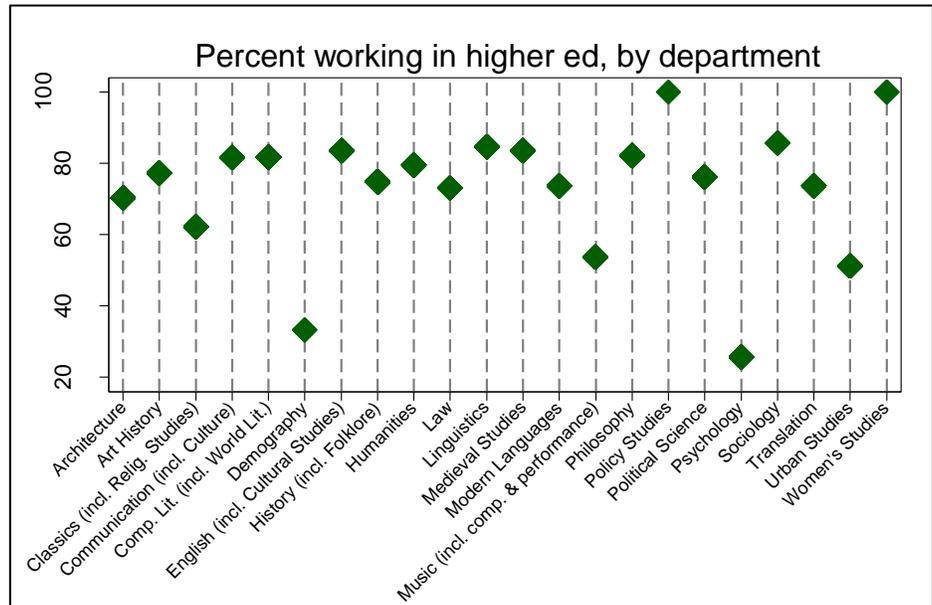
Our dataset contains occupational information for approximately 79% of our total sample. Most of our sample graduates (74% of those for whom employment data were available) were working somewhere in higher education at the time of data collection/retrieval. Our “higher education” category includes tenure track (TT) and non-tenure track (NTT) university professors, postdoctoral fellows, research fellows, administrators, and other contract positions. Among graduates working in higher education, 46% were coded as university professors by our RAs; we speculate that this percentage will likely increase over time given our sample’s wide range of graduation years. In the overall sample, 34% of graduates were identified as university professors.

RAs were also asked to collect more granular information on employment (for example, tenure track (TT) vs. non-tenure track (NTT) status). However, given the data collection strategy, these data were more difficult to reliably retrieve than the broader occupational information. As a result, we only have information on TT vs. NTT status for 62% of the graduates coded as university professors. While our existing data suggests that the majority of graduates working as university professors are employed as TT faculty, the amount of missing data limits any conclusive analysis of these trends.



There was considerable employment variability among the 26% of graduates working *outside* of higher education. When we excluded graduates working in higher education from our sample, we found that 35% of the remaining graduates were currently working in the for-profit sector, 23% were self-employed, 17% were working in federal or local government, and 12% were working in the non-profit sector. It is also important to note that many graduates (particularly those working outside higher education) held multiple jobs at the time of data collection, which is likely reflective of the evolving nature of the labor force in which people hold multiple (sometimes precarious) positions simultaneously. We attempted to identify graduates' principal/primary occupation for the purposes of this pilot study, but misclassification is possible; we elaborate on this later in the report.

Higher education employment appeared to vary by discipline in this sample. While the majority of graduates from most departments were employed in higher education, which aligns with our descriptive analysis of the overall sample, our analysis revealed a few interesting outliers. **It is crucial to note that we had very few graduates from Policy Studies, Women's Studies, and Demography, so although these**



**proportions are visually striking, they are statistically non-informative.** Our analysis by discipline revealed that Psychology graduates had a comparatively unique trajectory in this sample: approximately 70% were employed outside of the higher education sector as therapists or counselors at the time of data collection.

