



Ottawa Science Policy Network

Brief submitted to the Federal
Government's Standing
Committee on Science and
Research (SRSR) for the study on
graduate student scholarships
and post-doctoral fellowships in
Canada

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The Ottawa Policy Network (OSPN)

The Ottawa Science Policy Network (OSPN) is a student-run organization based at the University of Ottawa, dedicated to promoting the voices of students in science policy discussion both at the government and university level. We launched the [National Graduate Student Finance Survey](#) to investigate the financial realities of graduate students across Canada. Closing in Spring 2022, we collected 1305 respondents from different Canadian institutions. The results capture a snapshot of graduate student finances including an in-depth analysis of stipends, scholarships, debt, tuition, and living expenses across multiple demographics. In its entirety, this survey found that the majority of graduate students are facing significant financial hardship.

The National Graduate Student Finance Survey (1,2)

To summarize some of our findings, we found that 86% of respondents have experienced stress and anxiety about their finances, with 43% of respondents describing their financial situation as "tight" or "struggling". In addition, 31% of graduate students considered leaving their studies solely due to financial concern. Approximately 75% of respondents are not satisfied with their stipends which average to \$19,094 for a MSc. student and \$23,765 for a PhD student. Alarming, 52% of respondents have less than 3 months of living expenses in their savings account. We also show the impact federal and provincial awards had on the lives of graduate students, where award holders were 2x less likely to be "struggling" financially and more likely to be "comfortable". These awards also reduced the average debt of award holders to \$26,124 while non-award holders were \$32,123

Graduate school is a competitive post-secondary degree program where research success is crucial for graduation, thereby posing significant challenges to the mental well-being of students. Unfortunately, at present, achieving research success is not the only contributor to graduate students' mental stress. Graduate students are faced with the challenge of managing a demanding research load while experiencing significant underfunding in the form of take home pay. In our study, we revealed a large majority of graduate students in Canada live below the poverty line, enduring anxiety due to their finances. This has also been echoed by others across Canadian universities, amplifying the interconnection between financial struggle and mental illness within graduate and postdoctoral programs (3,4,5). These financial issues are of primary concern and could be contributors to the current "brain-drain" experienced in the Canadian sciences.

Lastly, our survey showed that international students pay considerably high tuition fees; 70% of those students have less than 3-months of savings, have a difficult time receiving funding due to ineligibility and are 2x more likely to be "struggling" financially compared to domestic students.

In April of 2023, our report titled "[Analysis of financial challenges faced by graduate students in Canada](#)" was peer-reviewed and published in *Canadian Science Publishing: Biochemistry and Cell Biology* (2). Since then, our study has received over 8,000 downloads, highlighting the desire for change amongst Canadian academics.

OSPN Recommendations for the SRSR

Based on our study, we present the following recommendations to be considered by the Standing Committee for their study on graduate student scholarships and post-doctoral fellowships:

Recommendation #1: Increase the value of Tri-Council scholarships by 50%

The federal tri-council scholarships serve as the benchmark for funding graduate students in Canada- a suggested increase of 50% would increase the award values to reflect inflation since 2003. A suggested increase of 25% as suggested in the "Pursuing a Moonshot Program" would only account for inflation until 2015 (6).

- We also recommend harmonizing all federal tri-council scholarships to a minimum of \$25,000 for MSc and \$35,000 for PhD students. This aligns with the ideal stipend values declared by our survey respondents.
- At OSPN, we did not specifically study the impact of funding on post-doctoral fellows. However, we acknowledge that post-doctoral fellows are severely underpaid and we support other parties' recommendation to increase the value of Tri-Council fellowships offered.

Recommendation #2: Increase the number of Tri-Council scholarships by 50%

Our survey found that 20% of graduate students are funded through federal scholarships, while 12% are funded at the provincial level (2).

- We recommend increasing the number of students funded by these scholarships by 50% annually to account for increased enrollment into graduate programs (7).
- As previously stated, we did not specifically study the impact of funding on post-doctoral fellows. However we support calls for an increase to the number of Tri-Council fellowships to support more post-doctoral fellows as well.

Recommendation #3: To increase research funding with values from Bouchard's Report

Our survey shows that the majority of students (67%) are funded through their supervisors (2). Future work should investigate structural and policy changes to ensure that any increases in research grants are also directly benefiting, funding and supporting graduate students.



Careful consideration should be taken to ensure support for students is increased rather than solely allocating funds towards the recruitment of additional students at the same lower pay. Increasing the pay for current students should be prioritized.

- We recommend a specific increase in research grants (i.e. Discovery grants, etc.) that will allow supervisors to increase the stipends of their graduate students, while also funding the research project (stipulated in the Bouchard Report (8)).

Recommendation #4: Increase the eligibility of Tri-Council Awards

Current doctoral programs in Canada take over 4 years to be completed range between 4 to 6 years of study (9). Currently the Canadian Graduate Scholarship – Doctoral Award (CGS-D) allows for students to apply in the first two years of their degree. If their application is successful, funding lasts for only three years. Graduate students who were not able to receive this essential funding (CGS-D) in the first two years of the program are ineligible to apply for additional Federal funding awards through the Tri-Council.

- We recommend increasing the eligibility of Tri-Council awards for students beyond their second year of enrolment in doctoral studies.
- We also recommend establishing a new competition for students after their second year of enrolment that focuses on their research success. Here, applicants after two years may have substantially different projects than what they initially applied with, and these students can create a more accurate research proposal with their new data. As such, this would prepare the doctoral student for grant applications and would support their future in academia.
- In addition, we recommend increasing the eligibility of the Tri-Council awards to include more international students for award consideration. International students disproportionately pay substantially higher tuition fees, and academic/financial support has been lacking for decades (2).

