

# Evaluation of SSHRC Fellowships

Evaluation Report

June 18, 2015

**Prepared for:**

Social Sciences and Humanities  
Research Council of Canada (SSHRC)

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Cat. No CR22-49/2015E-PDF  
ISBN 978-0-660-03752-3

## Executive Summary

This report presents the results of the 2014-15 evaluation of the Social Sciences and Humanities Research Council of Canada (SSHRC) Fellowships, covering the Doctoral and Postdoctoral Fellowships sub-program of SSHRC's Program Alignment Architecture (PAA). Since the Postdoctoral Fellowships funding opportunity (PDF) was recently evaluated and its context has not changed significantly, this evaluation primarily focused on the Doctoral Fellowships funding opportunity (DF) — the PDF was assessed in terms of relevance only.

The evaluation addressed key questions of relevance, performance, economy and efficiency in order to provide SSHRC senior management with crucial information that can be used to support future program decision-making and improvements. Lines of evidence for the evaluation were comprised of: administrative data review; document/literature review; surveys of DF recipients, Canada Graduate Scholarships–Doctoral (CGS) holders, and non-recipients; focus groups; key informant interviews; and cost-efficiency analysis.

The DF aims to “train the leaders of tomorrow” by fostering the research abilities and training of doctoral students who have shown high scholastic aptitude, by offering them scholarships of \$20,000 per year. The PDF seeks to support the most promising Canadian new scholars in the social sciences and humanities and assist them in establishing a research base at an important time in their research careers, by providing financial incentives (of \$38,000 per year) for increased participation in postdoctoral research.

### Relevance

The evaluation finds that the objectives of the Doctoral and Postdoctoral Fellowships sub-program are closely aligned with the federal government priorities outlined in the Government of Canada 2014 Science, Technology and Innovation Strategy, as well as with SSHRC's Strategic Outcome 1: “Canada is a world leader in social sciences and humanities research and research training.”

The evaluation evidence confirms the continuing need for the Doctoral and Postdoctoral Fellowships sub-program. Federal government support to doctoral students is critical at a time when the Canadian labour market is facing an anticipated increase in demand for university graduates for knowledge-intensive occupations across various sectors. However, the number of social sciences and humanities (SSH) position vacancies in Canadian universities has been decreasing sharply since 2006, while the number of SSH doctoral graduates has been growing steadily over the years.

The evaluation further confirms the role of federal government in the funding of doctoral students and postdoctoral researchers, and the limited overlap with other funding opportunities. In the fields pertaining to the SSH, the Doctoral and Postdoctoral Fellowships sub-program delivered by SSHRC supports talented graduate students and postdoctoral researchers with the purpose of developing researchers and leaders ready to integrate into the labour market. These objectives were found to be consistent with SSHRC's roles and responsibilities as stated in the SSHRC Act, which are to promote and support postsecondary-based research and training in SSH. Other programs in Canada and abroad also provide funding to doctoral and postdoctoral students, but the evaluation found little overlap between these programs and SSHRC's Doctoral and Postdoctoral Fellowships sub-program, notably because other programs have non-cumulating rules.

### Performance: Effectiveness

The evaluation finds that the DF has made progress in achieving several of its immediate outcomes. The DF has supported students to successfully complete their degree, by allowing them to focus more on their research interests. The DF has also provided award holders with opportunities to gain

international experience and increase the production and dissemination of research findings. DF holders are highly satisfied with the skill-development opportunities they were offered in their degree program.

Regarding intermediate outcome achievement, the evaluation found clear evidence that the DF has increased DF recipients' ability to hold research-intensive positions in Canada and abroad. Former DF recipients are more likely to be working, earn a higher income, and are more likely to be working in academia or other research-intensive positions, than non-recipients. Those working in universities are more likely to be research faculty, and less likely to be adjunct faculty, than non-recipients. DF holders report working in careers more closely related to their degree program, and find their doctoral training to have been more useful in preparing them for their careers, than non-recipients.

### **Performance: Efficiency**

The evaluation found that the DF is delivered in a cost-efficient way. A few areas of improvement related to the delivery of the DF were identified, including the transparency around the eligibility and scoring criteria and the selection process. SSHRC's paper-based application system was also considered a time-consuming and onerous process.

SSHRC has been working on implementing internal initiatives to improve the effectiveness and efficiency of the SSHRC's governance, management and service delivery, some of which may address the above issues. Documents and guidelines outlining the criteria applied to assessing and selecting applications have been reviewed and made public through the council's website. Also, various efforts have been made to align scoring practices across SSHRC programs. SSHRC is also currently exploring ways to communicate results and provide feedback to students in a consistent manner for all funding opportunities administered by SSHRC. Finally, SSHRC is planning on implementing an electronic application and reporting system for the DF and other fellowship programs.

### **Recommendations**

The evaluation recommends the following for the DF and for SSHRC:

Recommendation 1: The DF should continue to receive support at the federal level given its high relevance, clear contribution to expected outcomes and efficient delivery.

Recommendation 2: The DF should update and revise the current form administered at the end of recipients' degree programs, in order to develop an electronic achievement reporting process.

Recommendation 3: In collaboration with universities, SSHRC should promote the acquisition of professional skills by doctoral students – awardees and non-awardees alike.

Recommendation 4: The DF should develop and implement a system to monitor the effectiveness of measures taken to better communicate eligibility and scoring criteria.

# Table of Contents

<b>Executive Summary</b> .....	<b>i</b>
<b>1 Introduction</b> .....	<b>1</b>
1.1 Background and context of the Social Sciences and Humanities Research Council's Talent program .....	1
1.1.1 The Doctoral Fellowships funding opportunity .....	2
1.1.2 The Postdoctoral Fellowships funding opportunity .....	4
1.2 Evaluation scope and objectives .....	4
1.3 Evaluation issues and questions .....	5
<b>2 Methodology</b> .....	<b>6</b>
2.1 Methods.....	6
2.2 Triangulation of lines of evidence.....	7
2.3 Methodological challenges and mitigation strategies.....	7
<b>3 Findings</b> .....	<b>9</b>
3.1 Relevance.....	9
3.1.1 EQ1. Consistency of the Doctoral and Postdoctoral Fellowships funding opportunities with SSHRC's and government-wide priorities .....	9
3.1.2 EQ2. Continued need to support students and fellows during their graduate studies and postdoctoral research .....	9
3.1.3 EQ3. Necessary role for the federal government to support students during their graduate studies and postdoctoral research.....	14
3.2 Performance: Effectiveness .....	15
3.2.1 EQ4. Extent to which the DF has attracted promising students to doctoral research .....	15
3.2.2 EQ5. Extent to which the type of support received contributed to students' training environment, experiences, skills and professional networks .....	18
3.2.3 EQ6. DF's contribution to the development of HQP holding research intensive positions in various sectors in Canada and internationally.....	19
3.2.4 EQ7. Extent to which the type of student support contributed to students' research productivity and knowledge dissemination and researchers' research productivity .....	22
3.3 Performance: Efficiency and Economy .....	23
3.3.1 EQ8: Are the most effective and efficient means being used to deliver the DF ? ..23	
EQ8.1. Can the efficiency of the delivery be improved (i.e., can outputs and outcomes be achieved in a more affordable manner)? .....	23
<b>4 Conclusions</b> .....	<b>27</b>
<b>5 Recommendations</b> .....	<b>29</b>
<b>APPENDIX A – Doctoral Fellowships Logic Model</b> .....	<b>30</b>
<b>APPENDIX B – Doctoral Fellowships Logic Model Narrative</b> .....	<b>31</b>
<b>APPENDIX C – Data Collection Matrix</b> .....	<b>34</b>

## Tables

Table 1	Evaluation issues and questions .....	5
Table 2	Average number of research outputs produced during degree program .....	22
Table 3	DF percentages and ratios of administrative to grant expenditures from 2009-10 to 2013-14	24
Table 4	Cost-efficiency ratio for DF and its comparators (2009-10 to 2013-14) .....	24

## Figures

Figure 1	SSH doctoral graduates vs. university employment opportunities in Canada 2002–10 .....	10
Figure 3	Sector of employment of DF, CGS recipients and non-recipients who reported being employed as of January 2015 .....	21

## Acronyms

AMIS	SSHRC Award Management Information System
AUCC	Association of Universities and Colleges of Canada
CGS	Canada Graduate Scholarships
CGS-D	Canada Graduate Scholarships, doctoral
CIHR	Canadian Institutes for Health Research
CRC	Canada Research Chairs
DF	Doctoral Fellowships funding opportunity
FRQSC	Fonds de recherche du Québec – société et culture
HQP	Highly qualified personnel
IG	SSHRC's Insight Grants
IP	Intellectual property
NSED	NSERC-SSHRC Evaluation Division
NSERC	Natural Sciences and Engineering Research Council of Canada
PAA	Program Alignment Architecture
PDF	Postdoctoral Fellowships funding opportunity
PGS	NSERC Postgraduate Scholarships
SRG	Standard Research Grants
SSH	Social Sciences and Humanities
SSHRC	Social Sciences and Humanities Research Council of Canada

# 1 Introduction

This report presents the results of the 2014-15 evaluation of the Social Sciences and Humanities Research Council of Canada (SSHRC) Fellowships, covering one sub-program within the Talent program of SSHRC's Program Alignment Architecture (PAA)—namely, the Doctoral and Postdoctoral Fellowships.

The following sections provide an overview of the Doctoral and Postdoctoral Fellowships (Section 1.1), and of the evaluation approach, including the evaluation scope and objectives (Section 1.2), evaluation issues and questions (Section 1.3) and a brief description of the methods used and their limitations and challenges (Section 2). Section 3 presents the key findings of the evaluation across the lines of evidence, organized by Treasury Board evaluation core issue and evaluation question. Section 4 presents the conclusions drawn from the evaluation organized by broad evaluation issues (i.e., relevance and performance), as well as recommendations.

## 1.1 Background and context of the Social Sciences and Humanities Research Council's Talent program

The Social Sciences and Humanities Research Council (SSHRC) is the primary source of support for social sciences and humanities (SSH) research and graduate training in Canada. Through its programs and policies, SSHRC enables the highest levels of research excellence and facilitates knowledge-sharing and collaboration across research disciplines, universities and all sectors of society.<sup>1</sup> Founded in 1977, SSHRC operates with an annual budget of approximately \$338 million to support SSHRC's community, which consists of 23,300 full-time professors, 19,400 full-time doctoral students and 42,000 full-time master's students.<sup>2</sup>

SSHRC's Talent program, one of the three programs identified in SSHRC's PAA, is designed to contribute to the strategic outcome of "attraction, retention and development of students and researchers in the social sciences and humanities"<sup>3</sup> by providing scholarships and fellowships to students and researchers in the SSH disciplines. More specifically, the goal of the program is to support students and postdoctoral researchers in order to develop the next generation of researchers and leaders, both within academia and across the public, private and not-for-profit sectors. The program objectives are to<sup>4</sup>:

- support the development of the best or most promising highly qualified personnel (HQP) with social sciences and humanities research and professional skills;
- support the best or most promising social sciences and humanities students and postdoctoral researchers selected through an adjudication process;
- support students and scholars in gaining exposure to international social sciences and humanities scholarship; and

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<sup>1</sup> SSHRC. (2013). *Strengthening Canada's Cultures of Innovation: Strategic Plan 2013–16* [pdf]. Retrieved from [http://www.sshrc-crsh.gc.ca/about-au\\_sujet/publications/strategic\\_plan\\_2013-16-plan\\_strategique\\_2013-2016\\_e.pdf](http://www.sshrc-crsh.gc.ca/about-au_sujet/publications/strategic_plan_2013-16-plan_strategique_2013-2016_e.pdf)

<sup>2</sup> SSHRC. (2014). Facts and Figures [webpage]. Retrieved from [http://www.sshrc-crsh.gc.ca/about-au\\_sujet/facts-faits/index-eng.aspx](http://www.sshrc-crsh.gc.ca/about-au_sujet/facts-faits/index-eng.aspx)

<sup>3</sup> SSHRC. (2015). Talent Program [webpage]. Retrieved from [http://www.sshrc-crsh.gc.ca/funding-financement/umbrella\\_programs-programme\\_cadre/talent-eng.aspx](http://www.sshrc-crsh.gc.ca/funding-financement/umbrella_programs-programme_cadre/talent-eng.aspx)

<sup>4</sup> *Ibid.*



- mobilize social sciences and humanities knowledge that has the potential to lead to intellectual, cultural, social and economic influence, benefit and impact.

The Talent program is composed of five different sub-programs: Canada Research Chairs (CRC), Joseph-Armand Bombardier Canada Graduate Scholarships (CGS) (doctoral and master's level), Vanier Canada Graduate Scholarships (Vanier CGS), Banting Postdoctoral Fellowships, and Doctoral and Postdoctoral Fellowships, which are themselves two separate funding opportunities. This last sub-program is the focus of this evaluation. In addition, SSHRC offers the Michael Smith Foreign Study Supplements, which provide support for research experiences outside Canada to holders of a CGS or Vanier CGS award.<sup>5</sup>

### 1.1.1 The Doctoral Fellowships funding opportunity

#### Background and objectives

The Doctoral Fellowships funding opportunity<sup>6,7</sup> (DF) was created in 1957 and first administered by the Canada Council for the Arts. In 1978, this responsibility was transferred to SSHRC and the DF is now encompassed within the Talent program.<sup>8</sup> As noted above, the DF is a part of one of four sub-programs supporting doctoral research. The DF aims to “train the leaders of tomorrow” by fostering the research abilities and training of doctoral students who have shown high scholastic aptitude.<sup>9</sup> The specific immediate, intermediate and long-term outcomes of the DF as per the funding opportunity's logic model (see Appendix A and Appendix B) are as follows:

#### *Immediate outcomes*

- Attraction of promising SSH students to doctoral research.
- Improved and expanded skill set acquired by award holders (e.g., research training, research-related skills, etc.) and opportunities to gain international experience.
- Improved production and dissemination of research findings (e.g., dissertation).