Since our higher education category included multiple occupations, we took a more targeted look at disciplinary trends in faculty/professor employment specifically. We previously noted that 46% of all graduates working in higher education were employed as professors/faculty, but our data suggest that this proportion varies considerably between disciplines in our sample. **Again, readers are reminded that we have limited data on certain fields (Demography, Policy Studies, Women's Studies), so the proportions corresponding to these disciplines are likely not valid/reliable – accordingly, we do not discuss them here.** The proportion of graduates working as professors/faculty was lower than average among Classics and Psychology graduates, and higher than average among Architecture, Law, and

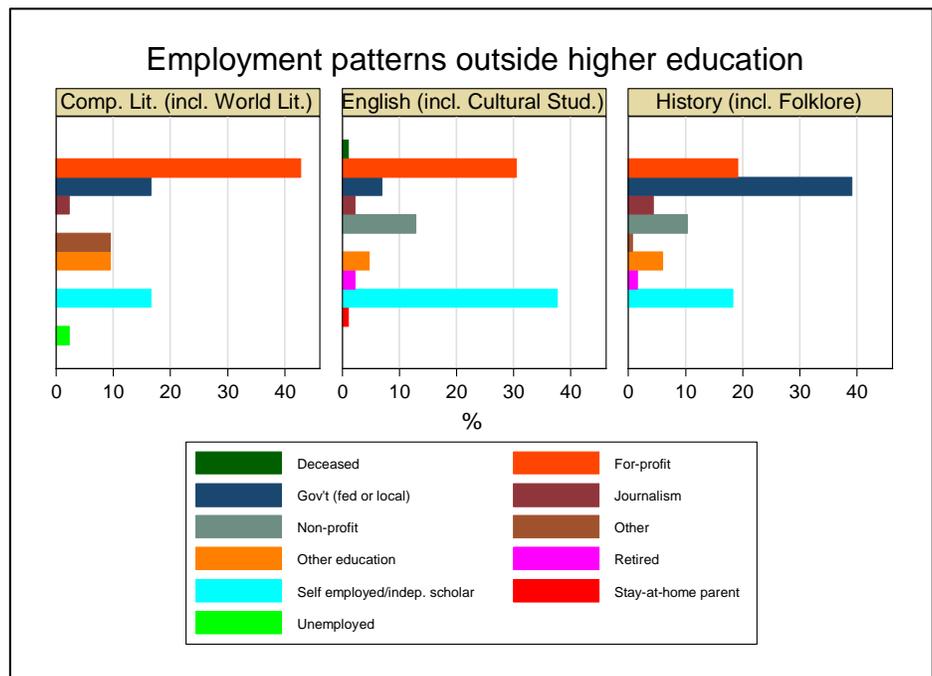
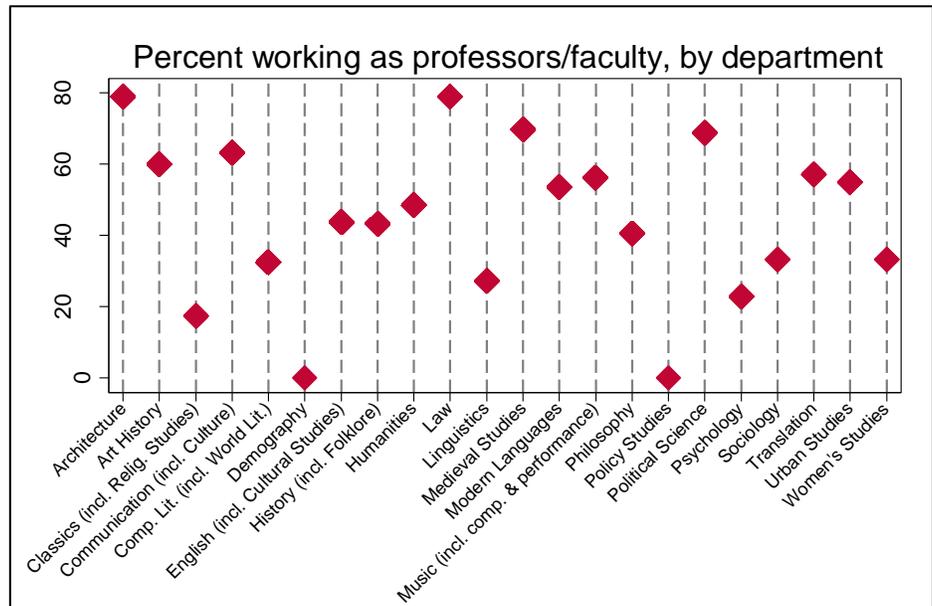
Medieval Studies graduates. However, these apparent differences may be partially attributable to our sample size and/or inter-coder variability.

