

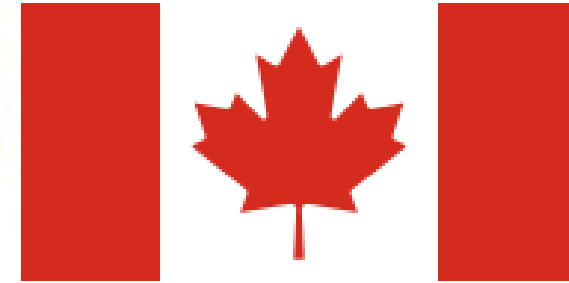
# ESTABLISHING A FRAMEWORK TOWARD SUSTAINABLE SCIENCE AND SOCIETY IN 2040 - CHALLENGES IN CANADA AND SUGGESTIONS FOR JAPAN

Audrey Moores

McGill University

International Conference on Science and Technology for Sustainability 2024 - Ecosystem for  
Sustainable Innovation: Toward Sustainable Science and Society in 2040

Feb 3 2025



Capital: Ottawa

Government: Federal parliamentary  
monarchy

Monarch: Charles III

Head of state: Mary Simon

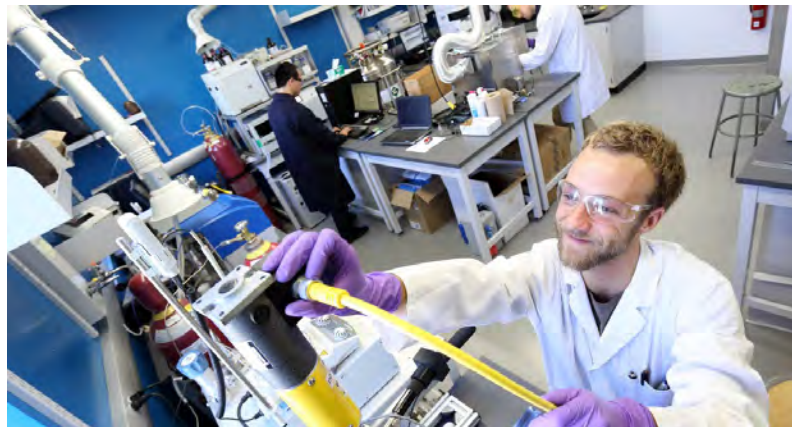
Prime Minister: Justin Trudeau

Confederation since 1867

Second largest country

Population: 41M





# McGill University Montreal

*McGill University is on land which has long served as a site of meeting and exchange amongst Indigenous peoples, including the Haudenosaunee and Anishinabeg nations.*





# THE COLLEGE OF NEW SCHOLARS, ARTISTS AND SCIENTISTS

THE ROYAL SOCIETY OF CANADA • LA SOCIÉTÉ ROYALE DU CANADA



# THE HISTORY OF THE RSC COLLEGE



Launched in 2014, the College of New Scholars, Artists and Scientists is **Canada's first** national system of multidisciplinary recognition for the emerging generation of Canadian intellectual leadership.

 LEARN MORE: [BIT.LY/RSC\\_COLLEGE](https://bit.ly/RSC_College)

## Mandate of the RSC College:

*To gather scholars, artists and scientists at a highly productive stage of their careers into a single collegium where new advances in understanding will emerge from the interaction of diverse intellectual, cultural and social perspectives.*

# ABOUT THE RSC COLLEGE



- Open to Canadian citizens or permanent residents\* within 15 years of PhD (or equivalent).
- ~50 new members annually, with a 7-year term.
- Serves as the Young Academy of the Royal Society of Canada (RSC).
- As of 2024, the RSC College is a Category 3 voting member of the International Science Council.

 LEARN MORE: [BIT.LY/RSC\\_COLLEGE](https://bit.ly/RSC_COLLEGE)



## **Mission of the RSC College:**

*To address issues or particular concern to new scholars, artists and scientists, for the advancement of understanding and the benefit of society, taking advantage of the interdisciplinary approaches fostered by the establishment of the College.*



# THE WORK OF THE RSC COLLEGE



- Attend and host College and RSC events, including RSC College Webinars.
- Mentor young scholars, artists, and scientists.
- Serve on committees, working groups, and the College Council.
- Participate in regional and international programming.
- Nominate peers and contribute to selection processes for awards and memberships, including those presented at the RSC's annual Celebration of Excellence and Engagement.
- Provide advice to government and the public through reports, white papers, and more.



# LEADING PROJECT #1: ARDAA



- The At-Risk and Displaced Academics and Artists (ARDAA) program is hosted by the RSC College in its commitment to inclusive excellence.
- ARDAA supports academics and artists who have been displaced through war, conflicts or threats of violence and who, prior to their displacement, were engaged in innovative scholarly activity.