#### *Intermediate outcomes*

- Increased availability of HQP in the SSH.
- Mobilization of SSH knowledge including innovative approaches and ideas in Canada and internationally.

#### *Long-term outcomes*

- Development of a strong capacity (e.g., leadership, research, management, etc.) through the deployment of HQP to positions in academia, government, private and not-for-profit sectors.

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<sup>5</sup> SSHRC. (2014). *Evaluation of the Doctoral and Postdoctoral Fellowships Program Design Report*. Ottawa, ON.

<sup>6</sup> The description of the DF is chiefly based on that provided in the *Evaluation of the Doctoral and Postdoctoral Fellowships Program Design Report*. The design report contains additional details on the funding opportunity's eligibility criteria and application and awards administration processes.

<sup>7</sup> The Doctoral and Postdoctoral Fellowships sub-program consists of two funding opportunities: the Postdoctoral Fellowship (PDF) and the Doctoral Fellowship (DF). However, as the PDF was evaluated in 2012, the present evaluation focuses mainly on the DF. For more details, please refer to the evaluation scope sub-section.

<sup>8</sup> SSHRC. (2010). Framing our Direction 2010–12 [pdf]. Retrieved from [http://www.sshrc-crsh.gc.ca/about-au\\_sujet/publications/FramingOurDirection\\_2010-12\\_final\\_e.pdf](http://www.sshrc-crsh.gc.ca/about-au_sujet/publications/FramingOurDirection_2010-12_final_e.pdf)

<sup>9</sup> SSHRC (2009). Doctoral Fellowships Program Review [pdf]. Retrieved from [http://www.sshrc-crsh.gc.ca/about-au\\_sujet/publications/Doctoral\\_Fellowships\\_Program\\_Review\\_E.pdf](http://www.sshrc-crsh.gc.ca/about-au_sujet/publications/Doctoral_Fellowships_Program_Review_E.pdf)

## Delivery

The DF offers fellowships of \$20,000 per year to doctoral students, for a period of 12 to 48 months. These can be undertaken at either a Canadian or a foreign university.<sup>10</sup> In this way, the DF provides flexibility in terms of the duration of funding and the location where the studies may be pursued.<sup>11</sup> The amount and the duration of the award vary on the basis of the number of months of full-time study the applicant has left to complete their award at the time of application. A total of 2,752 scholarships were awarded between 2009-10 and 2013-14 (571 in 2009-10; 541 in 2010-11; 561 in 2011-12; 533 in 2012-13; and 546 in 2013-14).<sup>12</sup>

## Stakeholders and beneficiaries

Stakeholders involved with the DF are many and diverse. They include doctoral students who receive financial support for their studies, researchers within Canada and abroad who have access to a pool of talented students, universities, and advocacy groups involved with graduate education. More broadly, the public in general, the public and private sectors, and the government also benefit from the results of the cultural, economic and social knowledge generated from the DF and other SSHRC programs.<sup>13</sup>

## Governance

SSHRC is governed by an 18-member Council, which represents the perspectives of the academic, public and private sectors across Canada, in relation to SSHRC's mandate to promote and support university-based research and training in SSH. The Programs and Quality Committee monitors the overall design, coherence and performance of SSHRC's suite of programs and program-related policies in the context of strategic direction, priorities and the pursuit of excellence, including SSHRC's evaluation and performance functions. The Research Training Portfolio, housed within SSHRC's Research Programs Directorate, is responsible for the day-to-day administration of the DF.

## Program resources

According to 2013-14 Departmental Performance Report, the Doctoral and Postdoctoral Fellowships sub-program operated with a budget of \$34.7 million.<sup>14</sup> Within SSHRC's Research Training Portfolio, the Portfolio Director is responsible for the DF and core staff involved. Overall, 2.75 full-time employees (FTEs) are allocated to deliver the DF. This includes a Director (0.05 FTE), Manager (0.1 FTE), Senior Program Officer (0.75 FTE), a Program Officer (0.4 FTE), a Technical Coordinator (0.55 FTE), program assistants (0.8 FTE) and an Administrative Assistant (0.1 FTE).<sup>15</sup>

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<sup>10</sup> SSHRC. (2014). Doctoral Awards [webpage]. Retrieved from <http://www.sshrc-crsh.gc.ca/funding-financement/programmes-programmes/fellowships/doctoral-doctorat-eng.aspx>

<sup>11</sup> *Ibid.*

<sup>12</sup> SSHRC. (2015). *Line of Evidence Technical Report: Administrative Data Review*. Ottawa, ON.

<sup>13</sup> SSHRC. (2014). *Evaluation of the Doctoral and Postdoctoral Fellowships Program Design Report*. Ottawa, ON.

<sup>14</sup> SSHRC. (2014). Corporate Reports. Departmental Performance Report 2013-14. [webpage]. Retrieved from [http://www.sshrc-crsh.gc.ca/about-au\\_sujet/publications/dpr-rmr/2013-2014/dpr-rmr-eng.aspx#s2.1.1.5](http://www.sshrc-crsh.gc.ca/about-au_sujet/publications/dpr-rmr/2013-2014/dpr-rmr-eng.aspx#s2.1.1.5)

<sup>15</sup> The original estimate provided in the DF performance measurement strategy in 2011 was updated by program staff for the purpose of this report. This estimate will be revisited as part of the data collection for the evaluation.

### 1.1.2 The Postdoctoral Fellowships funding opportunity

Implemented in 1980, the Postdoctoral Fellowships funding opportunity (PDF) seeks to support the most promising Canadian new scholars in the social sciences and humanities and assist them in establishing a research base at an important time in their research careers.<sup>16</sup>

The funding opportunity is designed to achieve this objective by providing financial incentives for increased participation in postdoctoral research. The fellowships aim to improve the attractiveness of pursuing graduate studies and postdoctoral research in Canada relative to the immediate financial reward of employment.<sup>17</sup>

The value of the SSHRC Postdoctoral Fellowships during the period under review was \$38,000 per year plus a research allowance of up to \$5,000, and they can be held for a minimum of 12 months and a maximum of 24 months.<sup>18</sup>

## 1.2 Evaluation scope and objectives

As required by the 2009 Treasury Board Policy on Evaluation, “all direct program spending, excluding grants and contributions, is evaluated every five years.”<sup>19</sup> Since the DF was last evaluated in 2009, the current evaluation examined the period spanning the fiscal years 2009-10 to 2013-14.

The evaluation addressed key questions of relevance, performance, economy and efficiency in order to provide SSHRC senior management with crucial information that can be used to support future program decision-making and improvements. The specific issues and questions that guided the evaluation are listed in the next section (1.3).

### Partial evaluation of the Postdoctoral Fellowships funding opportunity

As previously noted, the Doctoral and Postdoctoral Fellowships sub-program encompasses two funding opportunities: the DF and the PDF. Since the PDF was last evaluated as recently as 2012 and its context has not changed significantly,<sup>20</sup> this evaluation primarily focused on the DF. The issue of continued relevance in the current context was examined for both funding opportunities; however, the performance issue was only assessed for the DF. The assessment of relevance for the PDF involved looking at whether the context for the funding opportunity has changed since the last evaluation. This was done by consulting key secondary sources that have been published since 2012 (e.g., reports from the Canadian Association of Postdoctoral Scholars and Mitacs).

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<sup>16</sup> SSHRC. (2014). SSHRC Postdoctoral Fellowships. [webpage]. Retrieved from <http://www.sshrc-crsh.gc.ca/funding-financement/programmes-programmes/fellowships/postdoctoral-postdoctorale-eng.aspx>

<sup>17</sup> SSHRC. (2014). *Evaluation of the Doctoral and Postdoctoral Fellowships Program Design Report*. Ottawa, ON.

<sup>18</sup> The award amount was raised to \$40,500 (incorporating the research allowance) starting in competition year 2014. SSHRC. (2014). SSHRC Postdoctoral Fellowships. [webpage]. Retrieved from <http://www.sshrc-crsh.gc.ca/funding-financement/programmes-programmes/fellowships/postdoctoral-postdoctorale-eng.aspx>

<sup>19</sup> Treasury Board Secretariat. (2009). Policy on Evaluation [webpage]. Retrieved from: <http://www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=15024>

<sup>20</sup> Based on the recommendations from the 2012 PDF Evaluation, changes were made to the funding amount (i.e., increased to \$40,500 per year for two years and the removal of the separate research allowance) and the eligibility criteria (i.e., can apply within two years after the completion of a doctoral degree).

### 1.3 Evaluation issues and questions

The evaluation was designed to address the five core evaluation issues stipulated in the Treasury Board Policy on Evaluation (2009), which fall within two broad categories: relevance and performance.<sup>21</sup> Table 1 identifies the specific evaluation questions that were developed for each core evaluation issue.

Table 1 Evaluation issues and questions

Evaluation issues	Evaluation questions
Relevance	1. Does the Doctoral and Postdoctoral Fellowships program continue to be consistent with SSHRC's and government-wide priorities?
	2. To what extent is there a continued need to support students and fellows during their graduate studies, and postdoctoral research?
	3. To what extent is there a necessary role for the federal government to support students during their graduate studies and postdoctoral research? 3.1. The extent to which overlaps are absent between the DF and financial incentives offered to students at receiving, foreign universities (i.e., absence of reduction in financial support from receiving universities as a result of the doctoral fellowship).
Performance – Effectiveness	4. To what extent has the DF attracted promising students to doctoral research? (IM3.1)
	5. To what extent has the type of support received contributed to students' training environment, experiences, skills and professional networks? (IM3.2)
	6. What has been the DF program's contribution to the development of HQP holding research-intensive positions in various sectors in Canada and internationally? (INT4.1, LT5.1)
	7. To what extent has the type of student support contributed to students' research productivity and knowledge dissemination and researchers' research productivity? (IM3.3, To a very limited extent: INT4.2)
Performance – Program Design and Efficiency	8. Are the most effective and efficient means being used to deliver the DF? 8.1. Can the efficiency of the delivery be improved (i.e., can outputs and outcomes be achieved in a more affordable manner)?

<sup>21</sup> Treasury Board Secretariat. (2012). Directive on the Evaluation Function [webpage]. Retrieved from <http://www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=15681>

## 2 Methodology

The evaluation relied on multiple lines of evidence gathered by the NSERC-SSHRC Evaluation Division (NSED) and by external consultants, and triangulated by Science-Metrix. An Evaluation Advisory Committee provided advice and reviewed main deliverables throughout the evaluation process (e.g., development of the evaluation design and validation of evaluation preliminary findings).

A data collection matrix was used to map evaluation issues, questions, and indicators to the data collection methods and data sources (Appendix C). Six data collection methods were used to address the 10 evaluation questions: an administrative data review, a document/literature review, surveys, focus groups, key informant interviews and a cost-efficiency analysis.

### 2.1 Methods

The six data collection methods are briefly presented below.

#### Administrative data review

- Application and award data collected from SSHRC Award Management Information System (AMIS) at three time points in 2014.
  - Data for both the DF and Canada Graduate Scholarships–Doctoral (CGS-D) funding opportunities were extracted because the two awards share a joint application process.

#### Document/literature review

- Fifty-five documents produced by SSHRC, the Government of Canada, and other sources.
  - Eight internal documents, e.g., previous evaluations, DF environmental scan, past survey of SSHRC award recipients.
  - Forty-seven external documents, including 20% documents from the federal government and 80% from diverse sources such as the Association of Universities and Colleges of Canada (AUCC), the Canadian Association for Graduate Students and publications authored by specialists on the topic of higher education funding.

#### Survey of DF recipients, Canada Graduate Scholarships–Doctoral (CGS-D) holders and non-recipients

- Three groups: DF recipients, SSHRC CGS-D holders, and non-recipients. CGS-D is another SSHRC fellowships funding opportunity available for master's and doctoral students; doctoral students receive \$35,000 annually for 36 months. Non-recipients include individuals who applied for a doctoral fellowship/scholarship from SSHRC but were not successful. These two groups were surveyed in parallel using similar questions to those used in the DF survey, hence enabling comparisons across the different types of funding support received at the doctoral level.
- Response rates by group: DF recipients – 37% (n=1,863); CGS-D recipients – 32% (n=1,122); DF/CGS-D non-recipients – 13% (n =1,510).
- Years under review: competition years 2003-12, divided into two cohorts—2003-08, and 2009-12. Longer-term outcomes (e.g., impact on employment) were analyzed using responses from the earlier cohort only. The responses provided by both cohorts were used when it came to shorter-term outcomes and the level of satisfaction with the design and delivery of the funding opportunities (efficiency and economy issues).

### Focus groups (n=26)

- Three online focus groups with DF award holders and students supported by funding from a Standard Research Grant (SRG) or Insight Grant (IG).
  - Ten current students for a focus group conducted in English.
  - Eight current students for a focus group conducted in French.
  - Eight past students for a focus group conducted in English.

### Key informant interviews (n=45)

- University representatives (23)
- Employers (5)
- Academic supervisors (10)
- Students (5 past and 2 current IG/SRG)

### Cost-efficiency analysis

- Financial data available for administrative and grant expenditures, fiscal years 2009-10 to 2013-14.
- Financial data on comparable funding opportunities (i.e., SSHRC PDF, SSHRC CGS and NSERC PGS), fiscal years 2009-10 to 2013-14.