Given our findings with respect to higher education employment patterns by discipline, it follows logically that employment patterns *outside* of higher education would also vary by discipline. However, restricting our sample to graduates outside of higher education and stratifying by department

resulted in insufficiently small cell sizes (which can easily lead to misleading results), so we focused mainly on our most densely populated disciplines for the purposes of this analysis: English (including Cultural Studies), History (including Folklore), and Comparative Literature (including World Literature). Our findings suggested that government employment was particularly high among History graduates, self-employment/independent scholar trends were most pronounced among English graduates, and employment in the for-profit sector was comparatively high among Comparative Literature graduates, with many graduates working as consultants, analysts, and writers/editors.

Although we can't draw statistical conclusions about our more sparsely populated departments, our data indicates that employment distributions among Classics and Philosophy graduates may be fairly similar to the Comparative Literature distribution illustrated above.

Employment in the non-profit sector was particularly common among Law, Communication, and Art History graduates in this sample. Our cross-sectional dataset does not allow us to conclude that certain disciplines better prepare graduates for careers in specific sectors, but these associations may merit further investigation.



## GENDER

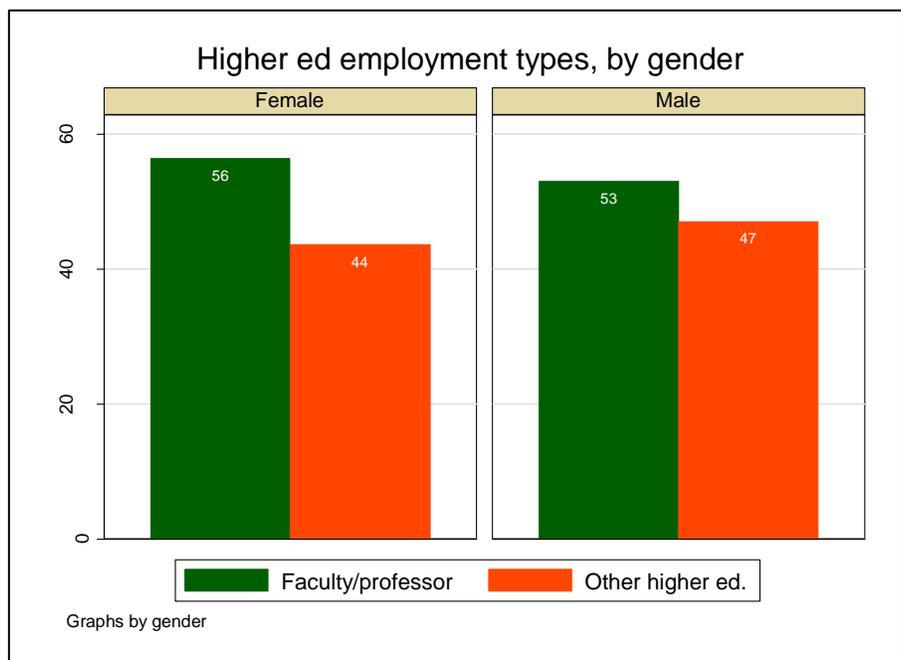
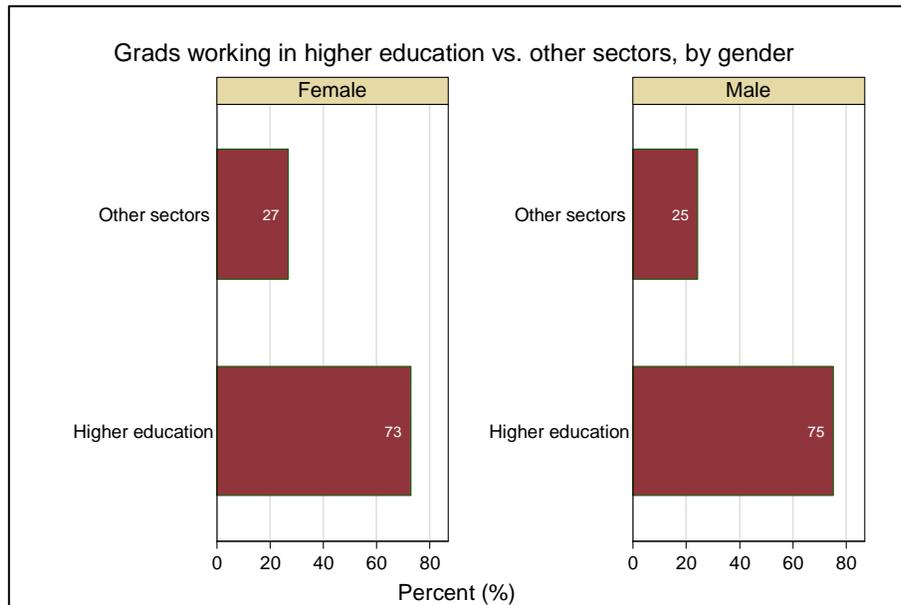
Gender-related differences in employment were a key area of interest in this pilot project. Given the imbalance of men and women in our sample (45.1% vs. 54.9%, respectively), the following analyses were stratified by gender - in other words, we looked within gender categories to compare occupational distributions.

