

# Summary

This is the third survey of doctoral students' opinions about their studies. These were previously conducted by Högskoleverket (the National Agency for Higher Education), the predecessor of UKÄ (the Swedish Higher Education Authority), in 2003 and 2008. The idea was to be able to compare the responses to the survey over time and to show any possible trends. For that reason, many of the questions are the same as in previous years. This summary presents the main findings, but many more are available in the individual chapters.

This report presents the responses to the survey. The presentation does not provide any explanation of the findings, but many of the findings should be further explored to leverage them to improve and develop third-cycle education.

The surveyed population comprised 10 000 doctoral students, of whom 4 751 responded. The Doctoral Mirror for 2016 has, therefore, a lower response rate than the previous surveys, at 48 per cent (compared with 66 per cent in 2008 and 72 per cent in 2003). Statistics Sweden has assisted the Swedish Higher Education Authority in implementing a loss analysis and has weighted the material to ensure as far as possible that it is adjusted for known skewed distribution that this can lead to.

## Funding

There are several ways to fund a third-cycle education. The funding forms vary in terms of both social dependability and income level. Employment within or outside of higher education provides the maximum security for doctoral students. Many of them (66 per cent) have doctoral student positions during their third semester or later, and slightly fewer (50 per cent) had such employment from their first semester as a doctoral student. Doctoral students with doctoral employment positions are also the most satisfied with their funding method. According to the Higher Education Ordinance, once doctoral students with educational grants apply, they must be employed as doctoral students at the latest when three years of full-time studies remain, as defined by their individual study plan.

Eighteen per cent of doctoral students state that they had educational grants as their funding during their first semester and three per cent say that they had educational grants during their third semester or later. Almost half (48 per cent) of these state that they were satisfied with this funding.

The third most common form of funding is employment outside the higher education, with private time for research (13 per cent). Of all of the forms of funding, the doctoral students with this type of funding during their third semester or later were the most satisfied (93 per cent).

### Shadow doctoral students

As a shadow doctoral student, i.e. pursuing a doctoral education at researcher level without being formally enrolled, means the lack of both legal rights and security. The doctoral educational reform of 1998 means, among other things, that funding of a researcher's education must have been arranged before the studies begin.

The survey showed that almost half (44 per cent) of respondents say that they participated in their research education before they were formally enrolled. The highest proportion of these are found in medicine, the health sciences and the agricultural sciences. In medicine, 55 per cent participate before they are enrolled, 14 per cent of whom participated 12 months or more in doctoral education before they were enrolled. Within agricultural sciences, half (50 per cent) participated before enrolment, most of whom (37 per cent) participated 1-6 months before enrolment.

However, students at advanced level may take courses at researcher level, making it difficult to determine what is meant by the responses.

### The study environment and student welfare

Working and studying in an environment that functions well is a prerequisite for success. Knowing the rules that apply and what is expected and required of the individual provides a solid foundation on which that individual can build their doctoral studies. More than half of respondents are dissatisfied with their introduction to doctoral education and information about their rights and obligations. There is obviously potential for improvement here and with clarifying what is required of students. Slightly more than half of doctoral students say that they think that the requirements set for them are clear. Such lack of clarity may be a contributing factor to more than half saying that they feel stressed and depressed to such an extent that it has negative consequences. Women report more frequently that they feel stressed than men.

More than half of doctoral students (58 per cent) stated that they worked or studied despite being sick, women to a greater extent than men.

The feeling of being involved in a workplace is an important part of a good working environment. However, nearly a third (30 per cent) of doctoral students state that they only slightly or not at all feel like an accepted member of the research community.

According to the Higher Education Act, both undergraduate and doctoral students have the right to exert influence over their educations at universities. Traditionally, this influence is exerted by the student and doctoral student organisations. Compulsory membership in these has ceased and membership numbers are less than in the past. This may be one reason that many respondents (70 per cent) believe that they have no influence on their institution. Influence can also be exerted through course assessments.

### Unauthorised use of research results

Research misconduct can take place in different ways. Examples of research misconduct include someone using another person's research results without crediting the author or authors. A quarter of doctoral students state that their research results have been used without their being credited as the

author or copyright holder. This is most widespread in the research areas of technology and agricultural sciences, where 30 per cent state that this occurs. There is, unfortunately, no information about who or what uses the doctoral students' research results without permission.

#### **Discrimination**

Gender equality and equality of treatment are regulated by law. This means that higher education institutions should work actively to promote equal rights, regardless of gender, ethnic origin, religion or belief, sexual orientation or disability.

The results from the survey, however, indicate that such discrimination occurs. Like to many other situations, zero tolerance is desirable and there is work to be done in this respect at higher education institutions.

The findings show that doctoral students feel that gender is the most common reason for negative treatment, followed by age and ethnic diversity.

One to 2 per cent of doctoral students say they have been sexually harassed. There is a difference between men's and women's responses; more women than men are sexually harassed, mainly by teachers and other educational staff, or other doctoral students.