## 2.2 Triangulation of lines of evidence

Science-Metrix was mandated by the NSED to triangulate the multiple lines of evidence from these six data collection methods and to prepare the Evaluation Report. This triangulation was organized in alignment with the division of work established in the Evaluation Design Report developed by the NSED. Content analysis was undertaken using ATLAS.ti, a computer-assisted qualitative data analysis software that allowed Science-Metrix to conduct in-depth analysis by inputting a large number of different variables. Relevant text from the captured stock of documents was coded using both a deductive and inductive approaches. This rigorous approach to conducting content analysis ensured that the findings and recommendations are evidence based (i.e., grounded in the documentation available).

## 2.3 Methodological challenges and mitigation strategies

Each of the methods used in this study has its strengths and weaknesses. Several of these challenges were identified early in the evaluation process and associated mitigation strategies were proactively built into the design. For instance, the survey design considered two comparison groups to support conclusions with respect to several performance indicators. Data validation steps were also included to compare information collected across multiple sources (e.g., surveys, administrative data review, document/literature review).

The main methodological challenges related primarily to data availability and quality, as well as participation issues. Nevertheless, a set of strategies were implemented in order to mitigate these challenges. In general, the methodological challenges and their accompanying mitigation strategies included:

- **Data availability and quality issues:** The information from the document review on student demographics and characteristics is not as recent as would be desired, which affects the ability to

compare against DF recipient characteristics with respect to the scope of student participation in the DF. This was mitigated by the availability of comparison groups from the surveys.

- **Participation:** Low response rates were initially obtained for all surveys, especially for non-recipients. To mitigate this limitation, survey responses were weighted to account for non-response bias. The number of responses received in each group was judged to be sufficiently large in absolute terms for confidence to be placed in the analysis. For the focus groups, NSED could not reach many SRG/IG-supported students due to a lack of contact information for most of them. As the purpose of the focus groups was to gain qualitative information, for which the need for comparison groups was not as strong, this is not considered a major methodological challenge. The mitigation strategies encompassed the combining of one-on-one student interview evidence with focus group evidence, as the results from both methods were similar and it is unlikely that the combined data analysis method influenced the quality of evidence. In addition, the comparison groups in the surveys fully mitigate this challenge, as a counterfactual argument could be developed from the quantitative data comparisons made through this line of evidence.
- **Attribution:** Caution is advised in attributing causation to differences observed across groups in survey data as several factors (e.g., receiving a DF or CGS award vs. unsuccessfully applying to any of these fellowships, career stage of respondents at the time they participated in the survey) may have had an impact on the responses obtained from each group.

## 3 Findings

### 3.1 Relevance

#### 3.1.1 EQ1. Consistency of the Fellowships funding opportunities with SSHRC's and government-wide priorities

*The objectives of the Doctoral and Postdoctoral Fellowships sub-program are closely aligned with the federal government priorities outlined in the Government of Canada 2014 Science, Technology and Innovation Strategy, as well as with SSHRC's Strategic Outcome 1: "Canada is a world leader in social sciences and humanities research and research training."<sup>22</sup>*

Results from the document review show that the objectives of SSHRC's Doctoral and Postdoctoral Fellowships sub-program are aligned with federal government priorities. The sub-program serves to extend federal government support to the development of a highly skilled and educated workforce in Canada. More specifically, the sub-program directly contributes to the achievement of the federal goal outlined in the 2014 Science, Technology and Innovation Strategy<sup>23</sup> to support the brightest minds to make ground-breaking discoveries and to push the frontiers of knowledge,<sup>24</sup> by awarding fellowships to graduate students and postdoctoral researchers who are expected to become the next generation of researchers and leaders to integrate academia and the public, private and not-for-profit sectors.<sup>25</sup> Moreover, the sub-program contributes to federal government efforts to "continue the *brain gain* of highly skilled workers and make Canada a place where curiosity is encouraged and people are inspired to solve problems and bring ideas to life."<sup>26</sup>

Given the focus of the sub-program's objectives on developing this next generation of researchers and leaders, it is also aligned with SSHRC's Strategic Outcome 1: "Canada is a world leader in social sciences and humanities research and research training."<sup>27</sup>

#### 3.1.2 EQ2. Continued need to support students and fellows during their graduate studies and postdoctoral research

*The evaluation evidence confirms that, in light of the national context, there is a continuing demonstrable need for the Doctoral and Postdoctoral Fellowships sub-program. At the macro-level, there is a growing need for university graduates to prevent labour shortages in knowledge-intensive occupations. At the micro-level, doctoral and postdoctoral students need the financial support provided by the sub-program to focus on their studies while reducing their debt.*

The DF aims towards improving the skill sets and employability of award holders and contributing towards the supply of highly qualified personnel in the Canadian workforce. The Effectiveness section of this report presents evidence of the DF award's contribution to these outcomes. This section explores the continuing need for such a program given the current context in Canada.

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<sup>22</sup> Social Sciences and Humanities Research Council. (2013). *Strengthening Canada's Cultures of Innovation* [pdf]. Retrieved from [http://www.sshrc-crsh.gc.ca/about-au\\_sujet/publications/strategic\\_plan\\_2013-16-plan\\_strategique\\_2013-2016\\_e.pdf](http://www.sshrc-crsh.gc.ca/about-au_sujet/publications/strategic_plan_2013-16-plan_strategique_2013-2016_e.pdf)

<sup>23</sup> Industry Canada. (2014). *Seizing Canada's Moment: Moving Forward in Science, Technology and Innovation* [webpage]. Retrieved from: <http://www.ic.gc.ca/eic/site/icgc.nsf/eng/07481.html>

<sup>24</sup> Ibid.

<sup>25</sup> Social Sciences and Humanities Research Council. (2012). *Survey of SSHRC Award Recipients*.

<sup>26</sup> Industry Canada. (2014). *Seizing Canada's Moment: Moving Forward in Science, Technology and Innovation* [webpage]. Retrieved from: <http://www.ic.gc.ca/eic/site/icgc.nsf/eng/07481.html>

<sup>27</sup> Social Sciences and Humanities Research Council. (2013). *Strengthening Canada's Cultures of Innovation* [pdf]. Retrieved from [http://www.sshrc-crsh.gc.ca/about-au\\_sujet/publications/strategic\\_plan\\_2013-16-plan\\_strategique\\_2013-2016\\_e.pdf](http://www.sshrc-crsh.gc.ca/about-au_sujet/publications/strategic_plan_2013-16-plan_strategique_2013-2016_e.pdf)

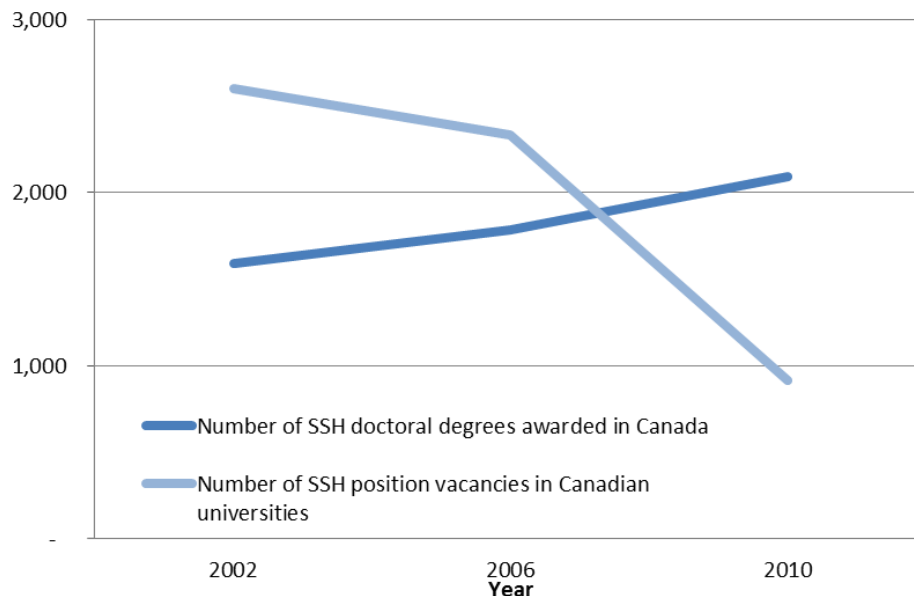


## Labour demand in knowledge-intensive occupations

Canada has gone from being a resource-based economy to a service-based economy.<sup>28</sup> As a result, the country is facing an anticipated growth in labour demand that will require commensurate growth in university graduates to prevent labour shortages in knowledge-intensive occupations, particularly given the aging population.<sup>29</sup> In fact, according to the Association of Universities and Colleges of Canada (AUCC), between 2011 and 2021 there will be around 700,000 to 900,000 jobs available for university graduates just to replace those graduates who will retire.<sup>30</sup>

However, the future demand in academia for people with graduate-level education, relative to current supply, is less clear.<sup>31</sup> Although Canada lags behind other developed countries in the production of doctoral degrees, many PhDs and postdocs find they need to change their career aspirations in academia, given the limited number of new faculty openings.<sup>32</sup> Indeed, a comparison of the number of students graduating from a doctoral program in the social sciences and humanities (SSH) in Canada with the number of vacancy notices in those fields in Canadian universities demonstrates opposing trends between 2002 and 2010, as shown in Figure 1. In other words, the number of SSH doctoral graduates grew steadily over the period, while the number of SSH position vacancies in Canadian universities decreased. These findings suggest a greater number of SSH doctoral graduates may be searching for employment outside the academic sector in future.

**Figure 1 SSH doctoral graduates vs. university employment opportunities in Canada 2002-10**



Source: SSHRC, 2011, and Statistics Canada, 2013

<sup>28</sup> Association of Universities and Colleges of Canada (AUCC) (2011). *Canada's universities: Mapping the way forward*. Ottawa, ON.

<sup>29</sup> Association of Universities and Colleges of Canada (AUCC) (2011). *Trends in Higher Education: Volume 1—Enrolment*. Ottawa, ON.

<sup>30</sup> Ibid.

<sup>31</sup> SSHRC (2014). *Environmental Scan 2014*. Ottawa, ON: Author.

<sup>32</sup> Mitchell, J.S., Walker, V.E., Annan, R.B., Corkery, T.C., Goel, N., Harvey, L., Kent, D.G., Peters, J., Vilches, S.L. (2013). *The 2013 Canadian Postdoc Survey: Painting a Picture of Canadian Postdoctoral Scholars*. Ottawa, ON: Canadian Association of Postdoctoral Scholars and Mitacs.

## Students' need for financial support

Multiple lines of evidence highlighted the importance of providing doctoral students with financial support in order for them to complete their studies. More specifically, according to the document review, the interviews and the survey, the DF meets a financial need for PhD students because many of them face economic pressures, including debt incurred over their different levels of study, which in some cases require them to spend time in paid employment in addition to attending to their studies and research.<sup>33</sup> In fact, approximately three quarters (74%) of the DF recipients surveyed indicated that they were moderately to extremely concerned about their financial situation prior to applying to their graduate program.

As such, for most DF recipients, holding the award meant they were able to focus chiefly on fulfilling the requirements of their degree and pursuing their own research interests. This was confirmed by evidence from the interviews and surveys. Survey results showed that, on average, DF recipients spent most of their time during their studies on work to fulfil the requirements of their degree (46.15 hours per week on average), followed by other research or teaching activities (14.76 hours per week on average), and they spent the least amount of time on non-academic employment (4.28 hours per week on average). Similar figures were reported by CGS recipients, who spent on average 43.18 hours per week on work to fulfil the requirements of their degree, 12.75 hours on other research or teaching activities and 2.33 hours on non-academic employment. In contrast, non-recipients spent much more time in non-academic employment per week (10.35 hours per week) and slightly less time on work to fulfil the requirements of their degree. Non-recipients were also much more likely (36%) than DF (9%) and CGS (7%) recipients to report having had to work in a non-academic position for pay by necessity. These findings demonstrate the role played by doctoral fellowships such as DF and CGS in enabling students to focus more time on their research and less time on securing funds to afford pursuing their studies. One should acknowledge, though, that both DF and CGS restrict the number of hours that recipients can spend in employment.

With respect to the level of debt incurred by PhD students, survey evidence revealed that non-recipients accumulated a significantly greater amount of debt over the period of their degree: 80% larger than the average debt load of DF recipients. It should be noted that even though the DF mainly focuses on supporting doctoral students in the completion of their degrees under the best conditions and does not include debt decrease as part of its objectives, debt decrease emerged strongly as an unintended positive outcome throughout the analysis of various lines of evidence.

Financial aid in the form of stipends (money coming from research supervisors' grants) was also identified as a common mechanism to support doctoral students and postdoctoral researchers. For approximately 23% of postdoctoral researchers working in the SSH, the primary source of funding is their supervisor's research grant, followed by the funding received from any of the three granting councils (CIHR/SSHRC/NSERC).<sup>34</sup> Studies conducted in the United States highlighted the positive impact of research assistantships on PhD students' persistence and subsequent degree completion.<sup>35:36</sup>

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<sup>33</sup> Tétrault, M. & Legault, M-A. (2013). *L'attribution des bourses d'études des conseils subventionnaires*. Montréal, QC: Fédération étudiante universitaire du Québec.

<sup>34</sup> Mitchell, J.S., Walker, V.E., Annan, R.B., Corkery, T.C., Goel, N., Harvey, L., Kent, D.G., Peters, J., Vilches, S.L. (2013). *The 2013 Canadian Postdoc Survey: Painting a Picture of Canadian Postdoctoral Scholars*. Canadian Association of Postdoctoral Scholars and Mitacs.

<sup>35</sup> Strayhorn, T.L. (2010). Money matters: The influence of financial aid on graduate student persistence. *Journal of Student Financial Aid*, 40(1), 4–25.

<sup>36</sup> Mendoza, P., Villarreal III, P., & Gunderson, A. (2014). Within-year retention among Ph.D. students: The effect of debt, assistantships, and fellowships. *Research and Higher Education*, 55, 650–685.

For consulted researchers and supervisors, stipends were said to meet an important need by providing them with qualified staff to support their own research.

