TRaCE
TRACK REPORT CONNECT EXCHANGE

STAGE 2: QUALITATIVE ANALYSIS

Introduction

Relatively little is known about the professional and personal trajectories of PhD graduates from Canadian institutions. TRaCE was a one-year pilot project designed to bridge this knowledge gap. The overarching objective of this project, which included both a quantitative and a qualitative/narrative component, was to examine what happens to PhD graduates post-completion: where they have gone, what they've done, and how they have navigated their career and life pathways.

The analysis presented herein reflects the **qualitative** findings of TRaCE's pilot stage. A summary of quantitative findings was previously synthesized and can be accessed at www.iplaitrace.com. While the quantitative side of the project centered on publicly-available information, the qualitative side of the project allowed us to dig a little deeper by asking graduates direct questions about their experiences, both from their PhD programs and from the years after graduation. Our methodology and findings are presented below.

Methods

Sample/data collection

Ethical approval for this project was granted by McGill University and, where needed, from other participating universities. In a previous phase, participating universities across Canada provided the central TRaCE office, then located at the Institute for the Public Life of Arts and Ideas (IPLAI) at McGill University, with lists of their PhD graduates from 2004 to 2015. Research assistants (RAs) from each participating institution used these lists, which cumulatively contained basic identifying information on over 2,700 graduates, to identify and contact potential interviewees. TRaCE RAs, all of whom received training from the central TRaCE office, secured informed consent from willing participants and scheduled a mutually convenient meeting time.

Data were collected through semi-structured interviews, which were conducted in French or English via telephone, video chat, or in-person. These interviews ranged in duration from approximately 20 minutes to over an hour (the average time was approximately 45 minutes). Participants were asked several open-ended questions within each of the following domains: teaching, funding, mentorship/professional development, time to completion, employment after study, and reflections/research. Participants were also asked if they would be willing to make their story public on the TRaCE website; these interviewees were contacted by the TRaCE writer, who worked with them to build their personalized narratives (many of which have been posted at www.iplaitrace.com). All interview transcripts were uploaded into university-specific Dropbox folders, to which only the RAs from each institution and the central TRaCE office had access. The master data file was stored in a password-protected folder and was only accessible to the core TRaCE team. Interviews concluded in late 2016. At the end of this process, over 300 transcripts were available for analysis.

Coding strategy/content analysis

We opted to perform a conventional content analysis[1] in an attempt to avoid imposing preexisting assumptions on the data, although participants' responses were somewhat constrained by the interview format. All transcripts were reviewed and coded by the TRaCE quantitative analyst, who tracked key points/statements in each interview. The analyst also created several binary or categorical indicator variables to more easily assess factors like family composition, time to completion, equity issues, and the general tone of the interview. A preliminary coding/thematic scheme was developed after the first 10 transcripts; this scheme evolved over the remaining review. Data saturation was reached when 75% of the interview transcripts had been reviewed and coded.

Our research question was actually several questions. While we were broadly interested in gathering data on the general experiences of PhD graduates from Canadian institutions, this overarching theme encompasses many components, including information on pathways to (and sector of) current employment and details about the PhD experience itself, such as time to completion and community support. As such, our coding structure initially followed the structure of the interview template: the analyst identified key/recurring themes within each of the aforementioned interview categories, essentially treating each category as its own research question. Content from some of these themes overlapped (for example, funding and time to completion), prompting the analyst to merge and/or split categories in accordance with the data. Our final coding structure is reflected in the *Results* section.

The existing results from the larger TRaCE project helped to impose some reliability/validity safeguards on the qualitative analysis[2]: specifically, respondent validation - whereby participants are asked to assess the interviewers' transcripts - occurred through the narrative-building process and on a case-by-case basis in certain departments/institutions (many interview templates with changes tracked were available to the analyst). We were also able to triangulate our findings with the existing quantitative data and the available narratives to check for any notable discordance between the identified themes and our findings to-date.

Results

Interview themes were grouped within five relatively distinct domains which form the subject headings below. Domains are <u>underlined</u>; major themes emerging from the data are denoted in **bold**.