This would ensure consistent funding for these student researchers throughout all the years of their educational commitment, thereby preventing advanced students from encountering financial challenges in covering their tuition expenses after enduring years of inadequate funding and compensation.

The importance of funding Canadian graduate students and post-doctoral fellows

Canadian research and innovation stand at the forefront of important discoveries that better the lives of people all around the world. The Government of Canada continues to invest in Canadian research groups in all facets of scientific research. Promoting, encouraging and funding these projects in the form of research grants enables researchers to discover new



therapeutic strategies, create greener energy practices, modernize our societies and build technological programs to better fit Canadians needs. An example of the significance of scientific research was highlighted over the past 3 years. The COVID-19 pandemic offered a glimpse into the potential of funding Canadian research and innovation on reducing the burden of a pandemic on Canadians. Additionally, in the past decade, significant advancements have been made to study the effects of climate change on marine life and plant species in Canadian ecosystems. These are among some of the major scientific discoveries made by Canadian researchers, largely contributed to by the work of graduate students and post-doctoral fellows.

In April 2023, the Honourable Minister for Innovation, Science and Economic Development, Francois-Philippe Champagne, announced an investment of \$1.4 billion in support of 11 large-scale research initiatives in strategic areas, through the Canada First Research Excellence Fund (CFREF) (10). OSPN recognizes that this was a significant investment in science research in Canada; we appreciate and acknowledge that it will support many research projects across Canada.

However, these large-scale funding packages are geared towards infrastructure and fail to address the significant underfunding of the individuals who are conducting the research for these projects. There is no concrete plan to increase the take-home stipend pay for students while these large-scale projects are being funded. Over time, graduate students and post-doctoral researchers were left disappointed by the lack of increased investment in these awards and scholarships (11). This happens amidst the prevailing 40-year high inflation period that has significantly impacted individuals with low income due to increased cost-of-living expenses (12). These researchers earn their education at esteemed internationally recognized programs and should be recognized for their years of commitment to research and innovation.

Graduate students and post-doctoral fellows are essential to the research landscape. These researchers are essential to the research ecosystem; they often manage multiple research projects, mentor the next generation of scientists, deliver scientific presentations for conferences around the world, help write research grants to gain more funding for their principal investigator and publish their work in academic journals. All these contributions ultimately help promote Canadian research around the world and attract talent to Canada. As such the importance of these researchers must be emphasized - without them science and innovation in Canada and Canadian contributions to international science would be non-existent.

The Standing Committee on Science and Research (SRSR)

The Standing Committee on Science and Research (SRSR) is a bipartisan essential committee aimed to address the fundamental challenges Canadians face. These discussions have focused on small modular nuclear reactors, pursuing a Canadian Moonshot Program, and revitalizing research and scientific publications in French. The SRSR has been at the forefront of many discussions for the betterment of science and the well-being of Canadians. Over the last few months, the SRSR committee has held important discussions on issues impacting graduate students and postdoctoral fellows. We've seen informative expert testimonies from over 30 witnesses from various organizations across Canada representing thousands of graduate students and post-doctoral fellows. The messaging was consistent in each presentation; scholarships and fellowships have not received a significant investment since 2003, freezing award values and limiting the amount of awards available for applicants.

Previous work from the committee to address the concerns facing graduate students has been addressed through the Top Talent Report (2022), and the Canadian Moonshot Program (2023) (6,13). The Top Talent Report produced by the SRSR issued a government response that recognized graduate students and trainees as Canada's future researchers. In 2019 the federal government recognized the importance of scholarships and fellowships as these awards provide financial security and independence (13). As such, the federal government invested \$114 million over five years with \$26.5 million per year ongoing, to the granting agencies to create 500 more MSc degrees, and 167 more three-year doctoral scholarships awards (14). The Top Talent Report also issued an investment into Equality, Diversity and Inclusion (EDI) strategies, investing \$9 million into Indspire - a support program that helps Indigenous students to attend post-secondary education (14). In addition, action was seen for Black researchers which are underrepresented in awarding of grants, scholarships and fellowships - the federal government responded with an investment of \$40.9 million over 5 years and \$9.7 million for Black student researchers (14).

Most recently the SRSR established the "Pursuing a Canadian Moonshot Program" report which suggests a more "risky, resource-intensive, large-scale, long-term and collaborative research program with ambitious goals" (6). This report recommends that the "Government of Canada increases the number of scholarships and fellowships to graduate scholarships and post-doctoral researchers and increase their value by 25% and index it to the consumer price index" (6). This report is still awaiting a government response, however, these recommendations do show that the SRSR are aware of the financial impacts facing young researchers in Canada.

Since its inception in 2021, members of the SRSR have shown that their messaging does influence the government's financial decisions. With this current study in graduate student scholarships and post-doctoral fellowships complete, the Ottawa Science Policy Network has followed and welcomed this study and has recommendations for this committee's report.

Summary:

Graduate scholarships and post-doctoral fellowships have not seen a significant investment by the granting agencies in 20 years. The Ottawa Science Policy Network (OSPN) acquired an important dataset describing the financial status of graduate students in Canada. Our study highlighted the financial burden faced by graduate students across the country, student researchers who drive Canadian research and innovation. OSPN supports the work of the SRSR and the federal government study aimed at understanding the landscape of graduate student scholarships and post-doctoral fellowships in Canada. We echo the statements provided by the 38 witnesses testifying during this study, including our former president Sarah Laframboise, executive director of Support Our Science (SOS). We further offer a number of recommendations to ensure that graduate students receive the necessary support they deserve.

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