In our gender-stratified analysis of higher education employment versus employment in all other sectors, we found fairly similar trends between men and women: 73% of sampled women were employed in higher education (vs. all other fields) at the time of data collection, compared to 75% of male graduates.

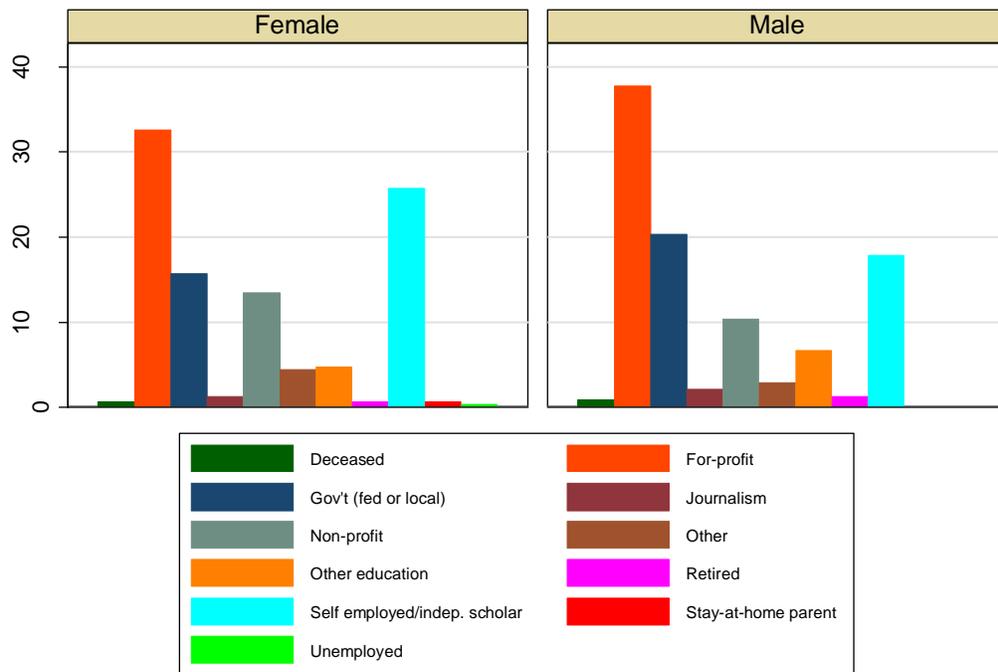
Because our higher education category was a composite variable consisting of various types of positions, we again opted to look specifically at faculty/professor employment versus other higher education occupations. We found a slightly higher percentage of men compared to women working in faculty/professor

positions at the time of data collection (47% vs. 44%, respectively). It should be noted that these differences, while interesting, are negligible from a statistical standpoint – in other words, given the available data, we cannot conclude that there is an important difference between these proportions.