The program supports these individuals in three direct ways:

1. **Membership.** Eligible candidates are encouraged to apply for membership in the RSC College. Each year, the College will elect an individual(s) from this group and offer membership in the College for a full seven-year term.
2. **Mentorship.** RSC Members (both Fellows and College Members) will serve as mentors to successful applicants as well as other eligible candidates. Mentors will be assigned from the candidate's institution, or one nearby. It is the aim that candidates be matched with mentors in the same discipline or related field when possible.
3. **Workshops.** All eligible candidates will be invited to an annual ARDAA Practical Skills Workshop. The workshop will give candidates the opportunity to learn about the RSC and about navigating academia in Canada. Workshop participants will be encouraged to apply for College Membership.



# LEADING PROJECT #2: TAP



- Tri-Academy Partnership on Indigenous Engagement: Research Summit on Cultural Heritage in an Era of Reconciliation (TAP)
- Developed as a means of addressing the RSC's commitment to *Indigenous Engagement* and international collaboration.
- This Initiative is a collaboration between the Royal Society Te Apārangī and the Australian Academy of Sciences. The first of three events took place in November 2024 in Vancouver.

TAP has been developed with three objectives in mind:

1. to establish an international, Indigenous-led research agenda with the goal of impacting public policy to benefit Indigenous communities;
2. to incorporate Indigenous student voices and meaningful international mentoring contexts in the convenings and research agenda; and
3. to advance thought leadership in how post-secondary institutions can innovatively partner with Indigenous communities.

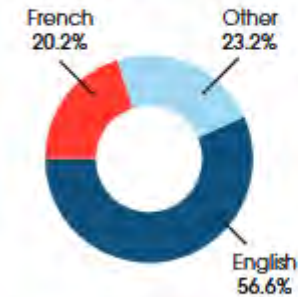


# LEADING PROJECT #3: LANGUAGES OF RESEARCH

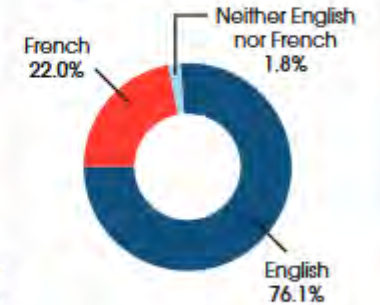
- Canada has two official languages: English and French
- French academics and artists have less visibility and recognition in the Canadian context.
- It is important to highlight that Canada is the land of many indigenous languages, none of which with an official status. Research and knowledge systems in this context also needs attention and work.

## FRENCH AND ENGLISH ARE THE LANGUAGES OF INCLUSION

Population by Mother  
Tongue, Canada



Population by First Official  
Language Spoken, Canada



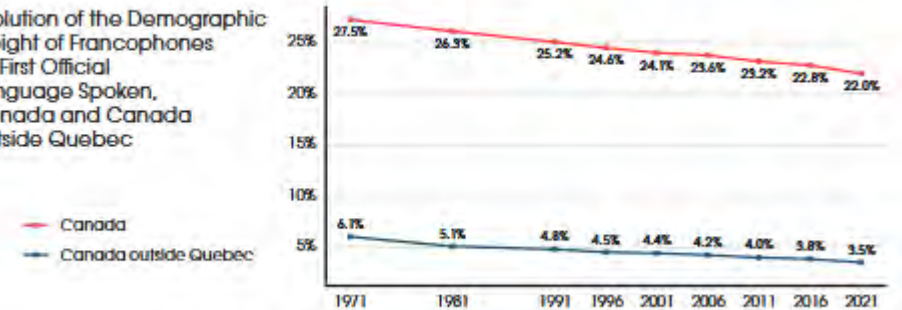
In 2021, there were over 200 other languages. The most important, Mandarin, was spoken by 679,255 people (1.9%).

FRENCH AND/OR ENGLISH ARE  
SPOKEN BY 98.1% OF CANADIANS.

Source: Statistics Canada, 2021 Census

## THE DEMOGRAPHIC WEIGHT OF FRANCOPHONES IS DECLINING

Evolution of the Demographic  
Weight of Francophones  
by First Official  
Language Spoken,  
Canada and Canada  
outside Quebec



Sources: Statistics Canada, 1971–2021 Censuses

# LANGUAGES OF RESEARCH

- ⇒ We ensure College members represent Canada and its linguistic diversity
- ⇒ We propose bilingual programming: for instance, our Webinars are offered in two languages
- ⇒ We work to help discoverability of French research content
- ⇒ We created a Francophone caucus in the College to reflect on these questions and bring new ideas
- ⇒ Our journal, FACETS, offers options to publish in multiple languages



# SITUATION OF RESEARCH IN CANADA

Report published in 2023

## Report of the Advisory Panel on the Federal Research Support System

### **Frédéric Bouchard**

Chair, Advisory Panel on the Federal Research Support System; Dean, Faculty of Arts and Sciences, Université de Montréal

### **Gilles Patry**

Professor Emeritus and President Emeritus, University of Ottawa; Past President and CEO, Canada Foundation for Innovation