<u>Job preparation/market experiences</u>

The academic job market was, unsurprisingly, a key focus of many interviews. The majority of interviewees wished they had been better-informed about the realities of the job market (many completed their degrees in the midst of, or shortly following, the recent recession). Luck was a recurring theme: many interviewees (both with and without academic appointments) noted that getting an academic job was largely a product of **being in the right place at the right time**, with several participants discussing the importance of connections and/or nepotism in academic hiring, particularly for tenure-track positions. Some also discussed preferential hiring of American candidates over Canadians and noted that the prestige/reputation of their PhD-granting institutions played a significant

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[1] Hsieh HF, Shannon SE. Three approaches to qualitative content analysis. Qualitative health research. 2005 Nov;15(9):1277-88.

[2] Anderson C. Presenting and evaluating qualitative research. American journal of pharmaceutical education. 2010 Sep;74(8):141.

role in their job search – many had been unaware of this phenomenon prior to entering the job market. The period immediately following graduation was described as "purgatorial" by one interviewee, and this feeling was shared by many others – particularly those seeking academic work. Many graduates reported **multiple jobs** (sessional work, freelancing, etc.), especially in the years immediately following graduation. **Geographic flexibility** was generally regarded as essential for those seeking academic work, but this was particularly challenging for graduates with children or other family obligations.

Inadequate job preparation for careers outside of academia ("alt-ac" or non-academic jobs) was a very common theme, with many graduates arguing that the **academic system needs to adapt to the changing job market**. We noted a slight cultural shift here, as newer graduates tended to report more alt-ac training than graduates from earlier years, but preparation was still widely regarded as insufficient. There was some disagreement over whether this responsibility rests with departments/institutions or students themselves: while many interviewees argued for increased departmental support for, and information on, alt-ac options, others found considerable value in navigating the alt-ac market (and learning how to "spin" their PhD-related skills for non-academic work) on their own. Job preparation initiatives were better-received and more successful when offered at the departmental, rather than university, level; the latter option was viewed as too general to be especially helpful. A recurring piece of advice was to **have a plan** before commencing the degree: a number of graduates knew the realities of the job market before starting their PhD, but opted to push forward in the interest of personal fulfillment and/or pursuing a career outside of academia. Graduates who were less aware of job market concerns were often less satisfied with their post-grad experiences.

Interviewees offered concrete suggestions for how best to prepare for job market entry, as well as recommendations for how departments/institutions could better support their students. Involvement with hiring committees and job talks was viewed as very helpful in understanding the hiring process, and offered those who engaged in these activities a valuable opportunity to see what happens "behind the scenes". Interviewees frequently requested **more guidance/formal instruction on research/archival methods** – many noted that these skills (especially research methods) made them more marketable job candidates for both academic and alt-ac positions. Finally, many called for an **increased emphasis on how to market the various skills gained in PhD programs** for non-academic jobs. While most graduates in both academic and non-academic positions said that their degrees were relevant to their current work, participants in alt-ac careers commonly emphasized that their broader skillsets – in particular, writing and critical thinking skills – were especially advantageous in a professional setting and gave them an edge over other candidates.

Teaching preparation/teaching experiences
Interviewees reported considerable teaching/TAing experience, and most discussed the **importance of gaining teaching experience** during the PhD. Participants reported a notable difference between teaching and TAing in terms of experience gained: while many interviewees indicated that they learned something new from each post, the most instructive and valuable experience was often the **first independent teaching position**. Teaching a full course was quite formative for participants, particularly when they had control over syllabus design and text selection. However, many participants reported **inadequate teaching preparation**: interviewees commonly discussed a feeling of being "thrown into" teaching situations and learning on the fly, with little pedagogical support and/or formal teaching guidance (though this varied by department/institution). Interestingly, while too little teaching support was relatively common, interviewees were also aware of the potential problems associated with *too much* teaching support: many noted the value of having some "room for failure" when learning to be an effective instructor.

Many participants said that TA-ships, teaching, and paid work in general were helpful in keeping them "structured". This sentiment was not true across the board – a number of interviewees found that heavy teaching workloads interfered with their own research and/or time to completion (more on this below), and some also discussed **feeling exploited as student lecturers/employees** – but it was more common in our sample for graduates to be generally pleased with the teaching experience gained over the course of the PhD. It was essential to **strike a balance between teaching and research**, but this was easier for some than others: some interviewees had to do considerably more teaching and other paid work due to financial considerations.