However, even if most interviewees acknowledged the value of stipends, they expressed the belief that DFs and stipends from research grants meet different needs, and as such it would be difficult to support research in the social sciences and humanities through stipends alone. To paraphrase responses from interviewees, a stipends-only model would negatively affect the breadth of research conducted in universities and limit their opportunities for personal development by tying them to researchers' projects that may not be aligned with students' research interests. Interviewees noted that advantages of the DF, such as the prestige, free time, independence and freedom to pursue individual interests, would also be lost if a stipends-only approach to funding was adopted. In fact, stipends are considered to be a complementary funding that could be used to top off students' other sources of funding. Interestingly, one study conducted in the United States<sup>37</sup> found that a combination of scholarships, stipends, tuition reductions and a small loan provided optimal levels of financial support that increased the likelihood of students completing their programs.

### **Institutional needs**

The DF was also found to meet certain needs of the academic institutions in which DF recipients do their studies. According to interviewees, having SSHRC-funded students validates an institution's position as a research institution because of the prestige offered by the national competition, especially for small universities. The funding opportunity also allows universities to fund more students as they can reallocate departmental funds previously assigned to successful DF applicants to other students who have smaller funding allocations.

### **Need for PhD graduates with international experience**

A little more than one quarter (approximately 28%) of DF recipients surveyed completed their entire degree at a foreign university. In a survey conducted by SSHRC in 2011, a similar proportion (30%) of SSHRC Doctoral Fellowship and Postdoctoral Fellowship recipients reported having pursued their doctoral studies abroad, primarily in the United States (20% of all recipients).<sup>38</sup> Documentary evidence showed that international mobility can bring a series of benefits not only for students but also for institutions and for the country. From the students' perspective, international experiences allow doctoral students to engage in academic collaborations with key researchers, something that may result in an increased visibility for these students in their fields of specialization, along with the expansion of their contribution to the production and transfer of knowledge at a global scale. Moreover, most students and supervisors interviewed expressed the belief that international experience in the form of conference attendance and presentation was critical in order for students to gain exposure in their field. Most employers felt that varied experience (including international experience) is valuable, but there was no consensus regarding the extent to which this kind of experience influences hiring decisions.

From an institutional perspective, the document review found that Canadian universities benefit from increased global exposure, as well as from the establishment of academic partnerships with foreign

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<sup>37</sup> Strayhorn, T.L. (2010). Money matters: The influence of financial aid on graduate student persistence. *Journal of Student Financial Aid*, 40(1), 4–25.

<sup>38</sup> Clark Larkin, Shannon, El Moulat, Abderrahim, & Yem, Mom (2011). SSHRC Scholarships and Fellowships Survey. Final Report. Ottawa, ON: Social Science and Humanities Research Council

institutions and the knowledge brought back by doctoral students upon their return to their home campus.<sup>39</sup>

Finally, from a national standpoint, many countries around the world acknowledge the importance of academic mobility of doctoral students in the creation of research networks that facilitate the production and dissemination of knowledge. In Canada, international mobility of doctoral students represents a good mechanism to support global knowledge sharing that can increase the country's participation in global academic, public and private sectors.<sup>40</sup>

### **International comparison**

The document review included a comparison of the DF's design to similar models internationally to assess the appropriateness of DF design as compared to these models. It focused on identifying the main differences in terms of eligibility and selection criteria between DF/CGS and SSH doctoral scholarships funded by federal governments in Australia, the UK and the US. The international comparison allowed for the identification of a different approach to fostering access to doctoral fellowships by equity groups, which is an area of concern for RTP management. Indeed, evidence was found that, unlike both Canada and the UK, Australia has a separate award specifically for an equity group (indigenous Australians). This option may be further explored through SSHRC's Aboriginal Research Integrated Strategy.

### **Continued need to support postdoctoral researchers**

The present evaluation focuses primarily on the DF, which was last evaluated in 2009. Nevertheless, the PDF has been briefly reviewed in order to establish if the context for the funding opportunity has changed since the last evaluation conducted in 2012, and the impact of possible changes on relevance.

The changes in the Canadian labour market described earlier in this section generally also apply to the PDF, and were found to be similar to several of the changes described in the 2012 evaluation of the PDF. According to this evaluation, these changes reinforced the relevance of supporting postdoctoral research in the social sciences and humanities to address the following challenges:

- the anticipated demand for skilled workers in the knowledge economy (including a continued commitment on the part of the federal government);
- increased funding for university research;
- the need to prepare Canadian students and Canadian academic institutions for the globalization of research talent;
- an increased demand for the PDF, shown by the significant increase in applications since 2006; and
- the increasingly competitive academic job market.<sup>41</sup>

This growing need for postdoctoral researchers does not translate into commensurate support and recognition for these researchers, according to survey and interview evidence. Despite the value of the SSHRC PDF award, the document review indicated that there was a feeling of dissatisfaction among many postdoctoral researchers with regard to their salary and benefits. A 2013 survey conducted by

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<sup>39</sup> Strayhorn, T.L. (2010). Money matters: The influence of financial aid on graduate student persistence. *Journal of Student Financial Aid*, 40(1), 4–25.

<sup>40</sup> *Ibid.*

<sup>41</sup> Social Sciences and Humanities Research Council. (2012). *Evaluation of the SSHRC Postdoctoral Fellowships Program. Evaluation Report*. Ottawa, ON: Author.

Mitacs<sup>42</sup> showed that postdoctoral researchers in the SSH reported a mean gross annual income from all sources of \$41,612 (the least amount among all fields of research) during their fellowship.<sup>43</sup> This seems to be linked to the transitional phase they are going through as PhD graduates in the process of entering the labour market, who often experience a lack of recognized status of their appointments.

Also, as demonstrated in Figure 1, the number of new faculty openings is limited,<sup>44</sup> despite the overall increasing demand for highly skilled workers. The Mitacs survey revealed that many postdoctoral researchers have considered changing their career goals since starting the postdoc position they were holding at the time of this survey. As such, the proportion of postdoctoral researchers aspiring to university research faculty positions declined while the proportion aspiring to every other career goal increased marginally. The variety of careers being considered also increased.

### 3.1.3 EQ3. Necessary role for the federal government to support students during their graduate studies and postdoctoral research

*Evidence from the document review confirms that the federal government has a legitimate role in the funding of doctoral students and postdoctoral researchers, and that there is limited overlap with other funding opportunities.*

Evidence was found in the reviewed documents that the federal government has an important role to play in providing support to Canadian doctoral students and postdoctoral researchers in SSH. Indeed, as stated in the *SSHRC Act*, the SSHRC Council, through its role as a federal research funding agency, is mandated to promote and support postsecondary-based research and training in these areas.<sup>45</sup>

#### Overlap with other Canadian funding opportunities

Multiple lines of evidence illustrated the absence of an overlap with other funding opportunities available in Canada. SSHRC does permit stacking of awards (i.e., holding other awards simultaneously); however, other awards do not always permit accumulation. For instance, some university funding packages, as well as large awards from provincial programs cannot be held simultaneously by students in receipt of a DF. As a result, students will typically choose the DF, which is deemed to be more prestigious and is usually of higher financial value. In a few cases, the rules of some provincial programs do not leave students any choice but to accept a DF. A clear example is the Fonds de recherche du Québec – société et culture (FRQSC), whose goal is to offer scholarships to doctoral students for up to three years. According to the FRQSC's rules, if it offers a scholarship to a student who is also offered a DF award, the FRQSC offer is revoked if its value is less than or equal to that of the DF, otherwise the amount offered is reduced to the difference between the two amounts.<sup>46</sup> Universities will usually provide students with a basic level of support when they do not have access to external financial support, such as DF.

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<sup>42</sup> Mitacs is a not-for-profit organization dedicated to design and deliver research and training programs in Canada to foster the development of partnerships between academia and industry in support of social and industrial innovation. Retrieved from: <https://www.mitacs.ca/en/about-mitacs>

<sup>43</sup> Mitchell, J.S., Walker, V.E., Annan, R.B., Corkery, T.C., Goel, N., Harvey, L., Kent, D.G., Peters, J., & Vilches, S.L. (2013). *The 2013 Canadian Postdoc Survey: Painting a Picture of Canadian Postdoctoral Scholars*. Canadian Association of Postdoctoral Scholars and Mitacs.

<sup>44</sup> Mitchell, J.S., Walker, V.E., Annan, R.B., Corkery, T.C., Goel, N., Harvey, L., Kent, D.G., Peters, J., & Vilches, S.L. (2013). *The 2013 Canadian Postdoc Survey: Painting a Picture of Canadian Postdoctoral Scholars*. Canadian Association of Postdoctoral Scholars and Mitacs.

<sup>45</sup> SSHRC. (2013). About SSHRC. Retrieved from: [http://www.sshrc-crsh.gc.ca/about-au\\_sujet/index-eng.aspx](http://www.sshrc-crsh.gc.ca/about-au_sujet/index-eng.aspx)

<sup>46</sup> FRQSC. (2014). Programs for Master's and Doctoral Research Scholarships (B1, B2, A2) [pdf]. Retrieved from [http://www.frqsc.gouv.qc.ca/upload/editeur/A2\\_B1\\_B2\\_2015-2016-eng.pdf](http://www.frqsc.gouv.qc.ca/upload/editeur/A2_B1_B2_2015-2016-eng.pdf)

Sometimes, if a student is a DF recipient, the university will provide a top-up or supplementary monetary award (which is permissible under the DF's eligibility rules). This is more likely to occur at larger institutions. Some lower-value awards from external sources can also be held in addition to a DF award. However, these opportunities provide limited funds and therefore were not considered as overlaps in the view of most liaison officers or deans.

### **Impact of DF on access to international funding opportunities**

Holding a DF was not found to prevent recipients from obtaining foreign funding. Indeed, evidence from surveys showed that out of the 30% of surveyed DF recipients who completed degrees outside of Canada, 78% received support from their foreign university. Among those who studied abroad but did not receive support from their university, a 74% reported that their DF was not a key reason why they did not receive foreign funding.

## **3.2 Performance: Effectiveness**

### **3.2.1 EQ4. Extent to which the DF has attracted promising students to doctoral research**

*The DF has had a positive impact on students' goals related to their studies. The distribution of applications and awards associated with various groups are representative of the distribution of these groups in the Canadian population of doctoral students. Postsecondary institutions have put in place a rigorous and fair delivery approach to select the applications to be sent to SSHRC.*

#### **Attraction of promising SSH students to doctoral research**

The administrative review showed that, overall, the rates of success for students applying for the DF award remained stable between 2009 and 2013. However, it should be noted that for this evaluation success rates were calculated based on the national competition only, and a quota system exists at this level, which would explain this stability.<sup>47</sup> Success rates ranged from 48% to 57% of the total applications received.<sup>48</sup> The role played by the DF in attracting more students to doctoral studies is less clear; interviews and survey results indicate that other considerations drive students' decisions to pursue doctoral studies. Slightly less than half of surveyed DF recipients indicated that the possibility of receiving an award was moderately to extremely important in their decision to enrol in their degree program. In addition, 60% of DF survey respondents indicated they would have continued to pursue graduate school without the scholarship support. In fact, according to evidence from the survey of DF recipients and from their interviews, most students were already enrolled in their programs when they received notice of the award.

Regarding the scope of student participation, the proportions of applications and awards associated with various demographic groups and SSH disciplines met program management expectations given the

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<sup>47</sup> This evaluation report provides statistics for the national competition applicants (those whose applications passed the review at the institution level and were sent to SSHRC). SSHRC has data on applicants who were unsuccessful at the institution-level review, but these data were not used in the analysis because of concerns about accuracy. Since institutions report individually on these applicants, it is not possible to confirm that all do so in a consistent manner.

<sup>48</sup> Please note that success rates reported on the SSHRC website are slightly different from those provided in this report. Success rates on the website are taken from data pulled immediately after the competition for each year has ended, while the data used to calculate success rates in this evaluation report come from data pulled at the time of the evaluation's data collection. This affects the number of awards because over time, some awards change status (e.g., a previously accepted award may subsequently be declined). Therefore the online statistics represent the most accurate picture of applications and awards at the time of the competition, while the statistics presented in this report represent the best long-term view.

prevalence of these groups in the Canadian population of doctoral students. Evidence from the survey showed very similar trends to those found in the administrative review. Key findings with respect to the representation of these groups included:

- A slight majority of DF/CGS applications (62%) and awards (63%) for the 2009-13 period were associated with female students. This is consistent with the distribution of women enrolled in social sciences doctoral studies in Canada, which was 61% in 2008.<sup>49</sup>
- There is no significant difference in the success rates for English versus French applications. Most DF/CGS applications received (82%) and awards provided (82%) were associated with students corresponding with SSHRC in English. These statistics do not necessarily reflect the linguistic demographics of applicants, as students may choose to apply in a language other than their own native language — for example, if they are situated in an institution that does not have the capacity to support an application in a different language.<sup>50</sup>
- 11% of surveyed DF recipients belong to a visible minority group, 2% are Aboriginal, and 2% have some form of disability. The proportion of DF recipients from designated groups is very similar to the proportion of CGS and non-recipients from designated groups.
- The majority of applications received (60%) and awards provided (61%) were associated with social science studies (compared to the humanities and interdisciplinary studies).
- Success rates were generally equivalent across Canadian provinces during the years under review.<sup>51</sup>
- The majority of applications (87%) and awards (86%) for the 2009–2013 period were associated with Canadian institutions.<sup>52</sup>

### **Impacts of the DF award on students' academic goals and funding**

Evidence from interviews and student surveys indicated that DFs had a positive impact on students' financial situation during their studies, allowing them to focus on their academic programs. More specifically, almost all surveyed DF recipients (98%) indicated that their award had a positive impact on their financial situation during their studies and on their current financial situation. However, the total dollar value of awards received from other sources did not differ substantially across groups (approximately \$30,000 on average per student). Note that the total award amounts do not include DF or CGS funding, which considerably increases the total amount of funding received by DF and CGS recipients. Therefore, award recipients earn more than non-recipients, because of the value of the award.

