



# Council of Graduate Schools

## ***Ph.D. Completion and Attrition: Findings from Exit Surveys of Ph.D. Completers***

### **Executive Summary**

The Ph.D. Completion Project is a seven-year, two-phase project that addresses the issues surrounding Ph.D. completion and attrition. The Council of Graduate Schools (CGS), with generous support from Pfizer Inc and the Ford Foundation, has provided funding to 29 major U.S. and Canadian research universities to create intervention strategies and pilot projects and to evaluate the impact of these projects on doctoral completion rates and attrition patterns. An additional 26 partner universities have participated in various aspects of this project.

This is the third in the series of publications on the Ph.D. Completion Project. The monograph paints a broad picture of the various aspects of the doctoral experience of Ph.D. completers, as reported by the graduates themselves.

### **Data and Methodology**

Institutions participating in the Ph.D. Completion Project were asked to administer exit surveys developed by CGS to graduate students completing their doctoral programs and to those who dropped out or transferred out of the program. CGS received a total of 1,856 surveys from doctoral students who were enrolled in Ph.D. Completion Project programs at 18 institutions from May 2006 through August 2008. Of these 1,406 were from students who had completed their doctoral programs and 59 were from students who had withdrawn from their programs. The remainder had neither completed nor withdrawn or were missing key information on completion/withdrawal status. The small sample size of non-completers precluded comparing their experiences and opinions with those of completers. As a result, the report focuses on the 1,406 students who completed their doctoral program. The distribution of the completers across broad fields was as follows: Engineering—16%, Life Sciences—15%, Mathematics & Physical Sciences—26%, Social Sciences—21%, and Humanities—23%.

The data were analyzed by broad field of study using simple cross tabulations. Because of the need to maintain the confidentiality of the respondents, the data were not disaggregated by institution.

### **Findings**

#### ***Factors that Contributed to Ph.D. Completion***

The survey asked respondents about the main factors that contributed to their ability to complete the degree. Financial support, mentoring/advising, and family support headed the list with a majority of respondents indicating that these factors were important.

Four-fifths (80%) of respondents indicated that financial support was a main factor in their ability to complete their doctoral program. Graduates from Mathematics & Physical Sciences programs were the

most likely to report that financial support was one of the main factors enabling them to complete their degree (83%), followed by Engineering and Life Sciences (both at 82%), Social Sciences (80%), and Humanities (73%).

Overall, 65% of respondents reported that mentoring/advising was a main factor contributing to Ph.D. completion. Graduates from Engineering (70%), Social Sciences (70%), and Mathematics & Physical Sciences (67%) programs were more likely than those in Life Sciences (61%) and Humanities (59%) to report that mentoring/advising was a main factor contributing to completion.

While 57% of all completers said that family (non-financial) support was a major factor in their ability to complete their doctoral program, graduates from Humanities and Social Sciences (60-61%) programs were more likely to rate this factor as important than those in Life Sciences (57%), and Engineering and Mathematics & Physical Sciences (53% each).

### ***Selection of Program***

The reputation of the faculty/program headed the list of reasons for selecting the particular doctoral program, with 60% of respondents citing this as one of the main reasons for selection. Financial support was mentioned by close to half of the respondents (48%) while location/region ranked third on the list, mentioned by 42% of respondents. About two-fifths (39%) of respondents mentioned the university reputation as a reason for selection.

### ***Mentoring/Advising***

Most students had access to an advisor, particularly during the final stages of the doctoral program. A little over 80% reported that they had an advisor during their coursework; 82-83% had an advisor at the preliminary or qualifying examinations stage (where applicable); and 90% had an advisor during the dissertation stage. Humanities graduates were much less likely to report receiving regular feedback from their advisor or their program compared with those in Engineering, Life Sciences, and Mathematics & Physical Sciences (78% versus 87-89%).