Funding/time to completion
Participants reported a **relatively wide array of funding sources**, including internal awards (institutional/departmental), external awards (SSHRC/federal, provincial), and supplemental revenue from teaching assistantships and research assistantships. The most common funding scenario was internal funding at the beginning of the PhD, often in the form of an entrance/welcome package, and external funding in subsequent years of study. Regardless of funding source(s), interviewees noted that funding over the course of the degree generally started strong but tapered off, due in part to potentially unreasonable expectations regarding time to completion (we discuss this in greater detail below). While most interviewees reported that their **funding was generally adequate**, this varied considerably by graduation year, program, and institution. International students were at a striking disadvantage for funding, as many funding opportunities are restricted to Canadian applicants; consequently, almost all of the participants who divulged their international status advocated for improved opportunities for funding in this group.

Funding was often linked associated with time to completion (TTC) by interviewees, but the nature of this association was inconsistent: for example, some participants linked their strong/stable funding situations to a faster TTC, while others argued that having *less* financial support was a motivating factor for completing their degree. Some well-funded participants felt that, while funding allows you to finish quickly, it may also deprive you of supplementary opportunities like teaching and research assistantships, and this could be a disadvantage post-grad.

Although our sample reflected a diverse assortment of funding situations, almost everyone was satisfied, in retrospect, with their TTC, and most indicated that they felt they took the "right amount of time" to complete their PhDs. However, the vast **majority of participants found the standard four-year TTC unreasonable**, as it doesn't allow sufficient time to gain important writing/teaching experience (particularly given the amount of time required for coursework and comprehensive exams). Accordingly, few of the participants in our sample completed their degrees in four years, as we illustrate below. Because funding is often structured around the four-year TTC expectation, many applicants reported financial difficulty beyond the fourth year of their degree. Again, participants noted a **trade-off between TTC and teaching**: teaching was largely viewed as time-consuming but valuable, but some interviewees with less funding had to take on a disproportionate teaching load for financial reasons, which many linked to a prolonged TTC.

Participants reported several factors that were helpful with respect to TTC (aside from adequate funding for the duration of the PhD program). In particular, social and/or family support, strong supervision, and clear program expectations were commonly cited as advantageous. In contrast, teaching, family obligations (especially for those with children), and changes to the project or supervisor were associated with prolonged TTC. Graduates who were most content with their overall experience often discussed the importance of scheduling and holding oneself to a work plan. Those who finished particularly fast (<4 years) overwhelming credited their TTC to strong social support and/or supervision.

Time to completion
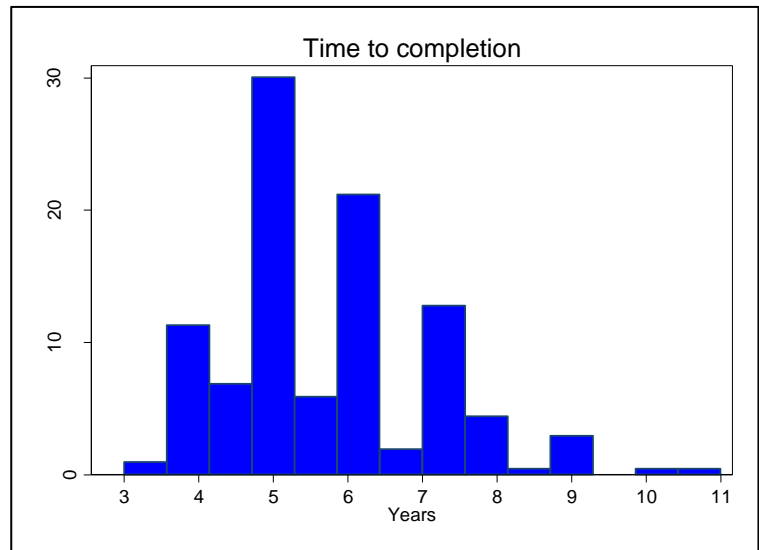
Community, resources, support

The majority of graduates in our sample reported **positive or very positive supervisory experiences**. This relationship was often framed as **central to the PhD experience**, and it was evident at the coding phase that problems with a supervisor and/or committee could have adverse effects on TTC, productivity, and graduates' overall satisfaction. The primary role of supervisors and committee members was to provide writing/research guidance; job preparation assistance was somewhat less common, but several interviewees reported that this was helpful when provided.