Our (admittedly preliminary) evidence suggests that other employment trends may also differ by gender. For example, men in our sample were more likely to work in for-profit or government jobs, whereas women were more likely to work in non-profit jobs or to be self-employed/independent scholars. Our data are not sufficient to conclude that employment patterns are truly different between men and women, but our narratives seem to suggest this may be the case.

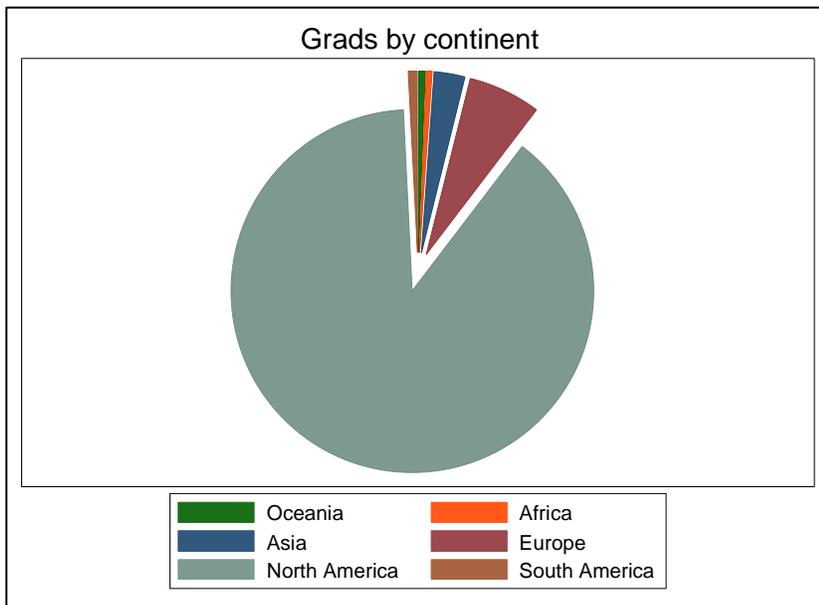


## Employment outside of higher education, by gender



## GEOGRAPHY / LOCATION

We have geographic data for roughly 80% of our sample, and these graduates are dispersed across the world. It's important to note that we don't know where our graduates are originally from or where they hoped to end up post-completion, and these are clearly very important factors in any geographical analysis.

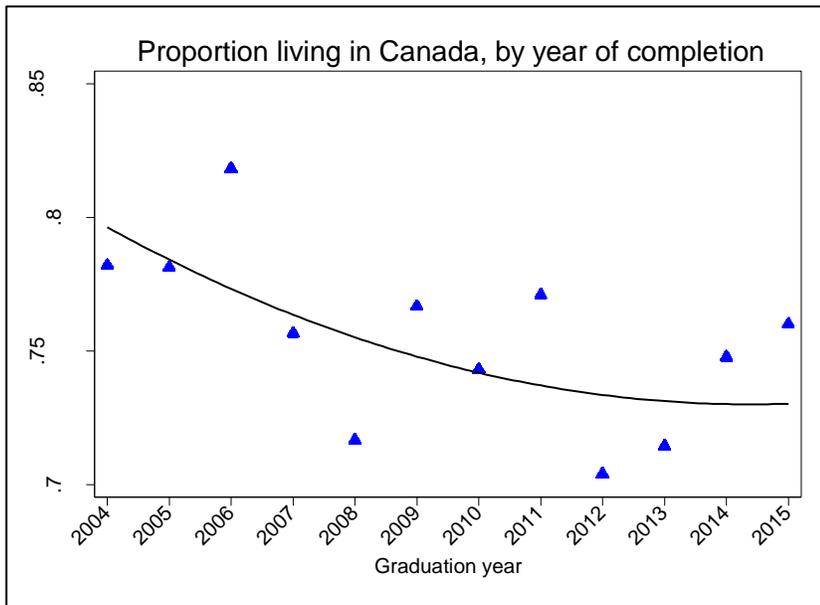
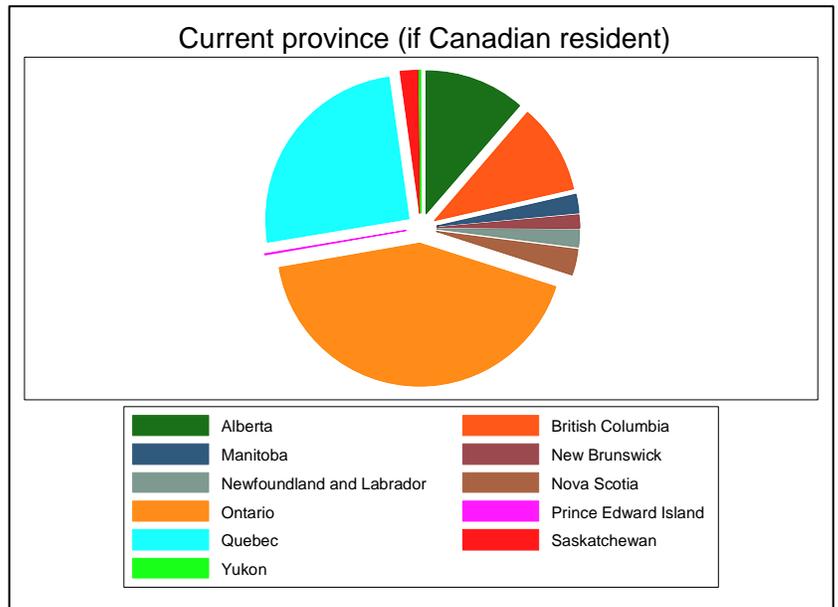


