



Barriers to employability

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Sources



Conseil des académies canadiennes (2021)

Formés pour réussir : [la transition des nouveaux titulaires de doctorat vers le marché du travail.](#)

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- **Jennifer Polk**, fondatrice et principale, From PhD to Life (Toronto, Ont.)
- **Susan Porter**, doyenne et vice-rectrice, études supérieures et postdoctorales, Université de la Colombie-Britannique; ancienne présidente, Association canadienne pour les études supérieures (Vancouver, C.-B.)
- **Reinhart Reithmeier**, MACSS, professeur, département de biochimie, Université de Toronto; directeur du perfectionnement professionnel et de la mobilisation des anciens, Institute of Medical Science, Université de Toronto (Toronto, Ont.)
- **David Walters**, professeur agrégé, Département de sociologie et d'anthropologie, Université de Guelph (Guelph, Ont.)
- **Paul Yachnin**, professeur titulaire de la Chaire d'études shakespeareennes Tomlinson, Département d'études anglaises, Université McGill; directeur de TRaCE McGill (Montréal, Qc)

Bangali et al. (2017-2019)

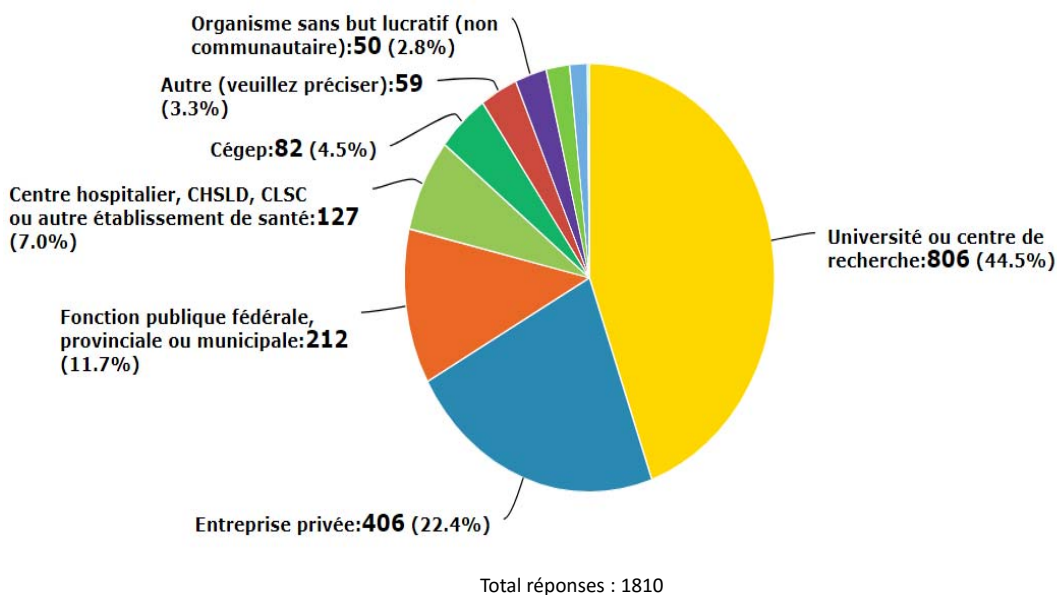
Étude panquébécoise sur les compétences des titulaires d'un doctorat

- Projet financé par L'Association des Doyens et Doyennes des Études Supérieures au Québec (ADESAQ) et ses partenaires

Bangali, M. (2016-2018)

Anticipations professionnelles de soi et compétences des titulaires de doctorat à s'orienter hors milieu universitaire : le cas des sciences humaines et sociales.

- Projet financé par les Fonds de recherche du Québec – Société et culture (FRQSC)



Bangali et al. (2019)

Diversification of job market opportunities

Data for the 4 major sectors: educational services; professional, scientific and technical services (private sector); public administration; and health care and social assistance.

