



university of
groningen

PhD Survey 2015

Experiences of PhD students at
the University of Groningen

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Preface

The Groningen Graduate Schools (GGS) started in 2009. A first extensive PhD student survey assessing the motivation, satisfaction and training environment of the PhD students at the University of Groningen was undertaken at the end of that year and published in 2010. Every second year, the survey is repeated, with the present survey being the fourth in the series. All of the surveys are published on our website (<http://www.rug.nl/education/phd-programmes/useful-information/phd-survey/>).

Over the past six years, the number of PhD defences in Groningen has grown from 343 in 2009 to 501 in 2015. This is in line with the increase in the number of PhDs awarded in the Netherlands, i.e., almost doubling in the past ten years. Dealing with this growth and at the same time improving our training of PhD students remains a major challenge for both the organization and capacity of the University. In this respect, the following goals were set: (1) maintain the high quality of PhD dissertations, (2) improve the preparation of PhD students for a job after completion of their PhD and (3) ensure that the vast majority of new PhD students finish their training and are awarded a PhD (no unnecessary drop-out), preferably within the allotted PhD project time. The Groningen Graduate Schools have endeavoured to realize these goals over the past six years. Although there is definitely room for further improvement, we are pleased to see that we are well on track, as discussed below.

We will begin by looking at some points not considered in the present survey, but which are important in evaluating the outcome. Firstly, what can be said about the quality of PhD theses in Groningen? Assessing the quality of a PhD thesis is a task assigned to individual supervisors and an Assessment Committee. This is a tailored and dedicated exercise that generally works well; however, it does not use strict but at best only semi-quantifiable criteria. Nevertheless, some insights about the quality of the Groningen theses can be deduced from a meta-analysis, as has been done by the Graduate School of Medical Sciences, one of the nine faculty Graduate Schools within the GGS. The results have been reported in a self-evaluation as part of the research assessment of UMCG and FMNS/GRIP in the framework of the SEP. This analysis found that the quality of the dissertations, measured in terms of the number of published papers in high impact journals, has significantly improved over the past six years. Thus, at least for this large part of the University of Groningen, it can be concluded that despite the considerable growth in the number of PhDs awarded (which was especially true for UMCG and FMNS/GRIP) the quality of the theses remains very high and improving.

Secondly, with respect to the educational opportunities, it is true that the number of educational modules that are offered has grown greatly over the past six years. However, as

can be seen in the present survey, not all PhD students use these opportunities. With the start of the PhD student scholarship programme in September 2016 a new educational framework will be presented, the Career Perspective Series, and it is anticipated that this will give a further boost to the PhD student training programme in Groningen, not only for scholarship PhD students, but also for the Groningen PhD student community as a whole.

Thirdly, with respect to the completion rate of PhD students, present data show that this is approximately 80%. This is a very good figure, but the number of PhD students who complete their PhD within the allotted time remains quite low and definitely needs improvement.

Keeping the above points in mind, let's move to the present survey. Looking at the results, we are glad to see that our PhD students are quite positive about all of the items assessed, i.e., the quality of the education provided, the 'Training and Supervision Plan', the Graduate School, the supervision, the expertise available, contact possibilities and overall working conditions. This positive appreciation was apparent from the start of the GGS as shown in the first survey, but as can be seen in the table found in the appendix of the present survey, this appreciation has further increased over the years, with a mean score of 3.1 (on a scale ranging from 1.0 to 4.0). In addition, as also mentioned previously, there are clear points for improvement. These are: (1) decrease the time PhD students need to finish their PhD, (2) improve the way information is provided, (3) increase the role of the Graduate Schools in the guidance of PhD projects, with greater adherence to and regular updating of the Training and Supervision Plan, and (4) broaden the post-PhD career-orientation opportunities during the programme. Most of these recommendations have been suggested in earlier surveys. Although we have seen improvements over the years, point 1 (not finishing in the allotted time), in particular, remains a clear point of concern.

In summary, we take the outcomes of this and previous surveys seriously, since they are an indication of whether PhD students appreciate our efforts to create the right scientific/academic environment to flourish. We were happy to see the very positive outcomes, but will remain focused on the points that need improvement.

I would like to thank all PhD students who completed the rather lengthy list of questions and, last but not least, I would also like to thank Esther Bouma, Carlien Vermue, Jan Folkert Deinum and Marjan Koopmans for their major contributions.

I found it very interesting to read this survey.

Prof. Lou de Leij
 Dean Groningen Graduate Schools

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1 Management summary

The overall picture presented by the 2015 PhD survey is positive. Significant improvements are found in satisfaction with the Graduate Schools and the expertise available in the working environment. Satisfaction with education and the organization and quality of supervision show minor improvements, while satisfaction with the Training and Supervision Plan, contact with PhD students and the overall work environment increased somewhat more, although not significantly. Despite these improvements, many of the recommendations from 2013 still require attention in order to achieve the high quality and standards of satisfaction that the University desires.