However, our descriptive analysis may begin to shed some light on where humanities PhDs go after they finish their degrees at Canadian institutions.

The vast majority (89%) of our sample graduates were residing somewhere in North America at the time of data collection, but about 6% were living in Europe, 3% in Asia, and less than 1% in Africa, Oceania, and

South America, respectively. At the national level, most graduates (75%) resided in Canada at the time of data collection. Among graduates residing in Canada, the distribution by province largely mirrored the distribution in the general population.

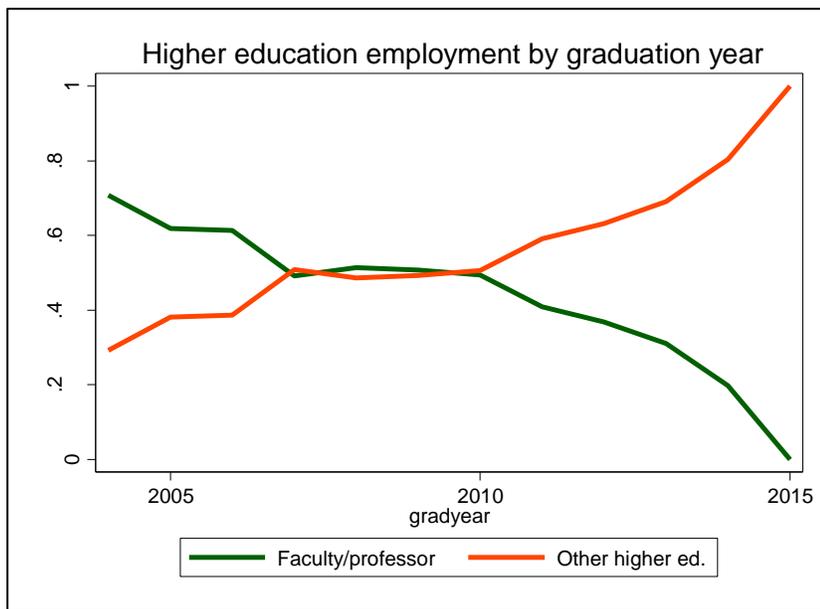
We assessed whether the proportion of graduates residing in Canada varied by discipline: restricting to the 14 departments/disciplines in our sample with at least 50 observations, we found that the proportion of graduates residing in Canada (compared to any other country) was relatively constant across most disciplines, with the notable exception of Medieval Studies graduates. The number of graduates from this discipline residing in Canada was approximately the same as the number residing in the US. We are uncertain about the root of discrepancy, but it may be potentially indicative of a shortage of Medieval Studies jobs in Canada, a greater abundance of Medieval Studies jobs in the US, and/or an influx of American students in Canadian programs who return to the US post-completion (among other explanations).