Engineering graduates were much less likely to report they had access to a mentor compared with other graduates; only 70% reported having a mentor compared with 77-81% of those in Life Sciences, Social Sciences, and Humanities. Over 90% indicated satisfaction with the quality of their relationship with their mentor and there was little difference by broad field of study. Among those with access to a mentor, Humanities graduates were much less likely to report receiving valuable research guidance compared with Engineering graduates (74% versus 90%) but much more likely to report receiving valuable career/professional guidance from their mentors (76% versus 59%).

### ***Financial Support***

The overwhelming majority of respondents received financial support for their doctoral study (94%) and 70% reported that they were guaranteed multi-year support at the time of admission. Compared with graduates in other fields, Engineering and Humanities graduates were less likely to report that they had been offered guaranteed multi-year funding at time of admission. For example, only 63% of Engineering doctoral students and 66% of Humanities students reported being offered guaranteed multi-year funding at time of admission compared with 72-73% of students in Mathematics & Physical Sciences and Social Sciences and 77% of those in Life Sciences.

Doctoral students in Mathematics & Physical Sciences appeared to have the most generous offers at time of admission, with 22% reporting that their offer included six or more years of guaranteed funding, and

only 13% reporting that they had been offered funding for two to three years. In contrast, only 2% of students in Social Sciences and 8% of those in Humanities reported receiving offers guaranteeing support for six or more years and 25-28% reported funding for two to three years.

Teaching assistantships tended to be more common in Humanities, Social Sciences, and Mathematics & Physical Sciences than in Engineering and Life Sciences (72-81% compared with 51-56%). Among those with teaching assistantships, there appeared to be considerable consensus that being a teaching assistant increased the length of the program, and this was particularly true among Engineering and Life Sciences graduates, 88-89% of whom reported that teaching assistantships had increased the length of the program.

Close to four-fifths (78%) of Engineering graduates had received a research assistantship compared with only 28% of Humanities graduates and 45% of Life Sciences graduates. Among those with research assistantships, there was considerable diversity of opinion regarding its effect on the length of time to degree completion. While 52-54% of Social Sciences and Humanities graduates reported that this type of assistantship increased the length of the program, only 22-25% of those in Life Sciences and Mathematics & Physical Sciences fields did so.

Only 60% of Humanities graduates reported being satisfied with the level of financial support they received during their doctoral program compared with 74% of Social Sciences graduates and 80-85% of those in the Mathematics & Physical Sciences, Engineering, and Life Sciences. This is partly explained by the fact that Humanities students were the most likely to work outside the university during their program, to take out loans to support their study, and to report heavier overall burden of debt.

## **Project Activities and Future Plans**

One of the goals of the Ph.D. Completion Project is to produce the most comprehensive and useful data on attrition from doctoral study and completion of Ph.D. programs yet available. The first monograph from this project reported baseline program completion and attrition data for several cohorts of students, and the second presented data on completion rates by gender, citizenship, and race/ethnicity. This monograph paints a broad picture of the various aspects of the doctoral experience of Ph.D. completers, as reported by the graduates themselves. In addition to the topics included in this executive summary, the monograph includes the perceptions of the completers on the admissions process, the program environment, curricular processes and procedures, and research opportunities. Along with the other two volumes in this series, this monograph provides baseline data on the factors influencing Ph.D. completion against which institutions can measure their own programs and environments and determine how best to allocate limited resources in a constrained budget environment both to help their students attain their goals and to avoid the very real costs that attrition imposes on their students, their institutions, and society as a whole.

Two additional publications will be released from the Ph.D. Completion Project. The first, to be released in late 2009, will report on self-assessments and interventions being implemented by the participating institutions. In 2010, CGS will issue a final project publication, which will include a comprehensive analysis of the quantitative and qualitative data submitted by the partnering universities, as well as a comprehensive description of those policies and practices that appear to have had a demonstrated effect on completion rates and attrition patterns over time.

More detailed information about the Ph.D. Completion Project, including a list of research and project partners, is available on the project website at [www.phdcompletion.org](http://www.phdcompletion.org).