PhD completion time, delay and drop-out are still points of concern as the average time between start and thesis defence is about 61 months, 11 months more than the 4 years and 3 months the University stipulates. In addition, this year's survey reveals an increase in the number of PhD students who do not expect to finish within the allotted time. Knowing the factors that play a role in timely completion, delay and drop-out can lead to effective interventions. Connecting the data of the current and the three previous PhD student surveys with the PhD registration system, Hora Finita, could provide an opportunity to examine possible explanatory factors for drop-out and delay.

The 2015 survey shows that three-quarters of the employed PhD students are engaged in teaching and/or supervising. Most PhD students start with these tasks in, or after, their second year and spend, on average, 14 hours per month (2 hours less than in 2013). The majority (89%) report that teaching and supervising Bachelor's and Master's theses contributes to their PhD project. This percentage has increased by 22% compared to 2013. About one-third report not being very confident about their teaching abilities. Two-thirds of PhD students with actual teaching duties report that they do not have sufficient training in teaching. Less than half of the PhD students with teaching duties have attended the compulsory course 'Training for Teaching Assistants' organized by the University of Groningen.

The percentage of PhD students who feel well informed about regulations and conditions concerning their employment and scholarship has increased from 65% to 70%. About 20% have experienced problems due to incomplete or incorrect information provided by the University. Although problems due to information provision do not differ between Dutch and non-Dutch PhD students, difficulties due to language problems do. Non-Dutch PhD students report significantly more difficulties than Dutch PhD students (29% versus 8%). Moreover, the former also report that they miss out on important information from the University (or the Dutch government) when it is only provided in Dutch and they mention that they feel left out when Dutch is the only language spoken on the work floor.

The proportion of PhD students with a Training and Supervision Plan (TSP) has increased from 57% to almost 70%. The majority of TSPs include a research outline and a time schedule, but two-thirds lack agreements about teaching and three-quarters lack details of thesis quantity and quality requirements. Although 70% of the PhD students report they have sufficient opportunities to revise their TSP, only one-third of PhD students in their second or third years have updated their TSP so far.

Overall, PhD students are satisfied with the organization and the quality of the supervision. However, 48% of PhD students have faced challenges or frustrations in relation to supervision. Problems due to the low frequency of appointments with the supervisor and problems related to the quality of supervision are most often mentioned. Similar to 2013, PhD students who are in their final year are more critical about the quality of their supervision than PhD students who have just started.

The overall satisfaction with the Graduate School has increased significantly compared to 2013. Despite the observation that familiarity with the Graduate School has increased in 2015, familiarity with the role of the Graduate School has decreased. Attendance of the introduction modules at the Graduate School is low (47%).

Satisfaction with the expertise available and support for PhD students within the department has significantly increased compared to 2015. Despite this, about 25% of the PhD students are not satisfied with the support provided by experts and fellow PhD students, especially during the collection of data. PhD students are most satisfied with the contacts with their fellow PhD students in their department. Satisfaction with contacts at the Graduate School, the University of Groningen or in their field (national and international) is much lower.

The overall satisfaction with the work environment has slightly increased, although not significantly. First-year PhD students are more satisfied with the overall work conditions than are senior PhD students. Only 14% of the PhD students said they had not experience stress during their PhD to date. Almost 40% report stress due to publication pressure and deadlines, about 25% due to the complexity of the work and/or the overall workload, and 20% due to contact with management and supervisors.

The number of PhD students who say they have explored future career options has seriously increased from 45% in 2013 to 61% in 2015. One-quarter of the senior PhD students have attended a career activity. The familiarity with the University's training activities organized by HR Experts and NEXT Career Services is very low. As in the previous PhD survey, most positions aspired to are research and/or academic positions and 72% of the respondents believe that finding their preferred job is an attainable goal.

2 Introduction

This chapter provides information about the background of the PhD survey and the research questions and concludes with an overview of the remainder of this document.

2.1 Background and research questions

In 2009, the Board of the University formulated a number of goals relating to PhD projects: the number of doctoral degrees awarded should increase to 550 a year by 2020, 75% of all PhD students should graduate within five years and 85% should graduate within six years, and no more than 12% of PhD students should drop out in the first year. Although graduation rates are improving, the goals set in 2009 have not yet been reached (see Table 1).

Table 1. Description of PhD goals of the University of Groningen

| Description | Goal |
|---------------------------|-------|
| PhD degree in 2020 | 550 |
| Graduation within 5 years | 75% |
| Graduation within 6 years | 85% |
| Drop out in first year | < 12% |

In addition to these quantitative goals, the University of Groningen wants to create the ideal environment in which PhD students can develop the necessary skills for their research. The aim of the PhD survey is to see how well we do in relation to the goals we have set ourselves.