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<sup>49</sup> Association of Universities and Colleges of Canada (AUCC) (2011). *Trends in Higher Education: Volume 1— Enrolment*. Ottawa, ON.

<sup>50</sup> Given the equivalent success rates between the English- and the French-language applications, and given the vast majority (94%) of DF recipients report not having experienced any language barriers when applying for the DF, it is not expected that the decision to apply in a language other than one's native language is due to perceived differences in the chances of success. SSHRC supports Canada's official languages and, to that end, ensures a balanced representation of both official language communities in the adjudication process for the DF award.

<sup>51</sup> Based on a t-test of success rates across years, success rates of eight out of ten provinces were not significantly different from the Canada-wide rates over competition years 2003 to 2013 ( $\alpha = 0.05$ ). PEI was not included due to low application numbers (no applications received in nine of the 11 years). Nova Scotia's success rates were significantly different ( $p=0.016$ ), possibly due to low application numbers as well.

<sup>52</sup> The numbers analyzed for the evaluation refer only to the institutions through which students submit an application and not necessarily those where they complete their programs or hold their DFs.

Furthermore, DF recipients reported receiving a greater number of awards and/or prizes from their university than non-recipients, which seems to contradict previous findings indicating that departmental funds can be spread around to students who do not receive funding. This may be explained by the fact that some universities do redistribute to other doctoral students the institutional funding initially allocated to DF recipients, while others don't. Hence, the differences shown in the survey between DF recipients and others may depend on the university.

Past and present students interviewed stated that having access to such substantial and stable funding from DF and other sources prevented them from having to look for part-time jobs, and as such they could fully engage in completing their degree. In the same vein, survey results showed that, compared to DF recipients, those who did not receive an award spent more time in non-academic employment during their studies, spent less time on degree program requirements, and incurred a larger debt load at the end of their studies. Finally, as the DF is perceived as a prestigious award, students indicated that receiving a DF contributed to bolstering their CVs.

### **Postsecondary institutions' approach to delivering Doctoral Fellowships**

Evidence from interviews and consultations with DF management suggests that the delivery approach put in place by postsecondary institutions meets management expectations in terms of rigour and fairness, from recruitment to the assessment and selection of the best candidates. Universities appear to make efforts to reach out to a broad range of students through a variety of channels, such as information sessions, online communications on the institution's website, and emails to students. However, only a few universities, independent of size, reported using strategies to promote the inclusion of designated groups, while documentary evidence was found that at least some of these groups (e.g., Aboriginal students) are traditionally under-represented in the doctoral population.<sup>53</sup>

Additionally, DF recipients indicated that universities provided them with ample help with the preparation of their application, mainly through their supervisors' involvement, but also through training and workshops organized by their universities.

Evidence from interviews and consultations with DF management revealed that the selection mechanisms put in place by institutions also met management expectations. All eligible Canadian universities have a central committee that ranks and selects the best applications to send to SSHRC. All large universities have a two-tiered system in place whereby departments are tasked with assessing and forwarding the best applications to the central committee. Central committee members are then assigned applications to review and grade based on their subject matter expertise. In most small universities, on the other hand, applications do not go through a departmental evaluation; instead they are received by a central office and forwarded to the central committee for assessment due to the smaller number of applications these schools receive. Central committee members are then expected to review all applications (i.e., including those that are not related to their subject matter expertise) forwarded by departments. All universities, regardless of size, asserted using the same criteria as the SSHRC national committees at the central committee level. A few large and medium universities also revealed they used the SSHRC criteria at the departmental level as well.

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<sup>53</sup> Association of Universities and Colleges of Canada (AUCC). (2011). *Trends in Higher Education: Volume 1– Enrolment*. Ottawa, ON.



### 3.2.2 EQ5. Extent to which the type of support received contributed to students' training environment, experiences, skills and professional networks

*DF support seems to have had a positive impact on the kind of research students conducted, on their interactions with their supervisors, and on their international experience. DF students are highly satisfied with the skill-development opportunities made available to them.*

#### Training environment

Evidence from interviews highlighted two main benefits of the DF awards on students' training environment. First, the funding opportunity allowed students to spend more time on their own independent research, free from the demands on their time that comes with some other types of funding, such as research or teaching assistantships. Secondly, DF recipients may not experience as much financial uncertainty as those receiving sources of financing of lesser value. On the other hand, some DF students report missing out on the valuable teaching and professional experience that these other sources of financing can provide when they take the form of teaching assistantships or research assistantships.

Holding a DF appeared to have a positive impact on DF recipients' interactions with researchers, other students or fellows. According to some university representatives interviewed, the DF is a prestigious award, and as such recipients may be looked upon more favourably by their peers and others. Also, interviewed supervisors indicated that their relationships with DF recipients are narrower, more specialized, and more research-oriented compared to their interactions with stipend holders. More specifically, supervisors likened their interactions with stipend recipients as an employer-employee relationship in which students are expected to play a supporting role in their supervisors' research. Nevertheless, other key factors may have influenced the training environment, such as the level of a student's integration in a research team, the size and the diversity of a cohort, and the culture of an institution.

#### Research, teaching and professional skills

Multiple lines of evidence suggested that the financial and research independence associated with the DF has resulted in recipients being able to develop more fully as researchers. More specifically, documentary evidence points toward DF recipients developing skills related to critical and creative thinking, research and data analysis, networking and collaboration, and interpersonal communication.

DF recipients are highly satisfied with the opportunities their degree program offered them to develop skills, but the extent of their involvement in skill-developing activities is less clear. DF recipients reported a higher level of satisfaction than non-recipients in terms of the opportunities made available to them to develop their skills in research, teaching and personal/professional areas. They also spent more time in skill development; DF recipients spent on average 61 hours a week working on research and teaching activities within and outside of the context of their studies, compared to 53 hours for non-recipients. Somewhat paradoxically though, DF recipients reported lower involvement in research, teaching and personal/professional activities during their degree program than CGS recipients and non-recipients. The only exceptions to this are "soft-skill" areas of research<sup>54</sup> for which surveyed DF recipients were not significantly different from non-recipients, and "soft-skill" areas of

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<sup>54</sup> "Soft-skill" research areas include collaborative research with the private sector/government/not-for-profit; multidisciplinary/interdisciplinary research; international research collaborations; leading research projects (human, financial, and time management); knowledge translation/mobilization (papers, final reports, presentations, theses, commercialization, non-typical dissemination activities); and knowledge of research integrity/ethical conduct.

personal/professional activities,<sup>55</sup> in which DF recipients had significantly greater involvement than CGS recipients. In addition, DF students were less likely than CGS students to participate in internships and international student exchanges as part of their doctoral degree program. These findings are not likely explained by DF students' ability to complete their degrees abroad.<sup>56</sup>

### International experience

As previously noted, DF recipients can hold their awards at foreign institutions. This flexibility seems to have conferred some benefits to recipients. According to survey evidence, 61.2% of DF recipients reported having some sort of academic experience abroad, and more than one quarter (29%) completed their entire degree at a foreign university. While DF recipients with such international experience feel strongly about the value of this experience in their education and later careers, international experience is not at all or slightly important (1 or 2 on a seven-point scale) to their career objectives for half (52.2%) of DF recipients overall.

### 3.2.3 EQ6. DF's contribution to the development of HQP holding research intensive positions in various sectors in Canada and internationally

*The DF has contributed to students' ability to complete their degrees, but did not shorten the time to completion for these students. The evaluation also found clear evidence that the DF has increased DF recipients' ability to hold research-intensive positions in Canada and, to a lesser extent, abroad. Former DF recipients are more likely to be working, earn a higher income, and are more likely to be working in academia or other research-intensive positions, than non-recipients. Those working in universities are more likely to be research faculty than non-recipients, and less likely to be adjunct faculty. They report working in careers more closely related to their degree program, and consider their doctoral training more useful in preparing them for their careers, than non-recipients.*

### Time to completion, degree completion

The evaluation confirms that the DF contributed to most recipients completing their study programs. For the first cohort (2004-09), DF recipients were more likely to indicate having completed their degree (90%) than both CGS holders (82%) and non-recipients (81%). However, holding an award did not appear to have an impact on the amount of time to complete a PhD. Indeed, survey results indicate that the median time to completion reported was similar across the three groups (five years and two to five months).

It is worth noting that a series of factors other than the availability of funding support are likely to have an influence on the time to completion, such as the location of completion (e.g., in a Canadian institution vs. a foreign institution), personal/professional issues requiring absences of leave, or the type of academic program (e.g., combined master's/PhD).

### Ability to hold research-intensive positions in Canada and abroad

The DF has also contributed to past recipients' ability to hold research-intensive positions in Canada. Evidence from surveys suggests that DF recipients in the earlier cohort were more likely to be working

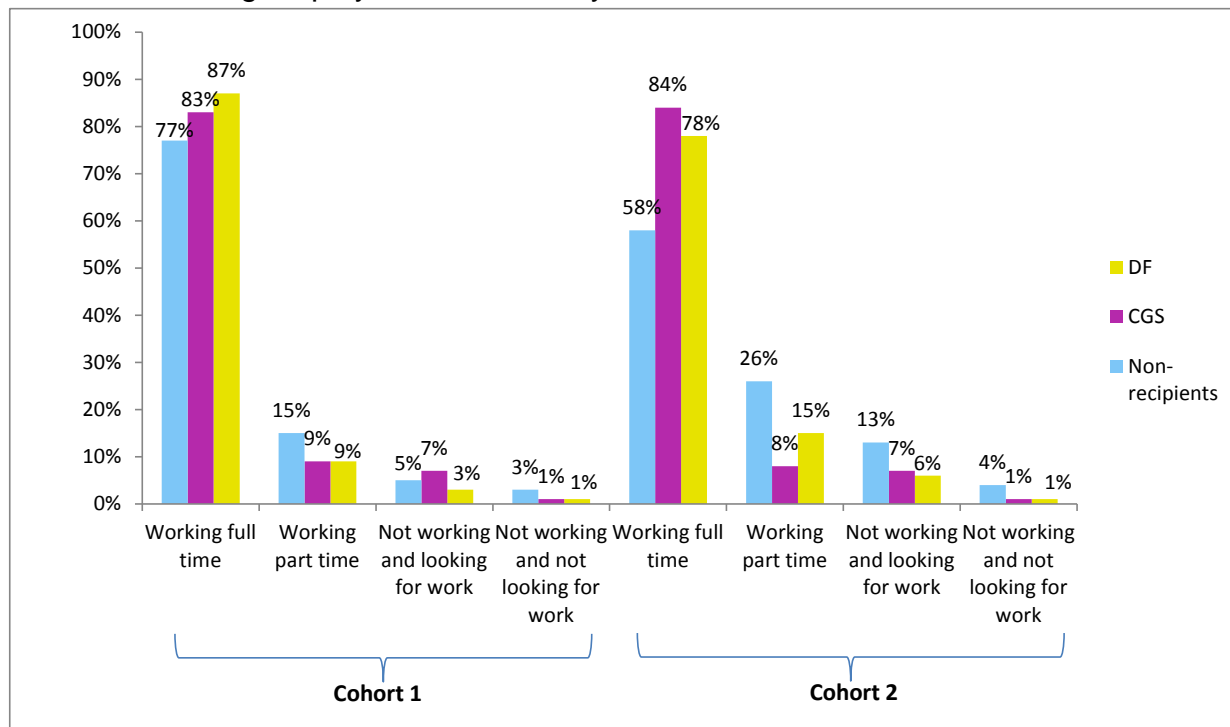
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<sup>55</sup> "Soft-skill" personal/professional areas include networking and collaboration; interpersonal communication; leading/influencing others within the academic community; critical and creative thinking; building global linkages and international networks; and digital activities (i.e., locate, organize, understand, evaluate, create and share information using digital technology).

<sup>56</sup> DF recipients who completed their studies abroad did not have significantly different responses from those who studied in Canada regarding involvement in skill-development activities and internships and exchanges.

full time than non-recipients (81% vs. 77%; Figure 2). In comparison, the DF percentage is slightly lower than the percentage of SSHRC award recipients (90%) who reported having full-time employment in 2012.<sup>57</sup> With respect to the sector of employment (Figure 3), DF recipients are most likely to be employed in a university (84% in the earlier cohort), a level similar to CGS recipients (81%) but much higher than non-recipients (70%). The document review found similar rates for DF and CGS recipients. Respondents working in universities indicated that when it came to the type of work performed, DF recipients were more likely than non-recipients to be part of the research faculty (58% vs. 43%), and less likely to be adjunct faculty (9% vs. 16%). Furthermore, DF recipients from the earlier cohort who were employed in sectors other than academia were twice as likely as non-recipients (51% vs. 27%) to work as researchers.