Activity sectors	After 1 year	After 5 years
Educational services	50 %	47 %
Professional, Scientific and Technical Services	9 %	11 %
Administration publique	8 %	10 %
Health care and social assistance	8 %	10 %
The other sectors of activity employed	Less than 5 %	

(PLEMT, cohorte 2010)

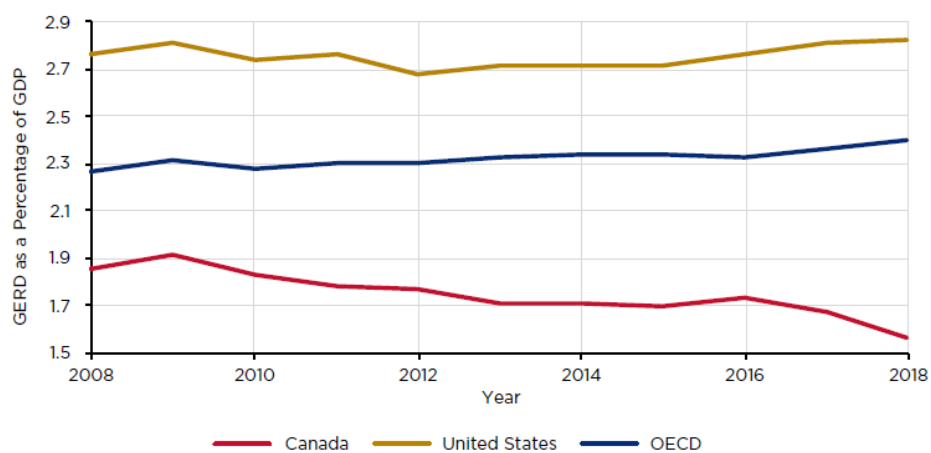
Economic Context

Lower investment in R&D



Compared to OECD countries and more specifically the United States Canada invests less in R&D (see GERD)

- R&D is more concentrated in the higher education sector
- GERD as a share of GDP in 2018
- 1.6% compared with 2.4% for the OECD as a whole and 2.8% for the United States.
- Decline in GERD since 2008 (while it has remained relatively stable in OECD countries and the United States)



Data Source: OECD (2020a)

Figure 4.2 GERD as a Percentage of GDP for Canada, the United States, and OECD Countries

Table 4.3 GERD Percentages by Sector in Canada, the United States, and OECD Countries, 2017

	Business Enterprise	Higher Education	Government	Private Non-Profit
Canada	52%	41%	7%	0.4%
United States	73%	13%	10%	4%
OECD Countries	71%	17%	10%	2%

Data Source: OECD (2019a)

(Report CCA, P.81)

Few opportunities in the private sector



Limited employment opportunities in the private sector, including in R&D.

Examples :

- In 2011, only 18% of R&D performing companies (N~ 1000) reported hiring researchers with Ph.
- (Expert Panel on Research and Development, 2011; Cheung et al., 2012).
- Approximately 50% of Canada's exports consist of natural resource goods.
- The share of knowledge-based assets is stagnating at about 15%.

Nicholson (2018a)

Perceptions of Some Employers



- Perceived as overqualified but with inadequate skills, some private sector employers do not perceive the added value of the PhD
- While the private sector recognizes that doctoral graduates possess highly specialized knowledge, it also feels that they lack adaptability, practicality, some communication and teamwork skills, and the skills increasingly needed to work in the 21st century

Institutional culture



Institutional culture



- The institutional culture and objectives of doctoral training seem to be out of step with those of the knowledge economy context (Nicholls, 2014; Usher, 2002).

- This would have some influence on the way doctoral students construct their professional project and the skills they develop (Gardner et al., 2012; Gardner, 2010; Weidman et al., 2001).

Institutional culture



- **Obstacles related to the objectives of doctoral training**
 - Too focused on research and the knowledge associated with academic careers.