### **Laurel Schafer**

Professor, Department of Chemistry, University of British Columbia

### **Vianne Timmons**

President and Vice-Chancellor, Memorial University of Newfoundland

### **Yolande Chan**

Dean and James McGill Professor, Desautels Faculty of Management, McGill University

### **Janet Rossant**

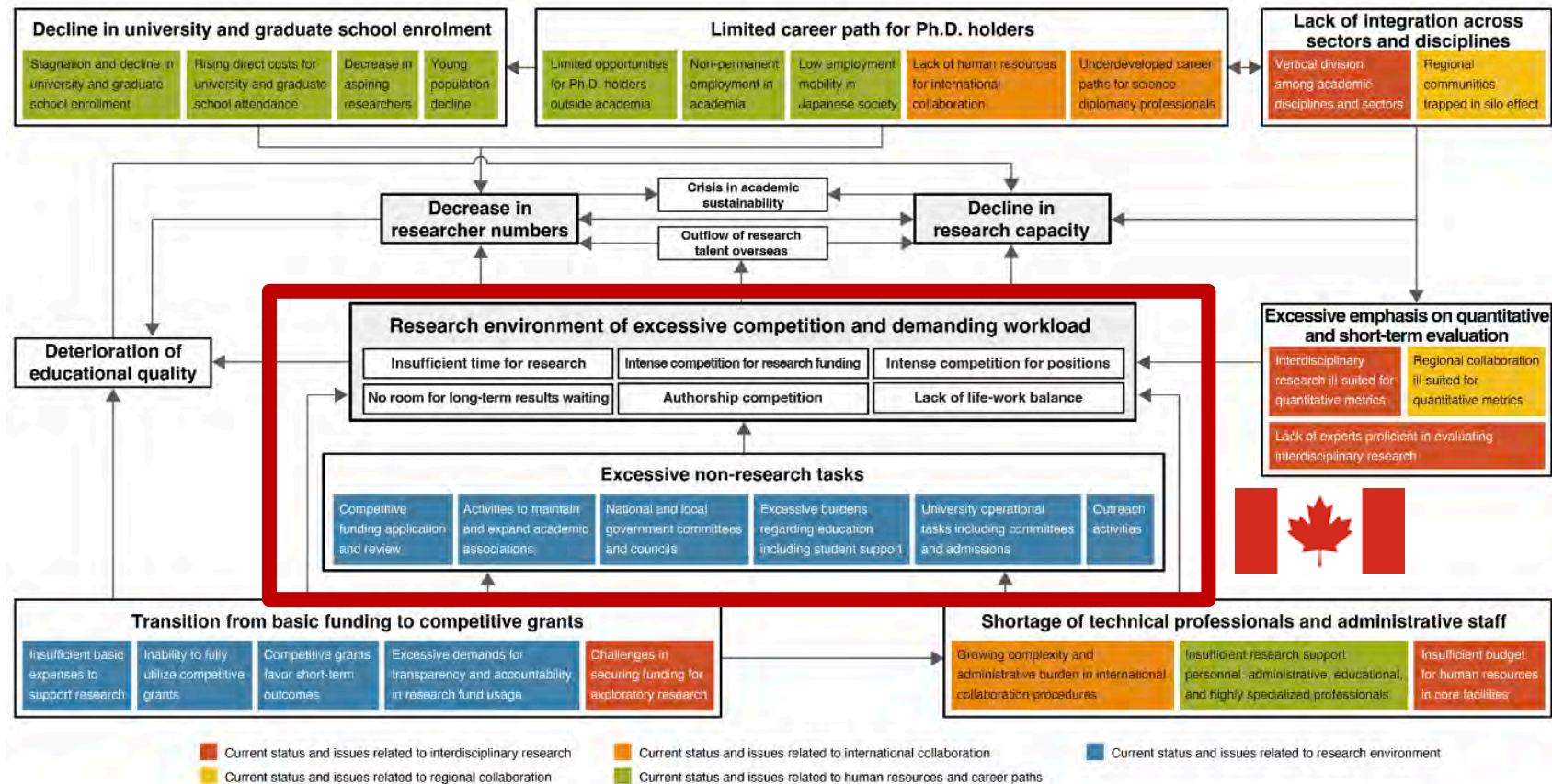
President and Scientific Director, The Gairdner Foundation; Senior Scientist Emeritus, Hospital for Sick Children; and University Professor Emeritus, Department of Molecular Genetics, University of Toronto

### **Baljit Singh**

Vice-President Research, University of Saskatchewan

<https://ised-isde.canada.ca/site/panel-federal-research-support/sites/default/files/attachments/2023/Advisory-Panel-Research-2023.pdf>

# SITUATION OF RESEARCH IN CANADA



Structural problems that hinder innovation creation

(Source: Prepared by the Young Academy of Japan)

# SITUATION OF RESEARCH IN CANADA

- Researchers in Canada do suffer from not having enough time to thinking and concentrate on their research.