We found a weak association between year of graduation and the odds of residing in Canada (odds decreased slightly among more recent graduates). Similarly, there was a slight increase in the proportion of graduates living abroad (outside of North America) in more recent graduation years, potentially reflecting greater early career flexibility, greater willingness to relocate, or (though we can't assess this with our existing data) an increasing number of international PhD students.

## TIME

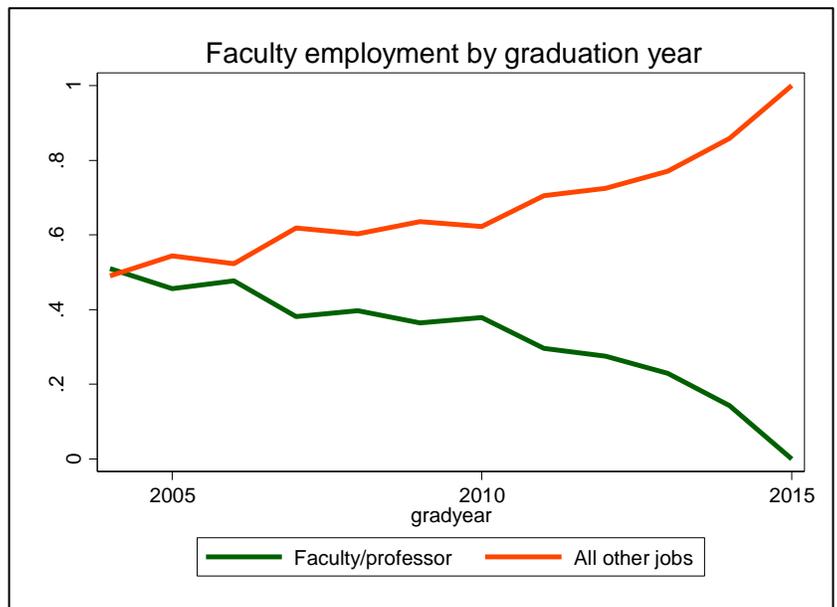
Our dataset consists of cross-sectional data: in other words, we captured information on each of the graduates in our sample at a single timepoint. We are consequently unable to formally assess important elements like time (and pathways) to employment, which would allow us to more rigorously evaluate post-graduate trajectories. While we are not able to determine the specific employment trajectory of a given individual, we can use the full sample to begin to examine the association between graduation year and employment type. In this section, we use year of graduation as a rough proxy for time – we know that (at the time of data collection in 2016) the 2005 graduates had spent much more time on the job market than 2014 graduates, and this should have an impact on employment patterns.



While we are unable to say anything about causality given the structure of our dataset, we did observe a relationship between graduation year and higher education employment patterns. We found, somewhat predictably, that the odds of faculty/professor employment (versus all other jobs) were lower among more recent cohorts than among older cohorts. Similarly, the odds of *other* types of higher education employment (postdoctoral fellowships, research fellowships, etc.) were higher among more recent graduates.

The plot above, which is restricted to graduates employed in higher education, illustrates the proportion of graduates employed as university professors (versus elsewhere in higher education) by graduation year. These trends were consistent for both men and women. We also observed that the proportion in either employment category was essentially equivalent from 2007 to 2010; this suggests that, while there was a fairly clear association between both categories and time, the association is more pronounced at the upper and lower ends of the graduation year distribution. These estimates may be exaggerated/non-generalizable, however, due to a relatively small number of graduates at the extremes. Furthermore, and perhaps most importantly, these data do not tell us when graduates obtained their positions; while there is clearly a higher proportion of graduates in faculty/professor roles among earlier/older cohorts, our data do not indicate when in the post-graduate trajectory (for example, immediately upon completion versus 3 years post-grad) these jobs were secured.

We also assessed the proportion working as faculty/professors versus all other jobs by graduation year. Again, we found generally higher proportions of graduates working as faculty members in earlier graduation years, and this proportion decreased among more recent graduation years. Among 2005 graduates, for example, nearly half were employed as faculty at the time of data collection; this figure dropped to 37.8% among 2010 graduates and 14.2% among 2014 graduates (the last year with sufficient data).