The first PhD survey was conducted in 2009 to determine the state of affairs at that time. The survey was repeated in 2011 to determine whether the attempts at improvement were on the right track. In 2013, the survey was adjusted and several categories were added. Questions about work-related stress and the online registration system, Hora Finita, were added in 2015.

The 2015 survey includes questions about the personal characteristics of the PhD student and project, the organization and evaluation of the PhD project, the organization and quality of supervision, satisfaction with the work environment and familiarity and satisfaction with career development options and PhD organizations.

The outcome of the 2015 PhD survey should help answer the following questions:

1. What is the current state of affairs with regard to personal factors, the PhD programme, supervision and working conditions?
2. How satisfied are PhD students with these factors?
3. What changes can be discerned in PhD students' background characteristics and their satisfaction in comparison with previous years?

Reports of the previous three surveys can be found at: <http://www.rug.nl/education/phd-programme/general-information/phd-survey/>.

2.2 About this report

This report consists of ten chapters. The first chapter provides a summary of the results, as well as conclusions and recommendations for further improvement. The present chapter discusses the background of the survey. Chapters 3 to 8 will discuss the themes distinguished in this survey: personal characteristics, the PhD project, supervision, the working environment, career development and PhD organizations. We examined changes in relation to the results of the PhD surveys in previous years. Conclusions and recommendations can be found in Chapter 9, while information about the response rate and methods used can be found in Chapter 10. An Appendix provides an overview of the mean scores on the satisfaction scales, as well as the scores from 2009, 2011 and 2013 and a breakdown of the 2015 scores for the various Graduate Schools.

3 Personal characteristics

This chapter discusses the PhD students' background characteristics, such as gender, age and previous education. It also considers the type of affiliation that PhD students have with the University of Groningen, as well as their motivation, skills and competences.

3.1 Background characteristics of the PhD students

3.1.1 Gender and nationality

A total of 53% of the respondents are female, which is representative for the PhD population (see Chapter 10). The distribution of male and female respondents has not changed much over the years. Similar to 2013, the average age (on 1 August 2015) is 29.5 years. The youngest respondent was 21 and the oldest 64. Over half of the respondents are Dutch (54%), while 7% were born in China, 5% in Germany and 3% came from India, Indonesia or Italy. The remaining 25% come from 82 other countries. There is a slight decrease in foreign-born respondents compared to previous years (see Figure 1).

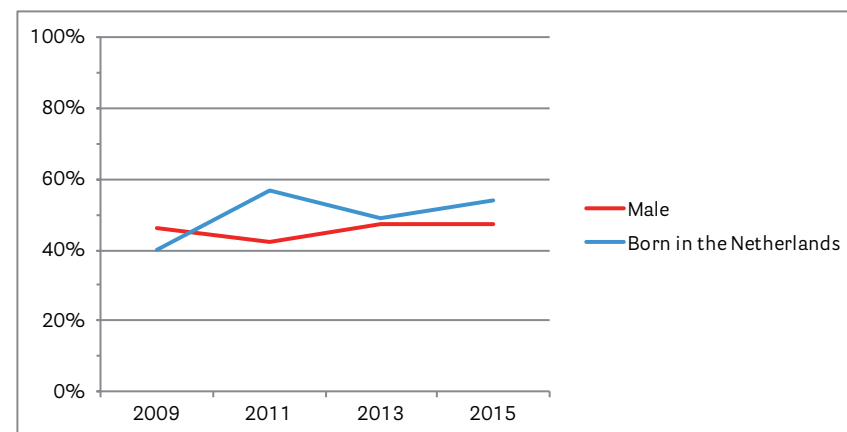


Figure 1. Percentage of male and Dutch respondents in 2009, 2011, 2013 and 2015

3.1.2 Educational background

The majority (91.2%) of the respondents have a Master's degree (or an equivalent: the 'old' doctoral degree). A little over one-quarter completed a Research Master's programme (see Figure 2). More than half of the respondents obtained their degree in either Mathematics and Natural Sciences (36.6%) or Medical Sciences (27.1%) (see Figure 3). Almost half of the PhD students obtained their degree at the University of Groningen (see Figure 4). PhD students who obtained their degree at another Dutch university most often came from Utrecht University, Radboud University Nijmegen and Vrije Universiteit Amsterdam.