## SUPPORTING THE TALENT CONTINUUM

The panel heard clearly from students, early career researchers, senior university administrators and student associations that the programs addressing the talent continuum must be simplified and harmonized to reduce the burden on students, postdoctoral fellows and early career researchers, thereby enabling them to focus on their research.

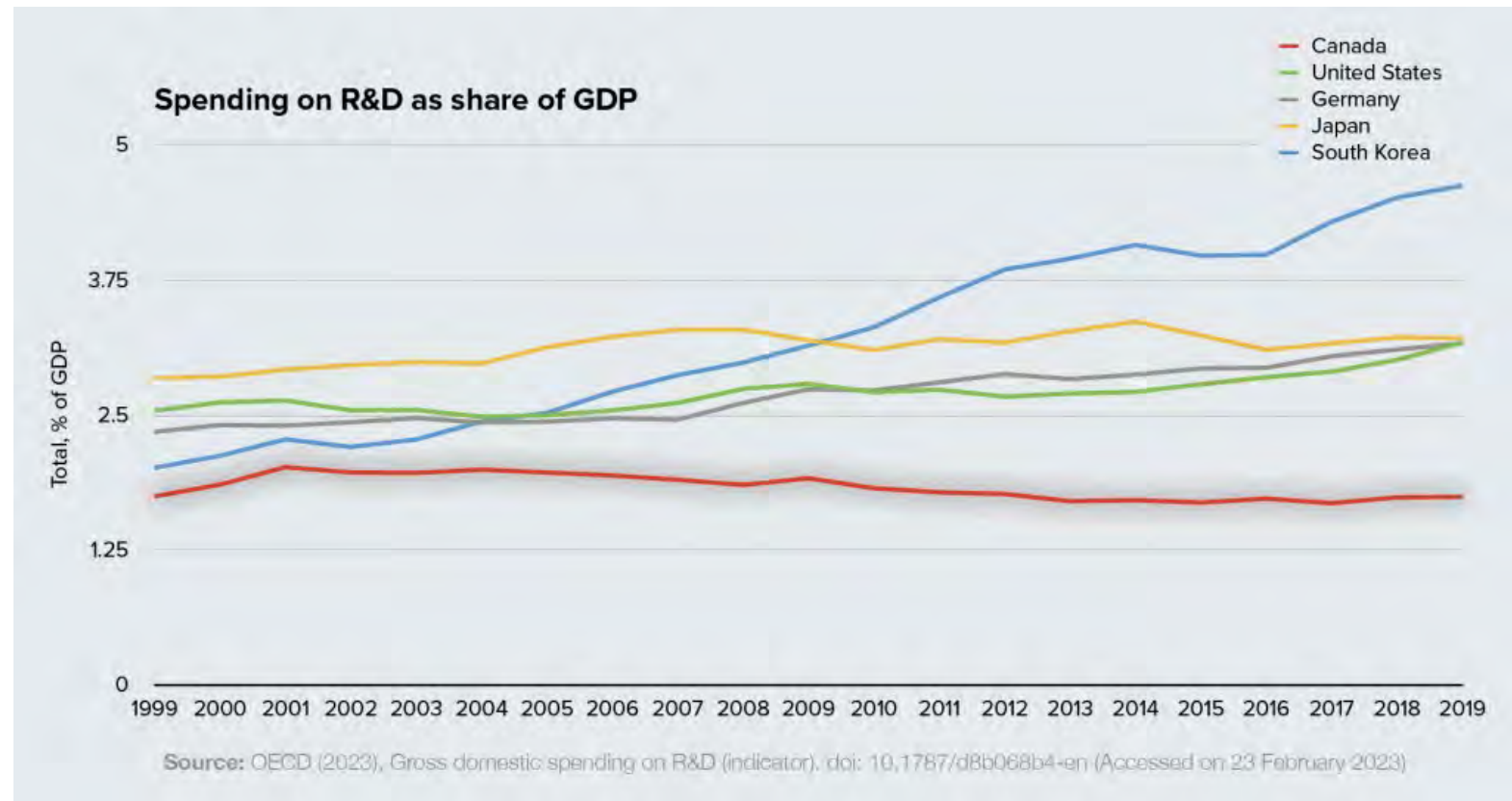
A well-coordinated, agile federal support system that is responsive to the talent it supports means having simplified support mechanisms. The panel has made recommendations to better support talent at each stage of the continuum, including giving the proposed CKSF responsibility for streamlining and harmonizing the suite of scholarship and fellowship programs and streamlining the delivery of the Canada Research Chairs (CRC) program.