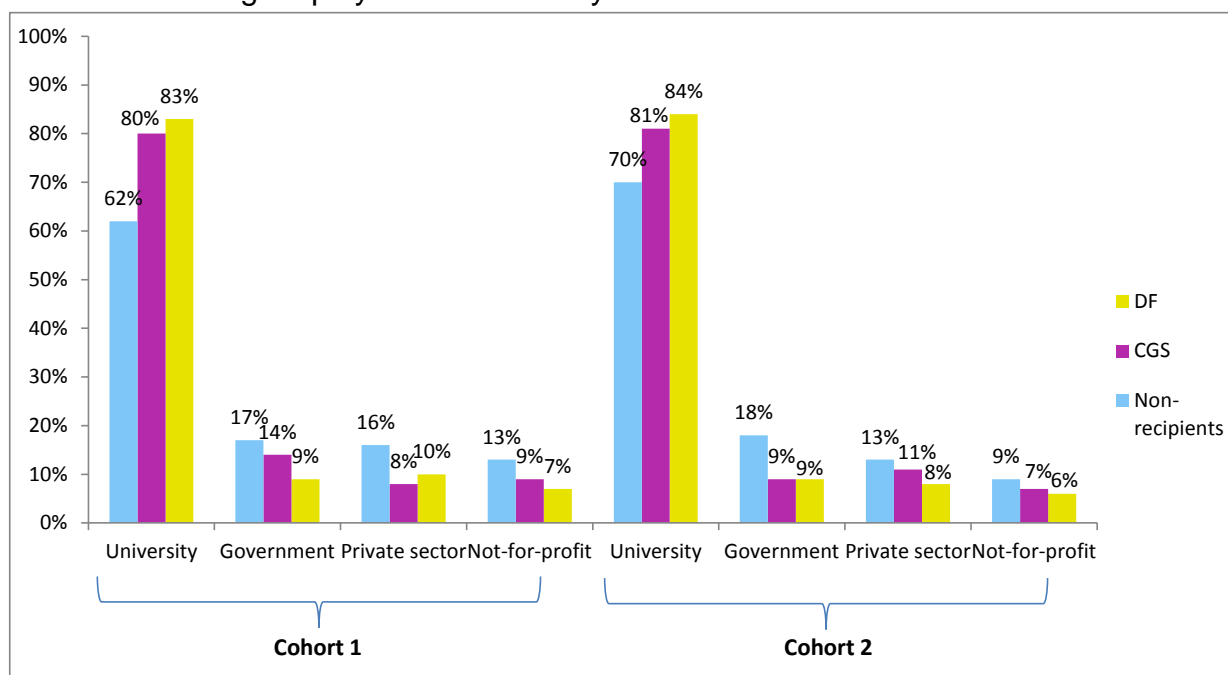
**Figure 2** Employment status of DF, CGS recipients and non-recipients who reported being employed as of January 2015



Source: Survey of DF recipients, CGS-D holders and non-recipients

<sup>57</sup> Social Sciences and Humanities Research Council (2012). *Survey of SSHRC Award Recipients*. Ottawa, ON: Ekos Research Associates Inc.

**Figure 3** Sector of employment of DF, CGS recipients and non-recipients who reported being employed as of January 2015



Source: Survey of DF recipients, CGS-D holders and non-recipients

Surveyed DF recipients reported working in careers more closely related to their degree program than non-recipients did (91% vs. 79%) and also considered their doctoral training more useful in preparing them for their careers than non-recipients did. DF recipients from the earlier cohort are also less likely (15%) to be in a junior position than non-recipients (30%) and more likely to lead or influence others within their organizations. Finally, regarding salaries, DF recipients in cohort 1 reported an annual average income of \$80,413, a greater amount than both CGS holders and non-recipients.<sup>58</sup> In the second cohort, DF recipients who completed their degrees in Canada report a higher income than those who studied abroad.

While the above findings indicate that the receipt of a DF has had a positive influence on hiring decisions, other factors were reported by interviewees as having a strong influence on career opportunities. These included the number and quality of publications,<sup>59</sup> the involvement and quality of the applicant's supervisor, the institution they attended, the availability of tenure positions in the academic sector, and the needs of the employer. With respect to this latter element, the interview evidence found that, outside the academic sector, employers valued candidates holding a PhD to fill research-intensive positions. However, for non-research-intensive positions, the employers interviewed generally tended to consider master's graduates as more employment-ready than PhDs — although this finding should not be generalized due to low sample size (n=5).

While the DF encourages students to gain international experience, this experience may be brought back to Canada to enrich Canadian research. When compared to CGS holders and non-recipients, more surveyed DF recipients in the earlier cohort reported living abroad at the time of the survey (14% for

<sup>58</sup> CGS holder salary (mean): \$72,716.53. Non-recipient salary (mean): \$74,596.70.

<sup>59</sup> Most current and past students stated that the DF allowed them to publish a lot more than stipend recipients, which in turn gives them an edge when competing in the job market.

CGS, 11% for non-recipients, and 22% for DF). This is related to the fact that the DF allows students to study abroad: among those who completed their degrees abroad in the later cohort, 50% were living abroad at the time of the survey. Unfortunately statistics for the earlier cohort are not available, but they may be assumed to be lower, as most DF respondents living abroad believed they were likely to return to Canada.

### 3.2.4 EQ7. Extent to which the type of student support contributed to students' research productivity and knowledge dissemination and researchers' research productivity

*Evidence confirms that the DF played an important role in the students' production and dissemination of research outputs, in the form of authored and co-authored peer-reviewed articles, research papers, chapters and technical publications, as well as conference presentations.*

#### Production of research outputs

Interview and survey evidence suggested that the DF award positively influenced the quantity of research output produced by DF holders. Indeed, as shown in Table 2, surveyed DF recipients reported having produced on average more authored and co-authored peer-reviewed articles, research papers, chapters and technical publications, and reported having given more conference presentations during their degree program than did non-recipients. A plausible explanation for this came from some interviewees who suggested that DF students have more time and financial latitude to engage in output production and knowledge dissemination at conferences than those not holding the award.

Among DF recipients, respondents from the social sciences reported having published a greater number of peer-reviewed articles and given more conference presentations than those from the humanities. Unsurprisingly, DFs in the humanities produced a greater number of art installations, productions and exhibitions than social sciences respondents.

**Table 2** Average number of research outputs produced during degree program

Research Outputs	DF	Non-recipients
Peer-reviewed articles	2.54	1.71 *
Research papers, books, book chapters and technical publications	1.65	1.30 *
Grey literature products	1.34	1.25
Conference presentations	9.29	7.24 *
Conference presentations at international conferences	4.63	3.47 *
Art installations, productions and exhibitions	0.58	0.71
Research tools	0.77	0.84
Tools for research-related activities	0.69	0.59
Patent applications	0.00	0.01
Patents granted	0.00	0.01
Other intellectual property (IP) claims filed	0.09	0.12
Other IP claims granted	0.09	0.11

Note: Cohort 2 (2009-12)

\*Differences from DF responses are significant ( $\alpha = 0.05$ )

Source: Survey of DF recipients, CGS-D holders and non-recipients

## Knowledge Dissemination

According to survey evidence, when DF-funded research has an impact it is primarily on research (i.e., among respondents to described an impact of their DF-funded research, 55% indicated an impact on later research) and to a lesser extent on practice/behaviours in the public and private sectors in (21.3%), and on policy (20.3%). The following are some general examples of the kinds of impacts their DF-funded research made:

- **Impacts on research:** results influenced later research (including citations); research results were used by respondent in later research work, teaching and/or in the development of research skills; methods/tools developed were used in later research; and research results helped to shape academic debate.
- **Impacts on practice/behaviours:** research results changed behaviours of study participants; research results improved relationships between diverse groups or across sectors; research results were incorporated into guidelines.
- **Impacts on policy:** research results influenced strategic planning in the public sector; research results influenced legislation; research results influenced international agreements (e.g., trade).

### Influence of DF on researchers' productivity

Evidence of the effect of the DF on established researchers' productivity was not consistent. In fact, interviewees consulted were split on this question, with some of them indicating that they did not see a direct link between their research and DF students' research, while some others praised being around innovative students and collaborating with them on publications. This difference of opinion may be dependent on the extent to which students worked on the researchers' projects.

## 3.3 Performance: Efficiency and Economy

### 3.3.1 EQ8: Are the most effective and efficient means being used to deliver the DF?

#### **EQ8.1. Can the efficiency of the delivery be improved (i.e., can outputs and outcomes be achieved in a more affordable manner)?**

*Overall, the evaluation found that the DF is delivered in a cost-efficient way. A few areas for improvement were highlighted by stakeholders, but evidence was found that internal measures have already been taken to address these and other efficiency-related issues.*

Results from the Program Efficiency Analysis showed that overall the DF was delivered in an efficient manner. The DF was found to have a low average percentage of administrative expenditures compared to total expenditures (6%) over the period from 2009-10 to 2013-14, declining from 6.08% to 5.92% in this period (Table 4). Typically, this percentage is expected to represent less than 10–15% of total expenditures.<sup>60</sup> The ratio of administrative expenditures to grant expenditures was also low: administering the DF costs approximately \$6 per each \$100 of DF funds granted. Part of the reason for the efficiency of the DF is because of the volunteer time spent on peer review and committee activities. The value of this volunteer time is estimated at \$1,176,000 over the period from 2009-10 to 2013-14, representing a savings of approximately 13% over total administrative costs for the funding

<sup>60</sup> This is an estimate based on a review of other evaluations and reviews of S&T programs, as there is no commonly accepted benchmark for this percentage. Note that it is recognized that it can vary based on the characteristics of the program (e.g., delivery model, types/number of beneficiaries, maturity of the program).

opportunity.<sup>61</sup> Another explanation for the efficiency observed is the delegation of part of the selection process to Canadian universities, who must undertake the first round of selection.

**Table 3 DF percentages and ratios of administrative to grant expenditures from 2009-10 to 2013-14**

Fiscal Year	Total Grant Expenditures	Total Administrative Expenditures	Administrative Expenditures per \$100 of Grant Expenditures	% Administrative Expenditures / (Grant Expenditures + Administrative Expenditures)
2009-10	\$26,967,055	\$1,746,517	6.48	6.08
2010-11	\$26,095,005	\$1,806,877	6.92	6.48
2011-12	\$23,351,838	\$1,527,421	6.54	6.14
2012-13	\$23,115,706	\$1,405,167	6.08	5.73
2013-14	\$23,307,020	\$1,467,708	6.30	5.92
<b>Total</b>	<b>\$122,836,624</b>	<b>\$7,953,689</b>	<b>6.48</b>	<b>6.08</b>

Source: DF financial datasets from NSERC-SSHRC Finance Division and program areas

The efficiency of a program is best assessed in light of other comparable programs. In that respect, the evaluation found that there was no meaningful difference between the cost-efficiency ratios (administrative to grant expenditures) of the DF and those of three Canadian comparators—namely, the SSHRC PDF, the SSHRC CGS and the NSERC PGS funding opportunities (Table 4). The DF ratio of administrative to grant expenditures more closely resembled that of the SSHRC CGS (another funding opportunity for graduate students in the social sciences and humanities) than that of the SSHRC PDF for recent graduates of doctoral programs in the social sciences and humanities, or the NSERC PGS funding opportunity for graduate students in the natural sciences and engineering. The similarities to the SSHRC CGS is to be expected as both funding opportunities are administered within the same process.

**Table 4 Cost-efficiency ratio for DF and its comparators (2009-10 to 2013-14)**

Funding Opportunity	Grant Expenditures	Administrative Costs	Administrative Expenditures/ Grant Expenditures	% Administrative Expenditures/ (Grant Expenditures + Administrative Expenditures)
DF	\$ 122,836,624	\$ 7,953,689	6.48	6.08
PDF	\$53,681,036	\$3,652,906	6.80	6.37
SSHRC-CGS	\$360,609,588 <sup>62</sup>	\$23,198,968	6.43	6.04
NSERC PGS	\$166,337,468	\$9,103,045	5.47	5.19

Source: DF financial datasets from NSERC-SSHRC Finance Division and program areas

### Satisfaction with program delivery

Overall, evidence from interviews and from the student survey reveals a good level of satisfaction with regard to program delivery in all aspects. Most notably, surveyed DF recipients showed the highest level of satisfaction with the information available on the existence of the scholarship (90%), the information available about how to apply for the scholarship (89%) and the monetary value of the award (85%).

<sup>61</sup> Estimate based on KPMG (2014). *Estimated Monetary Value of Merit Review*. Ottawa: Social Sciences and Humanities Research Council of Canada.

<sup>62</sup> This amount includes the administrative costs for SSHRC-CGS-Master's.

However, interviews and focus groups found the majority of current DF students, deans and liaison officers would like the DF award amount increased to better cover the basic needs of students.

The consultation processes revealed other aspects of the DF design and delivery that might require further improvements. Interviewees suggested that the DF should make further efforts to improve the transparency around the scoring and eligibility criteria. This was confirmed by survey results indicating that, although the majority of respondents were generally satisfied with all aspects of program delivery, they were the least satisfied with the clarity of the selection process (54% satisfied) and the fairness of the selection process (57% satisfied). Some interviewees expressed a need to clarify eligibility of applications for multidisciplinary research involving health-related disciplines as, according to them, even though applications go through a formal assessment process at universities (with review by multiple individuals), these applications are not approved by SSHRC. Many interviewees also requested that that detailed feedback, or at least the individual score, be provided to unsuccessful applicants to help them improve future applications.

Finally, interviewees advocated for the implementation of an electronic application and reporting system. They explained that the current system is not user-friendly for students and that it is very time-consuming and onerous for deans and liaison officers to scan applications and make them available to reviewers at their university. They also noted that paper applications and letters of recommendation still have to be forwarded to SSHRC. Some students also seemed to be unaware that they could submit their reports by email as they noted that they had to fax their annual and bi-annual reports and never received a confirmation that the forms were received.

### **Measures already in place to improve DF delivery**

Documentary evidence indicated that internal initiatives are already underway to improve the effectiveness and efficiency of SSHRC's governance, management and service delivery, some of which may address issues identified in the survey and interviews. It is worth noting that some of the recent changes in the way SSHRC interacts with the community were likely not highlighted by former students involved in the evaluation because they did not benefit from these changes, having received their award in 2003 at the latest.