Community was largely a secondary concern for many interviewees, but most agreed that their sense of **community within their respective programs tended to start strong (particularly pre-comps) and dissipate** as they progressed. Participants' sense of community was driven in large part by the composition of their cohorts and how well they "gelled"; many participants remained connected to a few classmates and faculty members after graduation, though few remained well-connected to many people from their departments. Community integration was somewhat more complicated for older students and for students in interdisciplinary programs. Some participants who were "mature students" reported feeling excluded from cohort activities, though others opted out due to (for example) preexisting family commitments and/or a lack of interest in, or need for, cohort-level community. Participants from interdisciplinary programs faced an interesting array of challenges: community-building was often difficult as cohort members were physically and academically scattered, but challenges were also commonly cited with respect to administrative support and resources. There was a fairly consistent feeling among graduates from interdisciplinary programs that **interdisciplinary work is viewed by many universities as valuable but "messy"**, and many participants felt that their institutions were not yet well-equipped to support these programs.

Interviewees frequently reported serving as **informal mentors** to their peers; formal mentorship (aside from the supervisor/supervisee relationship) was uncommon. Very few interviewees reported any equity or accessibility issues; however, we suspect these may have been underreported due to how the question was framed, the composition of our sample, or both. We revisit this briefly in our concluding section. **Isolation** was a recurring theme, especially at the writing stage, and mental health challenges were relatively common. Office space and other physical/environmental resources were viewed as

important factors for productivity, professionalization, and mental health. Many interviewees emphasized the need to "love what you do" while simultaneously maintaining a life outside the PhD – in other words, **a healthy work/life balance**, which was particularly important for interviewees with children.

Discussion

This analysis complements the earlier components of the TRaCE pilot project by synthesizing in-depth information on a relatively wide range of graduates. Graduates in our sample were generally satisfied with their PhD and post-grad experiences, but there were several suggestions for how Canadian PhD programs could do more to support their students. Many participants felt unequipped to enter the job market, and many struggled to find work in the years immediately following graduation. While the situation varied considerably across departments/institutions, our findings suggest that programs could offer more information on alt-ac careers, as well as more formal pedagogical and research training to PhD students. Given the range of TTC in our sample, programs (and their students) may benefit from reevaluating expectations about TTC, and perhaps improving funding availability for students beyond the cut-off point.

As with any analysis, we acknowledge certain limitations. Graduates who consented to be interviewed likely differ from those who did not in important ways, and this may have had an impact on our findings – for instance, our sample may not include people who were extremely disappointed with their experiences, and these people may have provided very different feedback to our interview questions. Because graduates essentially "self-selected" into our sample, our sample is likely not representative of all PhD graduates. Furthermore, the quality of the interviews varied across institutions/interviewers: some interviewers provided verbatim statements from participants, while others provided only brief notes/summary statements. Finally, given the subjectivity inherent in any qualitative (or quantitative) analysis, decisions made by the analyst with respect to themes, tone, and overall conclusions may not be replicable by other reviewers. It is possible that the subjective biases of the interviewers, analyst, or both, had an impact on these data and the resulting findings. We hope, however, that such bias was minimized by 1) employing a range of interviewers from different academic/geographical areas, and 2) engaging an analyst who did not come from one of the disciplines under study (thereby potentially limiting the analyst's personal investment in representing certain themes or trends).

TRaCE brings us closer to understanding how PhD graduates experienced the Canadian PhD system, what they did once they left, what they would have done differently, and what they wished would have been different about the programs themselves. The information yielded by this exercise has potentially important policy implications for Canadian PhD programs: we believe that this analysis can serve as a guide for departments/institutions in restructuring their existing programs in order to adapt to the global job market and better support their students, both in-program and beyond.