#### **Mobility**

Keeping track of developments and maintaining contact with one's own and related research areas are prerequisites for success and development in today's world. This can take place in several different ways, including through exchanges with other universities. Eighty-five per cent of respondents complete most of their education at the school in which they are enrolled. The majority (66 per cent) have not conducted temporary studies at other educational institution in Sweden or abroad.

#### **Thesis and courses in English**

The overwhelming majority (85 per cent) write their thesis in English. Furthermore, three quarters respond that courses are held in English to a very great extent. The natural sciences provide most of their courses in English.

#### **Professional knowledge for researchers**

As in other professions, working as a researcher requires professional knowledge. An important part of this is to have a tool box that contains theories and methods for conducting research. When asked how many quantitative and qualitative courses they attend, eight per cent respond that the question is not relevant. four per cent state that the question is not relevant for courses in research ethics.

#### **Reflection and assessment**

Personal development is one of the purposes of higher education. This applies to first, second and third cycle education. However, more than half of the doctoral students respond that their research studies have not resulted in their involvement in social developments and increased understanding for social and cultural differences between the sexes to any great extent.

The opposite applies to achieving a broader general education, reflecting on their own values and achieving a better understanding of people with different cultural and ethnic backgrounds than their own. In this area, women generally respond to a greater extent than men that they have changed their behaviour.

### Courses

The extent of courses in doctoral education varies between different subject areas. It is most common for courses to last two semesters, except within the social sciences, where it is most common with three semesters or more.

Self study, i.e. courses without tuition, is most common in the humanities but overall 25 per cent respond that it occurs to a high or very high degree.

### Supervision

It is almost a prerequisite for working on a thesis that supervision must take place in a good way. It is, therefore, concerning that 27 per cent of doctoral students respond that they have experienced shortcomings in their supervision that impedes their research work. At the same time, 18 per cent state that supervisors do not show any great interest in the doctoral student's studies. For a majority of students, their supervision does work well, but on the whole, these are clearly concerning numbers.

Eleven per cent had changed supervisors, while somewhat more (15 per cent) had considered changing. Almost a fifth stated that they had been in an uncomfortable position of dependency with their supervisor.

### Individual study plans

One per cent of respondents state that they do not have an individual study plan, despite the Higher Education Ordinance providing for this. Since the responding doctoral students are in their third semester or later, this poses a real problem and perhaps even a systematic failure (compared to if they had just started their studies). The individual study plan is very important since, for those who initially received educational grants, it determines whether they may be employed as a doctoral student. See also the reasoning in the Funding section.

According to the Higher Education Ordinance, the individual study plan must also be followed up on a regular basis. Unfortunately, 16 per cent state that this has not taken place.

### Opportunity to present their research

Obtaining constructive criticism and having the opportunity to discuss their research with others is important in the research process. Presenting research at various types of seminars usually drives thesis work forward. More than 75 per cent of the doctoral students stated that they held a seminar at their institution about their research, but only half stated that it had been fruitful.

Reaching out with research and presenting results at conferences and in journals is essential for success. Fewer than half of the doctoral students (44 per cent) had presented their research at national conferences but more (65 per cent) had made presentations at international conferences. Slightly

more than half had published articles in scientific journals, while 39 per cent had published in popular science magazines.

#### Distribution of time between research studies and other tasks

Being a doctoral student often means that it is not possible to focus on your own studies. With regard to the dual purpose of doctoral education, i.e. to also educate researchers and teaching staff at educational institutions, teaching opportunities vary. Of the doctoral students who replied to the questionnaires, 39 per cent stated that they did not teach at all and 32 per cent stated that they teach from 1–10 per cent of their working time. Half of the doctoral students did not do any other work at the institution.

There is considerable variation in how much time students devote to their doctoral studies per week. Of the responding doctoral students, 22 per cent state that they work a working week (30–39 hours). Almost half spend more than 40 hours per week on their doctoral studies (48 per cent), 43 per cent of whom work 40–59 hours while 5 per cent say they spend more than 60 hours per week on their doctoral studies.

#### Careers and the future

Doctoral education has twin tasks: to train teachers and researchers at the educational institutions and to train highly qualified persons for quality jobs in the private and public sector.

Slightly more than 60 per cent are positive to working within higher education, the public sector or the private sector. Starting their own businesses after the completion of their research studies is not at the top of the agenda for the doctoral students. Of the respondents, 30 per cent stated that they could consider doing so. Doctoral students in the technology sector are the most positive and 41 per cent said that they probably or definitely would be prepared to start their own businesses.

Doctoral students in the humanities worry most about becoming unemployed after the completion of their doctoral studies. Almost half (49 per cent) state that they do so. Least concerned are the doctoral students in the fields of medicine and health sciences (22 per cent).

#### Overall conclusion

Although the respondents have not completed their studies, they have taken three semesters or more and can therefore have formed a clear opinion about their education. The majority (64 per cent) of the doctoral students rate their education “good” as an overall conclusion and 22 per cent believe that it is “very good”, while 14 per cent rate the education as “poor” or “very poor”.

Most of them (44 per cent) would definitely choose to start a doctoral education if they were faced with the choice today, while 38 per cent respond that they would probably do so and 18 per cent said that they would probably not or definitely not do so.