For instance, interviewees suggested clarifying the eligibility criteria for multidisciplinary applications. However, according to evidence from program documents, the treatment of multidisciplinary applications has been streamlined over the past 10 years and a great deal of support has been given to institutions in order for them to send the applications to the correct granting council (CIHR, NSERC or SSHRC). More specifically, the guidelines regarding subject-matter eligibility for health-related research were made available to the community in 2009.<sup>63</sup>

With respect to the clarity and transparency in the selection process, a generic merit review guide is available on SSHRC's website.<sup>64</sup> This guide provides the community with the principles to be observed by reviewers in order to ensure that the review process is conducted with the "highest standards of excellence and impartiality."<sup>65</sup> In addition, efforts have been made to align scoring practices across SSHRC programs. As for the communication of feedback to unsuccessful applicants, a document outlining the selection procedures accompanies the results letters sent to applicants at the end of each

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<sup>63</sup> SSHRC. (2014). Subject Matter Eligibility. [webpage]. Retrieved from [http://www.sshrc-crsh.gc.ca/funding-financement/apply-demande/background-reseignements/selecting\\_agency-choisir\\_organisme\\_subventionnaire-eng.aspx](http://www.sshrc-crsh.gc.ca/funding-financement/apply-demande/background-reseignements/selecting_agency-choisir_organisme_subventionnaire-eng.aspx)

<sup>64</sup> SSHRC. (2014). Merit Review [webpage]. Retrieved from [http://www.sshrc-crsh.gc.ca/funding-financement/merit\\_review-evaluation\\_du\\_merite/index-eng.aspx](http://www.sshrc-crsh.gc.ca/funding-financement/merit_review-evaluation_du_merite/index-eng.aspx)

<sup>65</sup> Ibid.



competition. In order to further clarify the selection process, this document was revised in 2010. Furthermore, two internal working groups are currently exploring ways to communicate results and provide feedback to applicants in a consistent manner for all funding opportunities administered by SSHRC.

Other efforts that are already underway to improve the effectiveness and the efficiency of SSHRC's governance, management and service delivery include the implementation of a new electronic grants management system and the development of performance measurement strategies for each of the SSHRC's programs.

## 4 Conclusions

### Relevance

Overall, the evaluation found that SSHRC's Doctoral and Postdoctoral Fellowships sub-program is aligned with federal government priorities as outlined in the 2014 Science, Technology and Innovation Strategy.<sup>66</sup> By awarding fellowships to doctoral and postdoctoral researchers who are to become the next generation of researchers and leaders across sectors,<sup>67</sup> the sub-program directly contributes to the achievement of the federal goal to support the brightest minds to make ground-breaking discoveries and to push the frontiers of knowledge.<sup>68</sup> Given the focus of the sub-program's objectives on developing this next generation of researchers and leaders, it is also aligned with SSHRC's Strategic Outcome 1: "Canada is a world leader in social sciences and humanities research and research training."<sup>69</sup>

The evaluation evidence confirmed that there is a continued demonstrable need for the Doctoral Fellowships funding opportunity (DF). The federal government support to doctoral students is critical at a time when the Canadian labour market is facing an anticipated increase in demand for university graduates for knowledge-intensive occupations across various sectors. However, despite this anticipated growth in knowledge-intensive positions, current trends show that the number of SSH position vacancies in Canadian universities has been decreasing sharply since 2006, while the number of SSH doctoral graduates has been growing steadily over the years. These findings point to a need for increased awareness of the role of a SSH PhD outside of academia.

The DF also responds to students' need to focus on fulfilling the requirements of their degree and pursuing their own research interests while alleviating economic pressures. Financial imperatives, including debt incurred over the course of study, can otherwise require students to spend a substantial amount of time in paid employment in addition to attending to their academic activities.

In the fields pertaining to the social sciences and humanities, the Doctoral and Postdoctoral Fellowships sub-program delivered by SSHRC supports talented graduate students and postdoctoral researchers with the purpose of developing researchers and leaders ready to integrate into the labour market. These objectives were found to be consistent with SSHRC's roles and responsibilities as stated in the *SSHRC Act*, which are to promote and support postsecondary-based research and training in SSH. Other programs in Canada and abroad also provide funding to doctoral and postdoctoral students, but the evaluation found little overlap between these programs and SSHRC's Doctoral and Postdoctoral Fellowships sub-program, notably because other programs have non-cumulating rules.

### Performance

The DF has made progress in achieving several of its immediate outcomes. The DF has enabled students to successfully complete their degree, by allowing them to focus more on their research interests. The DF has also provided award holders with opportunities to gain international experience

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<sup>66</sup> Industry Canada. (2014). Seizing Canada's moment: Moving forward in science, technology and innovation [webpage]. Retrieved from: <http://www.ic.gc.ca/eic/site/icgc.nsf/eng/07481.html>

<sup>67</sup> Social Sciences and Humanities Research Council. (2012). *Survey of SSHRC award recipients*.

<sup>68</sup> Industry Canada. (2014). Seizing Canada's moment: Moving forward in science, technology and innovation [webpage]. Retrieved from: <http://www.ic.gc.ca/eic/site/icgc.nsf/eng/07481.html>

<sup>69</sup> Social Sciences and Humanities Research Council. (2013). Strengthening Canada's cultures of innovation [pdf]. Retrieved from [http://www.sshrc-crsh.gc.ca/about-au\\_sujet/publications/strategic\\_plan\\_2013-16-plan\\_strategique\\_2013-2016\\_e.pdf](http://www.sshrc-crsh.gc.ca/about-au_sujet/publications/strategic_plan_2013-16-plan_strategique_2013-2016_e.pdf)

and increase the production and dissemination of research findings. DF holders are highly satisfied with the skill-development opportunities they were offered in their degree program.

With regard to the achievement of intermediate outcomes, the DF has contributed to increasing the availability of highly qualified personnel (HQP) in the SSH, by enhancing recipients' ability to hold research-intensive positions in Canada and abroad. In fact, DF recipients enjoyed a higher employment rate and higher income than non-recipients, and in careers more closely matching their degrees.

Overall, the DF is delivered in an efficient manner. The evaluation found that there was no meaningful difference between the efficiency ratios (administrative to grant expenditures) of the DF and those of three Canadian comparators, namely the SSHRC PDF, the SSHRC CGS and the NSERC PGS funding opportunities.

A few areas of improvement related to the delivery of the DF were identified. The transparency around the eligibility and scoring criteria and the selection process emerged as aspects requiring particular attention from management. SSHRC's paper-based application system was also considered a time-consuming and onerous process that should be replaced by a fully online, user-friendly system.

SSHRC has already been working on implementing internal initiatives to improve the effectiveness and efficiency of the SSHRC's governance, management and service delivery, some of which may address the above issues. For instance, documents and guidelines outlining the criteria applied to assessing and selecting applications have been reviewed and made public through the council's website. Also, various efforts have been made to align scoring practices across SSHRC programs. SSHRC is also currently exploring ways to communicate results and provide feedback to students in a consistent manner for all funding opportunities administered by SSHRC. Finally, SSHRC is planning on implementing an electronic application and reporting system for the DF and other fellowship programs.

## 5 Recommendations

***Recommendation 1: The DF should continue to receive support at the federal level given its high relevance, clear contribution to expected outcomes and efficient delivery.***

The evaluation demonstrated that there is clearly a continued need for the DF, given the expected increase in demand for knowledge-intensive positions at the macro level, and students' need for financial support to focus more time on their research at the micro level. On the latter, DF was found to be effective in providing SSH doctoral students with the financial support needed to produce and disseminate their research findings and successfully complete their degree. Compared to non-recipients, DF also clearly contributed to enhancing recipients' ability to hold research-intensive positions within and outside academia. Furthermore, the evaluation found that the Doctoral Fellowships funding opportunity is delivered in an efficient manner and that ongoing efforts are made to address design and delivery issues.

***Recommendation 2: The DF should update and revise the current form administered at the end of the tenure of the fellowship, in order to develop an electronic achievement reporting process.***

There was a wide consensus among interviewees that there is a need for a more user-friendly, online reporting system. The evaluation found that, while efforts are underway to complete the implementation of the electronic grant management system, there is still room for improvement regarding the reporting of students' research achievements.

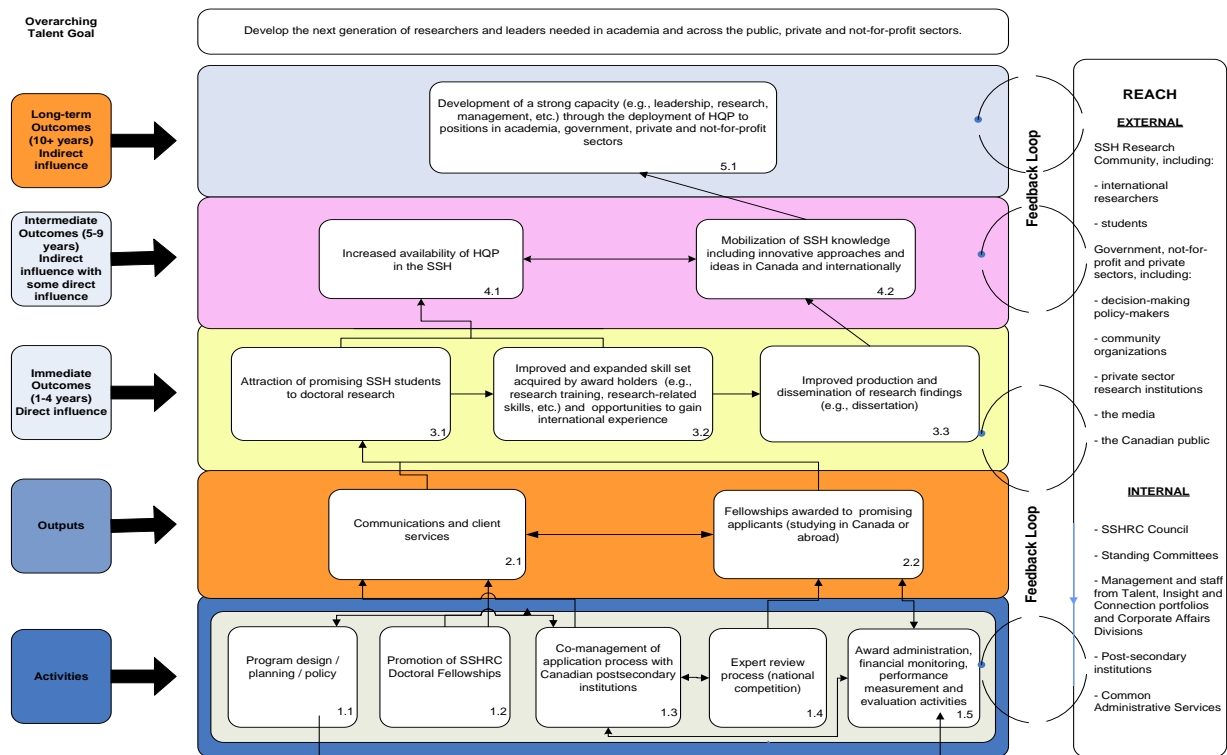
***Recommendation 3: In collaboration with universities, SSHRC should promote the acquisition of professional skills by doctoral students – awardees and non-awardees alike.***

This recommendation stems from several findings indicating a need to increase awareness of and better prepare doctoral students for employment outside of academia. In particular, the evaluation noted that doctoral enrolment has been increasing steadily while the number of faculty appointments has been decreasing drastically over the past ten years. Survey results also indicate that a notable proportion of respondents, particularly among non-recipients, hold a position outside of the academia.

***Recommendation 4: The Doctoral Fellowships funding opportunity should develop and implement a system to monitor the effectiveness of measures taken to better communicate eligibility and scoring criteria.***

The evaluation found evidence that DF recipients would like the application and selection process to be more clear and transparent. Evidence was also found of a need for detailed feedback provided to unsuccessful applicants to help them improve future applications. DF management indicated that efforts have already been made in the past few years to clarify, standardise and better communicate information related to the eligibility and scoring criteria and the results of the selection process. It is likely that some of these changes were not acknowledged by former students involved in the evaluation because they did not benefit from these changes, having received their award in 2003 at the latest. This is why the evaluation did not recommend making further changes but suggested implementing a monitoring system to track improvements resulting from changes already made and make incremental adjustments as needed.

# APPENDIX A – Doctoral Fellowships Logic Model



Source: Evaluation of the Doctoral and Postdoctoral Fellowships Program Design Report (2014).

## APPENDIX B – Doctoral Fellowships Logic Model Narrative

### Activities

- A1.1 – Program design/planning/policy
  - Program design, planning and policy include the formulation and modification of policies, regulations and processes. It involves input from SSHRC management and governing Council, as well as from merit review committees, postsecondary institutions and the broader community. SSHRC staff makes design adjustments.
- A1.2 – Promotion of SSHRC Doctoral Fellowships
  - Facilitation of contacts and information-sharing with potential applicants and postsecondary institutions. SSHRC, as well as Canadian postsecondary institutions and associations, actively promote the Doctoral Fellowships funding opportunity.
- A1.3 – Co-management of application process with Canadian postsecondary institutions
  - SSHRC is responsible for setting the application deadlines and selection procedures for the Doctoral Fellowships, which are posted on the corporate website. Taking direction from SSHRC, Canadian postsecondary institutions (which have been assigned a quota from SSHRC) co-manage the application process, which involves institutional pre-selection and forward top-ranked applicants to SSHRC for the national competition.
  - SSHRC manages all applications submitted directly from students who, at the time of application, are registered at Canadian postsecondary institutions without a quota as well as those who are not currently registered at Canadian postsecondary institutions. Top-ranked applicants are sent to the national competition.
- A1.4 – Expert review process (national competition)

Management of all aspects of the expert review process, including identification of committee members, coordination, communication and notification of the competition outcomes to applicants. National multidisciplinary selection committees evaluate applications forwarded by the pre-selection committees and by Canadian postsecondary institutions.