<https://ised-isde.canada.ca/site/panel-federal-research-support/sites/default/files/attachments/2023/Advisory-Panel-Research-2023.pdf>



# SITUATION OF RESEARCH IN CANADA

A big part of the problem is the lack of investment in R&D



# SITUATION OF RESEARCH IN CANADA

- Work-life balance and penalty for women

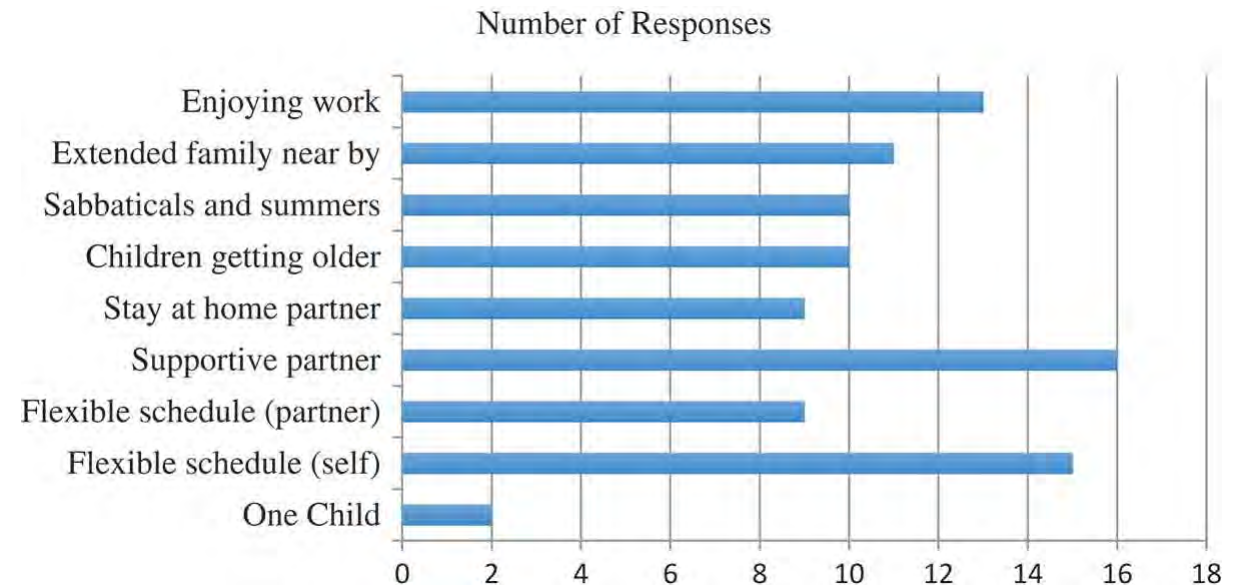
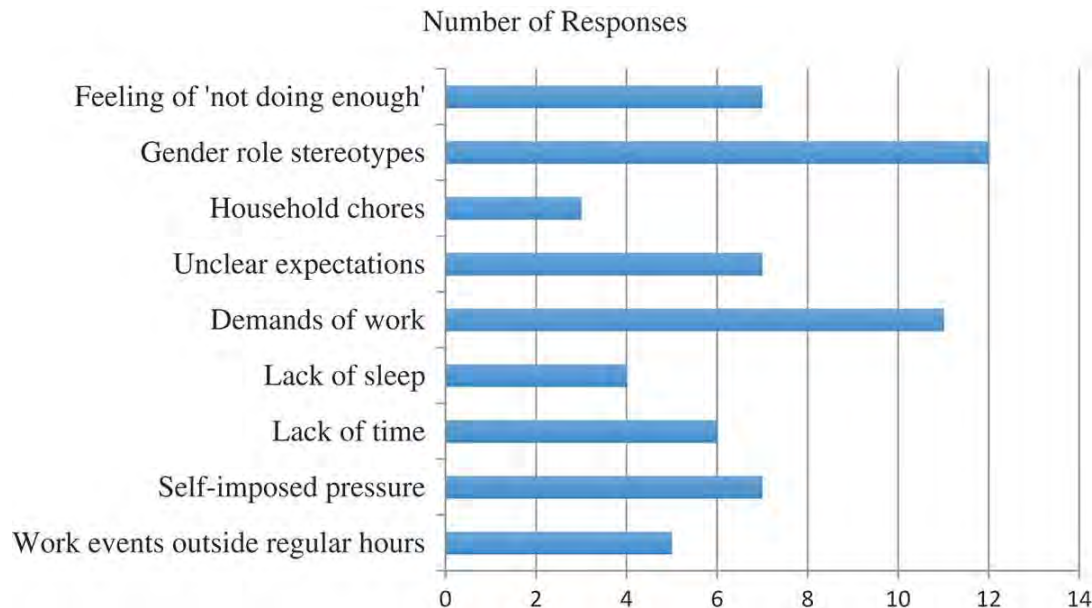
## **Dual faculty couples**

Even in a situation where both husband and wife are employed full-time as university professors, domestic labor tends to be distributed along “traditional lines,” with the women in these partnerships “shoulder[ing] considerably more household labor than do their male colleagues” (Sutor, Mecom, & Feld, [2001](#), p. 50). For many women, “marriage and parenthood bring added responsibility for maintaining a household and caring for other individuals” (Mattingly & Sayer, [2006](#), p. 218). This “family penalty” can manifest itself in reduced leisure time and feelings of constantly being rushed. It may also adversely affect women’s psychological well-being, physical health, and interpersonal relationships.