Finally, we looked at the relationship between graduation year and other types of employment, specifically self-employment, for-profit, non-profit, and government employment (our most common occupational categories outside of higher education). We found a weak association between for-profit employment and graduation year, with recent graduates more likely to work in this sector, but this was due in large part to a jump in for-profit employment among our 2015 graduates (this may not represent employment trends among all Canadian graduates). We did not identify a relationship between graduation year and any other employment category.

### Limitations

TRaCE was successful in obtaining a range of information on a fairly large sample of PhD graduates, but it is important to acknowledge the limitations of this study in order to appropriately interpret its findings (and to best determine future directions). We alluded to various potential sources of bias throughout this text; in this section, we offer a more detailed discussion of a number of broad and potentially pervasive issues relating to the project’s methodology.

Our data/results may have been impacted by two key factors: 1) selective self-reporting (of graduates), and 2) misclassification error (of RAs/coders). The data mining approach (obtaining information via publicly-available channels) allowed us to gather data on many graduates at a minimal cost, but the quality/consistency of the resultant data is unclear. For example, graduates who are “successful” may have a stronger online presence, and may consequently be overrepresented in our dataset. Similarly, graduates who are currently looking for employment may have much more detailed information in their public profiles, and some graduates may have abandoned certain platforms in favor of others (i.e., LinkedIn vs. ResearchGate), resulting in out-of-date or inconsistent data across platforms. Whenever reporting is differential across subpopulations, there is the possibility of bias. Furthermore, given the amount of missing data in our dataset, our cohort may not be reflective of the general population of Canadian PhD graduates; inference based on these data may therefore be misleading.

There was ample opportunity for misclassification at multiple stages of this pilot study, and data quality varied between RAs and institutions. This was somewhat unavoidable given the number of RAs involved

in our study, but the issue can likely be ameliorated with improved design. Misclassification was a particularly serious problem in the more granular occupational category, which is why we did not feature this variable prominently in our analyses. However, even in the broad occupational category, different RAs sometimes coded the same occupation in different ways; the analyst attempted to streamline/cross-reference these cases, but this was not always possible (and, again, as we were piloting our methods, we wanted to preserve (not change) the data that came into the central office).

We plan to address this issue by improving our training procedures and refining the data collection template to capture data elements that can be reliably and easily retrieved. For example, it is likely better not to ask for specific information on 2 vs. 4-year appointments (as we did in the pilot study), as this information is not consistently available for all graduates. Periodic validity and reliability checks (i.e., asking two RAs to independently extract information on the same graduate) could also protect against bias by ensuring that coders are consistent; this could help to identify any ambiguity in our data collection templates. Restricting RAs to rigid/drop-down fields whenever possible may also be advantageous in ensuring that retrieved data are consistent. Furthermore, there is room to expand the *type* of data retrieved by RAs: future iterations of this project would ideally collect more detailed information on ethnicity, ability, self-reported gender, and international status in order to better assess potential equity issues. This was beyond the scope of the pilot project, but it is undoubtedly important given the findings of our ongoing qualitative analyses.

Finally, the issue of time is of special importance here. Collecting information over time would be exceptionally useful, and would likely tell a different story than our current cross-sectional data. Although we were able to offer a few basic time-related analyses based on graduation year, it would be far more interesting/relevant to track the trajectory of individual graduates over the course of their post-grad years to better understand real trends in employment and geography/migration. However, if future work relies upon the same approach to data collection described herein, the aforementioned issues of misclassification, selective reporting, and differential availability of information may be exacerbated: repeated assessments of a single graduate over time could introduce more opportunity for error, and the quality of information may be time-varying.

## Conclusion

What happens to humanities PhD graduates post-completion? Our quantitative findings suggest that most go on to work in higher education, but many others find work in other sectors. The preliminary evidence in this report also suggests that employment pattern may differ by discipline, year of graduation, and gender, but further research is required in order to ensure that these observed associations are not simply artifacts of the data.

It is important to remember that TRaCE was a pilot project; as such, various aspects of the methodology and analysis could (and should) be refined in future iterations of the project. Nonetheless, this project represents an important step in understanding what really happens to Canada-based PhD graduates in the humanities.

However, the numbers only tell us part of the story - the qualitative arm of our project offers an in-depth look at the lives and trajectories of graduates working both inside and outside of the academy. Readers are invited to review these narratives at [www.iplaitrace.com](http://www.iplaitrace.com).