 - Difficulty recognizing, understanding and using different points of view and ways of learning

Institutional culture



▪ Obstacles related to the objectives of doctoral training

Mismatch between academic standing and the requirements of private sector employers

Examples :

- the fact that doctoral students often focus on in-depth research in a single field, while organizations are looking for versatility ;
- the focus on long and complex scholarly publications to the detriment of concise writings that respond to a precise objective, easily mobilized;
- time constraints: very long production deadlines in academic work.

The culture of feeling of failure when a graduate fails to integrate the university environment.

Personal Challenges

Lack of knowledge of the labour market



- Most doctoral students are not aware of the realities of the job market.
- Lack of awareness of employment opportunities outside of academia
- They have little awareness of the importance of the network.

Identification and development of skills



- Doctoral graduates are not always aware of their skills and especially of the usefulness of such skills outside the research and teaching environment.
- Difficulties of graduates to value the skills they have developed
 - These graduates do not lack skills (as often perceived by employers), but rather suffer from a difficulty in understanding the skills they possess and how to apply them in a different work environment (Alberta, Rancourt and Archer-Kuhn 2019).
 - Doctoral graduates are not good at communicating their skills to non-academic audiences (Klopp and Rancourt, n.d.).
 - Some potential private sector employers do not speak the same language as academia (Rose, 2013).

Identity challenges



- **Doctoral training leads to the explicit or implicit construction of a representation of oneself in a future social and professional position that circumstances do not always allow to be actualized..**

(Bangali et Guichard, 2012 ; Bangali et Veilleux, 2015, 2016; Ghanem, 2007; Maldonado, 2013; Piriou et Gadéa, 1999)

- **In some disciplines, the doctoral student's professional identity is constructed in a "cultural" environment based on discourses that tend to consider, implicitly or explicitly, research and higher education as The outlet par excellence (the rest being considered a failure).**

Identity challenges



- **The construction of identity among doctoral students is carried out through a process of conscious or unconscious institutional and intellectual affiliation to these principles (supported by some supervisors).**

Identity challenges



- The underlying cognitive assumptions are not always consistent with those for positions outside of traditional employment opportunities

- This can only reinforce the gap between cognitions
 - that are the basis for the construction of a self-image as a researcher or university professor
 - and rebuilding oneself in the perspective of a different profession, in another sector,
 - this can lead to a certain disturbance in the mental structuring of these representations: a cognitive dissonance.

Identity challenges



- The transition from the doctoral world to that of a professional activity in an organization that does not correspond to one's own expectations complicates the transition processes that these graduates must face.

We're on another logic that is part of your identity, you have to have that, because otherwise you're going to be unhappy. You're going to be constantly looking for who you are... you're going to get burned in the resumes you send out. It burns because it's not the same logic ... Whereas with a scientific article, you know ... there's a culture that doesn't apply when you leave here (university) that plays on the concept of identity in the world of work.

Skills mismatch?



- This process leads doctoral students to appropriate a certain mode of knowledge acquisition and use and consequently to develop skills that they often find difficult to value outside the context and objectives for which these skills were developed.

Skills mismatch?



Although we need to develop all our qualifications to increase our chances in the job market, we will also have to take into account our identity, what makes us who we are. I stopped working despite excellent conditions because I was bored. I wasn't in my element because I was missing something and I felt incomplete. I missed the passion I have for the biological sciences to understand this great microscopic factory that is the cell, because this passion and these long years of study reflect me. They have helped shape my personality, my vision and my decisions. To be sure, finding a custom job is almost a mirage, but [...] I remain optimistic...

Skills mismatch?



- Problem much more complex than a simple question of adequacy or transfer of skills
- This refers to the complexity and dynamics of the identity-building processes that determine the processes of personal and professional project development among doctoral students
- Jurisdiction implies intentionality
 - Intention which is specific to the person and which leads him/her to look at things differently from what is expected, to look at the world that he/she has reasons to privilege