- A1.5 – Award administration, financial monitoring, performance measurement and evaluation activities
  - Guidance and assistance to doctoral students in the management of their awards;
  - Financial disbursements, accounting, and audit activities;
  - Performance measurement and program evaluation activities;
  - Additionally, Canadian postsecondary institutions provide confirmation of ongoing eligibility, and financial and award reporting and feedback.

### Outputs

- O2.1 Communications and client services
  - Provision of an enabling environment for doctoral students, such as functional and effective design features (e.g., application material) and policies in support of the Talent program and SSHRC Doctoral Fellowships objectives).
  - Facilitation of information-sharing with the research community such as publicly accessible information and promotional materials (e.g., websites, webinars, videoconferences, guides, etc.)

- Reports on competitions (e.g., performance, financial, statistical, etc.) Production of core outputs of key aspects of the SSHRC Doctoral Fellowships in the form of various reports and related documentation: program monitoring and analysis, financial management, communication, and program performance and evaluation related activities.
- Client satisfaction by means of timely and effective contacts with potential applicants, current award holders and postsecondary institutions (e.g., telephone, emails).
- O2.2 Fellowships awarded to promising applicants (studying in Canada or abroad)
  - A successful expert review process which produces a rank-ordered list of the meritorious applicants based on established evaluation criteria.
  - Following this process, candidates are offered a SSHRC Doctoral Fellowship, a Joseph-Armand Bombardier Canada Graduate Scholarship or a choice of either, based on the candidate's overall ranking and the relevant eligibility criteria.

### Immediate Outcomes

Immediate outcomes refer to external consequences (e.g., changes, benefits) attributed to the funding opportunity as a direct result of an activity taking place or an output being produced. Immediate outcomes take place over the short term (one to four years).

- IM3.1 – Attraction of promising SSH students to doctoral research
  - Attraction of the top candidates to apply to the SSHRC Doctoral Fellowships and Joseph-Armand Bombardier CGS scholarships. As a result of the two-stage competitive expert review process, the awards are ensured to the best and brightest doctoral students.
- IM3.2 – Improved and expanded skill set acquired by award holders (e.g., research training, research-related skills, etc.) and opportunities to gain international experience
  - The award will improve recipients' access to high-quality training from leading researchers (e.g., supervisors) in their fields. The Doctoral Fellowships funding opportunity is expected to contribute significantly to:
    - research training (e.g., opportunities to focus on gathering data, conceptual and methodological skills, etc.);
    - enhanced research training and research-related skills (e.g., teaching, publication and research communication skills, project management skills, etc.);
    - increased opportunities to gain international exposure, through such activities as participation in national and international conferences, research training and scholarly visits; and
    - employability of candidates.
  - Adequate institutional infrastructure in support of the doctoral students. Postsecondary institutions, both in Canada and internationally, provide an enabling environment to support the research goals of the doctoral students.
- IM3.3 – Improved production and dissemination of research findings (e.g., dissertation)
  - Production of doctoral work—whether dissertation or research findings, e.g., field work reports, papers and posters, recitals, or exhibits.

### Intermediate Outcomes

Intermediate outcomes refer to external consequences that flow from the immediate outcomes, and tend to take place over the medium-term (usually five to nine years).

- INT4.1 – Increased availability of HQP in the SSH
  - Improved training (i.e., DF) will contribute to the increase in the pool of HQP in Canada, leading to:
    - increased numbers of doctoral students completing degrees and doing so in a timely manner; and
    - ensuring that there is an adequate supply of HQP in the faculties of Canadian postsecondary institutions as well as an increased capacity to meet demand in private, not-for-profit and public sector organizations.
- INT4.2 – Mobilization of SSH knowledge, including innovative approaches and ideas in Canada and internationally
  - Top candidates, along with enabling environments and mentorship, improve Canada’s capacity to generate and apply new knowledge.
    - Research results will lead to innovative reports, publications, collaborations or communications in Canada and abroad (e.g., conference presentations).
    - Identification and creation of appropriate channels (e.g., audiences, networks, tools and websites, social media) through which the knowledge produced by the research is mobilized and disseminated.

### **Long-Term Outcome**

The long-term outcome is an external consequence to which the intermediate outcomes contribute (along with other factors beyond the funding opportunity) and supports the overall objectives of the SSHRC Doctoral Fellowships, and ultimately, SSHRC’s Talent umbrella program.

- LT5.1 - Development of a strong capacity (e.g., leadership, research, management, etc.) through the deployment of HQP to positions in academia, government, private and not-for-profit sectors
  - Improved research training (e.g., DF) will contribute to increasing the pool of HQP in Canada, leading to:
    - faculty renewal at Canadian postsecondary institutions; and
    - research-intensive careers across other sectors.

### **Link to Overarching Talent Strategic Outcome**

The SSHRC Doctoral Fellowships is a key component of the SSHRC Talent umbrella program, and, together with the other funding opportunities for doctoral students, contribute to:

- fostering the development of HQP in the SSH in order to build the next generation of researchers and leaders across society, both within academia and across the public, private and not-for-profit sectors, and ultimately, contributing to Canada’s success in the globalized 21st century.



## APPENDIX C – Data Collection Matrix

Evaluation Questions	Indicators	Methods and Data Sources
<b>Relevance</b>		
1. Does the Doctoral and Postdoctoral Fellowships program continue to be consistent with SSHRC's and government-wide priorities?	a. The extent to which program objectives are aligned with SSHRC and government priorities	<ul style="list-style-type: none"> <li>▪ Document/literature review</li> </ul>
2. To what extent is there a continued need to support students and fellows during their graduate studies and postdoctoral research?	a. The extent to which there is evidence for a continued need for stipends paid through researchers' grants and excellence-based scholarships and fellowships at the graduate and postdoctoral level in the current national and international context (e.g., demographic trends, labour market trends, enrolment rates, financial situation of students, including the rate of enrolled students that receive DF vs. other sources of funding)	<ul style="list-style-type: none"> <li>▪ Document/literature review</li> <li>▪ Student surveys</li> <li>▪ Key informant interviews</li> </ul>
	b. The extent to which ending the funding opportunity would have a perceived negative impact on the availability of HQP in the SSH	<ul style="list-style-type: none"> <li>▪ Student surveys</li> <li>▪ Key informant interviews</li> <li>▪ Interviews with university representatives</li> <li>▪ Focus groups</li> </ul>
	c. The extent to which there is a need for PhD graduates with international experience gained abroad	<ul style="list-style-type: none"> <li>▪ Student surveys</li> <li>▪ Focus groups</li> <li>▪ Key informant interviews</li> <li>▪ Document/literature review</li> </ul>
	d. The extent to which program stakeholders and experts perceive the DF program design appropriate to meet the current need compared to international models identified in the document/literature review (or other options)	<ul style="list-style-type: none"> <li>▪ Document/literature review</li> </ul>
3. To what extent is there a necessary role for the federal government to support students during their graduate studies and postdoctoral research?	a. The extent to which there is a rationale for the federal government's role in providing scholarship and fellowship funding opportunities as well as stipends paid from researchers' grants	<ul style="list-style-type: none"> <li>▪ Document/literature review</li> <li>▪ Key informant interviews</li> </ul>
	b. The extent to which overlaps are absent between the DF and financial incentives offered to students at receiving, foreign universities (i.e., absence of reduction in financial support from receiving universities as a result of the doctoral fellowship)	<ul style="list-style-type: none"> <li>▪ Student surveys</li> </ul>
<b>Performance: Effectiveness</b>		
4. To what extent has the DF attracted promising students to doctoral research? (IM3.1)	a. The extent to which the scope of student participation (including both applicants and awardees) in DF meets management and stakeholder expectations (i.e., in terms of gender, discipline, official language, financial situation, excellence [e.g., GPA, ability to secure subsequent scholarship/fellowships, research outputs], equity group [e.g., aboriginal, disabled, visible minorities], dependants)	<ul style="list-style-type: none"> <li>▪ Administrative data review</li> <li>▪ Student surveys</li> <li>▪ Document/literature review</li> </ul>
	b. The extent to which DF has had the expected	<ul style="list-style-type: none"> <li>▪ Administrative data review</li> </ul>

	<p>impact on students' goals related to their studies (e.g., level of degree, importance of financial incentives, country of study, application to PDF)</p>	<ul style="list-style-type: none"> <li>▪ Student surveys</li> <li>▪ Focus groups (students)</li> <li>▪ Key informant interviews</li> </ul>
	<p>c. The extent to which the postsecondary institutions' approach to delivering DF meets expectations of senior management and key stakeholders in terms of rigour and fairness (e.g., recruitment process, selection process, selection criteria, inclusion of equity groups)</p>	<ul style="list-style-type: none"> <li>▪ Interviews with university representatives</li> <li>▪ Student surveys</li> <li>▪ Key informant interviews</li> </ul>
<p>5. To what extent has the type of support received contributed to students' training environment, experiences, skills and professional networks? (IM3.2)</p>	<p>a. The extent to which the DF has had the expected impact on students' training environment (e.g., collaborative, multi-disciplinary, multi-sectoral, multi-site, international environments and interactions; mentee opportunities; flexibility in terms of study focus and choice of university; extent of participation in professional skills training, co-ops and student exchanges funded by other organizations) subsequent acquisition of experience (including international), research skills, professional skills, digital skills, experience and network of contacts</p>	<ul style="list-style-type: none"> <li>▪ Student surveys</li> <li>▪ Key informant interviews</li> <li>▪ Document/literature review</li> </ul>
	<p>b. Perceptions of how and why participation in the DF adds value to the students' training environment and provide students with experiences, research skills, professional skills and contacts</p>	<ul style="list-style-type: none"> <li>▪ Key informant interviews</li> <li>▪ Student surveys</li> <li>▪ Focus groups</li> </ul>
	<p>c. Extent and nature of unintended outcomes</p>	<ul style="list-style-type: none"> <li>▪ Student surveys</li> <li>▪ Focus groups</li> <li>▪ Key informant interviews</li> <li>▪ Interviews with university representatives</li> </ul>
<p>6. What has been the DF program's contribution to the development of HQP holding research intensive positions in various sectors in Canada and internationally? (INT4.1, LT5.1)</p>	<p>a. The extent to which the DF has had the expected impact on degree completion, time to completion</p>	<ul style="list-style-type: none"> <li>▪ Student surveys</li> <li>▪ Document/literature review</li> </ul>
	<p>b. The extent to which the DF funding opportunities has had the expected impact on students' career goals (e.g., sector of employment, country of work)</p>	
	<p>c. Perceptions of how and why the type of support students receive have had an impact on their ability to find employment and their longer-term career outlook</p>	<ul style="list-style-type: none"> <li>▪ Key informant interviews</li> <li>▪ Student surveys</li> <li>▪ Focus groups</li> </ul>
	<p>d. The extent to which the DF has had the expected impact on students' employment readiness and career paths (e.g., timing of first job-offer, employment rates, sector of employment; type of position [e.g., leadership, research management, research intensity], salary, country)</p>	<ul style="list-style-type: none"> <li>▪ Student surveys</li> <li>▪ Key informant interviews</li> <li>▪ Document/literature review</li> </ul>
	<p>e. The extent to which the DF has had the expected impact on former participants' career paths compared to CGS recipients and non-recipients</p>	<ul style="list-style-type: none"> <li>▪ Student surveys</li> </ul>
	<p>f. Extent and nature of unintended outcomes</p>	<ul style="list-style-type: none"> <li>▪ Student surveys</li> <li>▪ Focus groups</li> <li>▪ Key informant interviews</li> <li>▪ Interviews with university</li> </ul>

		representatives
7. To what extent has the type of student support contributed to students' research productivity and knowledge dissemination and researchers' research productivity? (IM3.3, To a very limited extent: INT4.2)	a. The extent to which the DF funding opportunities has had the expected impact on students' research outputs (in terms of both quality and quantity) and knowledge dissemination in Canada and abroad and a variety of sectors as well as university researchers' research productivity	<ul style="list-style-type: none"> <li>▪ Student surveys</li> <li>▪ Focus groups</li> <li>▪ Key informant interviews</li> <li>▪ Literature/document review</li> </ul>
	b. Examples of knowledge mobilization resulting from student research outputs	<ul style="list-style-type: none"> <li>▪ Student surveys</li> </ul>
	c. Perceptions on how and why the type of student support has had the expected impact on research productivity and knowledge transfer	<ul style="list-style-type: none"> <li>▪ Student surveys</li> <li>▪ Focus groups</li> </ul>
	d. Extent and nature of unintended outcomes	<ul style="list-style-type: none"> <li>▪ Student surveys</li> <li>▪ Focus groups</li> <li>▪ Key informant interviews</li> <li>▪ Interviews with university representatives</li> </ul>
<b>Performance: Efficiency and Economy</b>		
8. Are the most effective and efficient means being used to deliver the DF?  8.1 Can the efficiency of the delivery be improved (i.e., can outputs and outcomes be achieved in a more affordable manner)?	a. The extent to which the administrative cost of delivering DF is comparable to other, similar funding opportunities delivered by the Council	<ul style="list-style-type: none"> <li>▪ Administrative data review</li> <li>▪ Document/literature review</li> </ul>
	b. The extent to which the Council has put measures in place to ensure that the DF is delivered at optimal cost (i.e., a minimum cost appropriate for the nature and context of the funding opportunity)	
	c. The extent to which DF is perceived as being designed appropriately for achieving outcomes and delivered in an effective and efficient manner (e.g., merit review, adjudication and appeal processes, value of the award, adequacy of performance monitoring for supporting program management and evaluation, design features that alleviate barriers for achieving training outcomes)	<ul style="list-style-type: none"> <li>▪ Student surveys</li> <li>▪ Key informant interviews</li> <li>▪ Interviews with university representatives</li> <li>▪ Focus groups (students)</li> </ul>