Wilton, S., & Ross, L. (2017). Flexibility, Sacrifice and Insecurity: A Canadian Study Assessing the Challenges of Balancing Work and Family in Academia. *Journal of Feminist Family Therapy*, 29(1–2), 66–87

# SITUATION OF RESEARCH IN CANADA

- Work-life balance and penalty for women



Wilton, S., & Ross, L. (2017). Flexibility, Sacrifice and Insecurity: A Canadian Study Assessing the Challenges of Balancing Work and Family in Academia. *Journal of Feminist Family Therapy*, 29(1–2), 66–87



# SITUATION OF RESEARCH IN CANADA

Why are these issues important?

- Non-academic work burden:
  - It is not efficient. Talents salary is high, they should not do tasks better suited for support staff
  - Talents are hard to find and to maintain in business. They may move to other institutions/countries: We must better support academics
- Lack of good work-life balance
  - Difficulty to maintain good environment for female colleagues
  - Male colleagues too care about parenting and demand better accommodations

# SITUATION OF RESEARCH IN CANADA

- Development of HR career paths
  - Recommendation of the 2023 report

## SUPPORTING THE TALENT CONTINUUM

**Recommendation 7:** The CKSF should prioritize the simplification and harmonization of the talent suite of programs. In particular, the coordination committee of the CKSF should be responsible for providing direction on streamlining and harmonizing scholarship and fellowship programs.

**Recommendation 9:** Consideration should be given to enhanced programming to support early to mid-career professors to accelerate their pathway to becoming leaders of tomorrow.



Five key domains to create innovation.

(Source: Prepared by the Young Academy)

<https://ised-isde.canada.ca/site/panel-federal-research-support/sites/default/files/attachments/2023/Advisory-Panel-Research-2023.pdf>

# SITUATION OF RESEARCH IN CANADA

- Restructuring of Research Environment
  - Recommendation

*“More focus should be placed sheltering the time of researchers for research. The burden placed on researchers is unreasonable and going up”*

*A major cause is the increased demands from governments for accountability. While these asks are reasonable, they are not done in a way that leads to the hiring of staff that are not supporting academics, but rather to police academics who have to do the job.*



Five key domains to create innovation.  
(Source: Prepared by the Young Academy)



# SITUATION OF RESEARCH IN CANADA

- Restructuring of Research Environment
  - Work life balance

*Major progress has been made, although are still not perfect.*

- *Parental leaves are now well implemented including for graduate students scholarship*
- *Leaves are considered for tenure/promotion and the clock is stopped*
- *Child care supports remains an issue. In Canada, the situation depends on the province.*

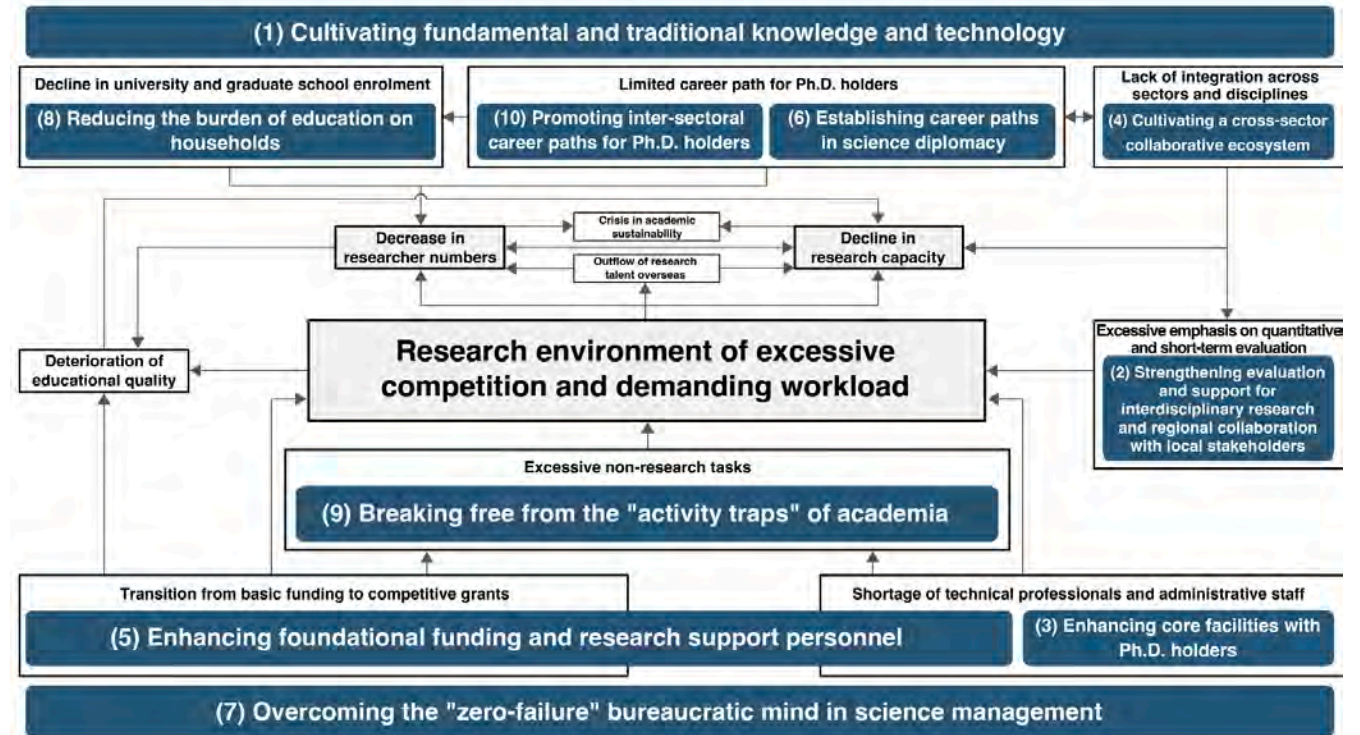


Five key domains to create innovation.  
(Source: Prepared by the Young Academy)

# SITUATION OF RESEARCH IN CANADA

This work is really important and leading the way for all young academics.

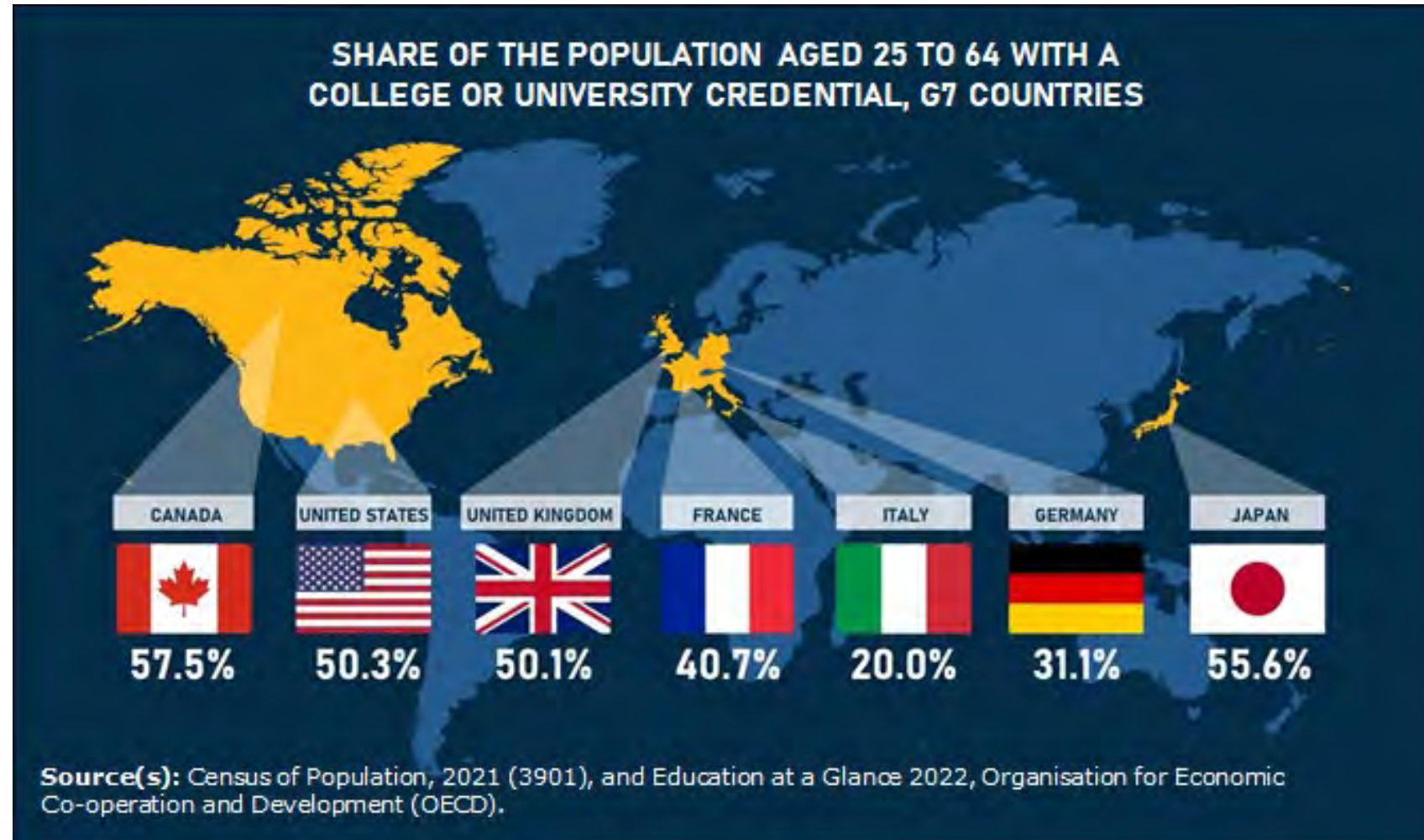
Some points are very general and applies in many countries



Ten pressing issues to address the creation of innovation

(Source: Prepared by the Young Academy of Japan)

# SITUATION OF RESEARCH IN CANADA



# SITUATION OF RESEARCH IN CANADA

## The Global Collapse in “College” Enrolments

October 12, 2022 | Alex Usher

Figure 1: Domestic Students Enrolled in Community Colleges, Canada, 2011-12 to 2020-21

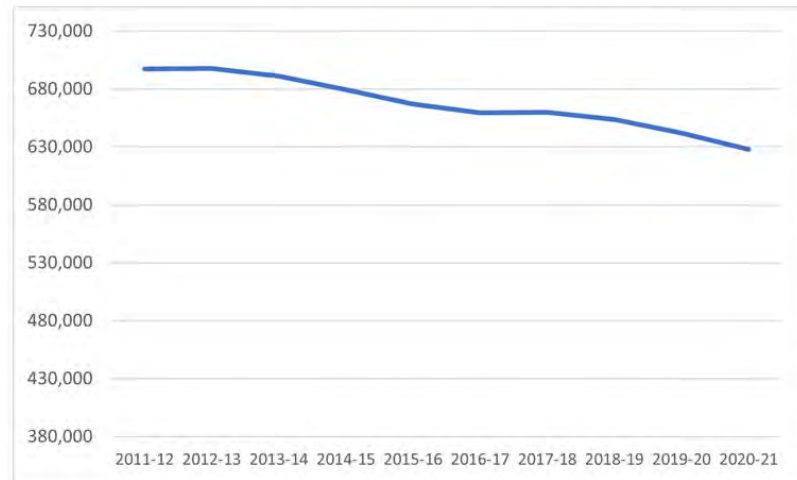


Figure 2: Community College Enrollment in Thousands, United States, 2012-22

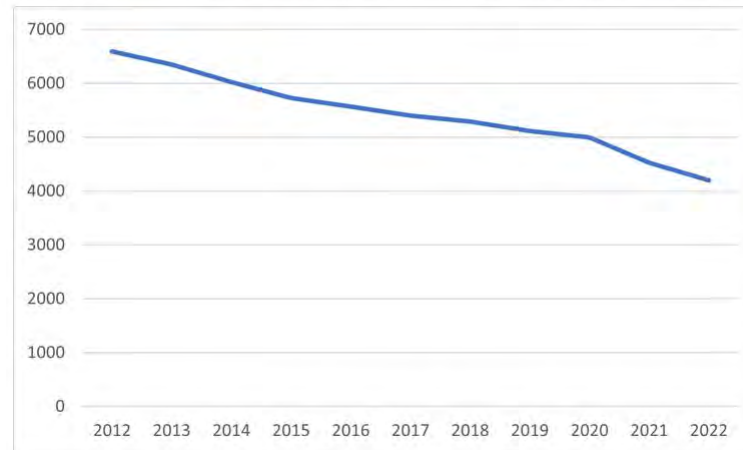


Figure 4: 19+ Enrolments in Further Education Colleges in Thousands, United Kingdom, 2012-13 to 2020-21



<https://higheredstrategy.com/the-global-collapse-in-college-enrolments/>



# SITUATION OF RESEARCH IN CANADA

- What can we do together:
  - Japan is leading the way: we should run similar surveys and reports to compare our situations
  - We should push with global institutions such agendas and position these topics at the global scale.

The tragedy of the commons: This is the type of question that we must address globally. A part of the problem is that research systems are competing for talents, instead of collaborating to offer better conditions to all.

# SITUATION OF RESEARCH IN CANADA

- Closing message to young researchers:

Academia is an amazing place to share and have ideas. Globally academia is becoming more inclusive and a space to combat doom and gloom. Join academia to be part of the change

# SITUATION OF RESEARCH IN CANADA

## Muscat Global Knowledge Dialogue and Third ISC General Assembly

Muscat, Oman 26-30 January 2025



Australian Early-and Mid-Career Researcher Forum  
College of New Scholars, Artists and Scientists of the Royal Society of Canada  
Danish Young Academy  
Ghana Young Academy  
Indonesian Young Academy of Science  
International Association of Physics Students  
National Academy of Young Scientists Pakistan  
National Young Academy of Bangladesh  
Indian National Young Academy of Science  
Nigerian Young Academy  
Polish Young Academy  
TWAS Young Affiliates Network  
Young Academy of Belgium  
Young Academy of Colombia  
Young Academy of Europe  
Young Academy of India  
Young Academy of Spain



# Join the conversation

## Joignez-vous à la conversation



@src\_rsc



@theroyalsocietyofcanada



@src-rsc.bsky.social



[www.rsc-src.ca](http://www.rsc-src.ca)





# THE ROYAL SOCIETY OF CANADA • LA SOCIÉTÉ ROYALE DU CANADA

[WWW.RSC-SRC.CA](http://WWW.RSC-SRC.CA)