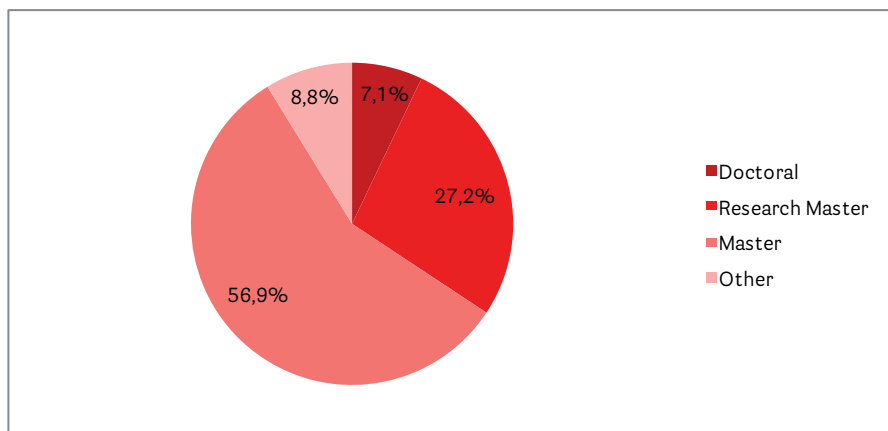


Figure 2. Degrees held by respondents before starting their PhD project

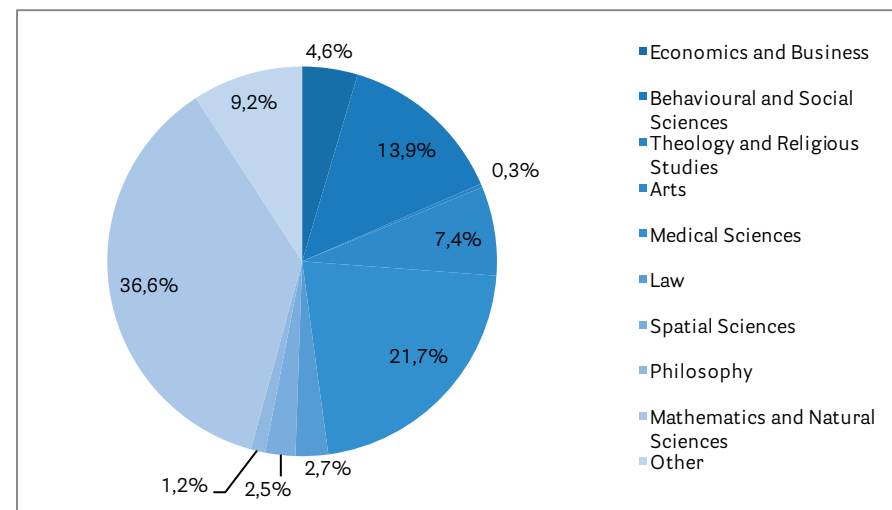


Figure 3. Discipline in which preliminary degree was obtained

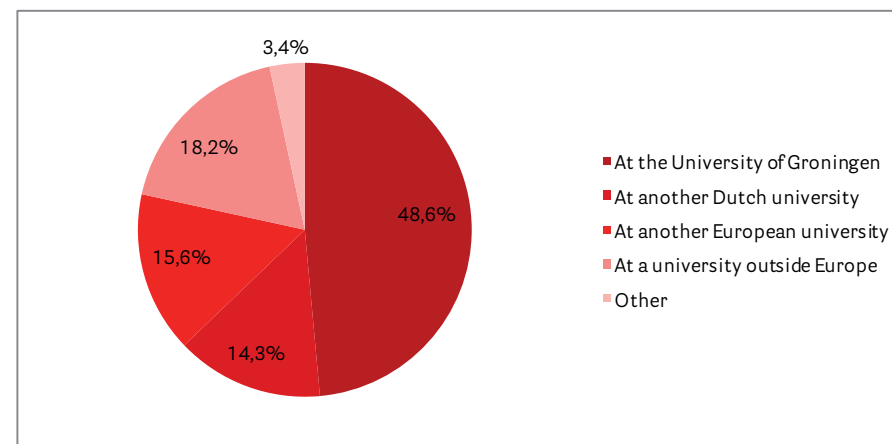


Figure 4. Place where preliminary degree was obtained

3.2 Affiliation with the University of Groningen

PhD students can have different types of affiliation with the University. Figure 5 shows the percentages of the respondents in this survey for each of the different affiliation types, which slightly differ from the categorization in the previous surveys. More than half of the PhD students are employed at the University of Groningen, the University Medical Center Groningen (UMCG) or by the Foundation for Fundamental Research on Matter (FOM). About 2% have a different type of affiliation, such as joint affiliation between Groningen and another European university, a resident/medical doctor, junior researcher, or university staff working full-time on a PhD. The majority (85%) of the PhD students work full-time on their research. Those who work part-time spend on average 29 hours per week on their PhD (with a minimum of 2 hours and a maximum of 36).

To simplify group comparison, the nine categories shown in Figure 5 are divided into three groups: a) employment (55.9%), b) scholarship (23.3%) and c) other (20.8%). Further analyses according to affiliations are made between these three groups.

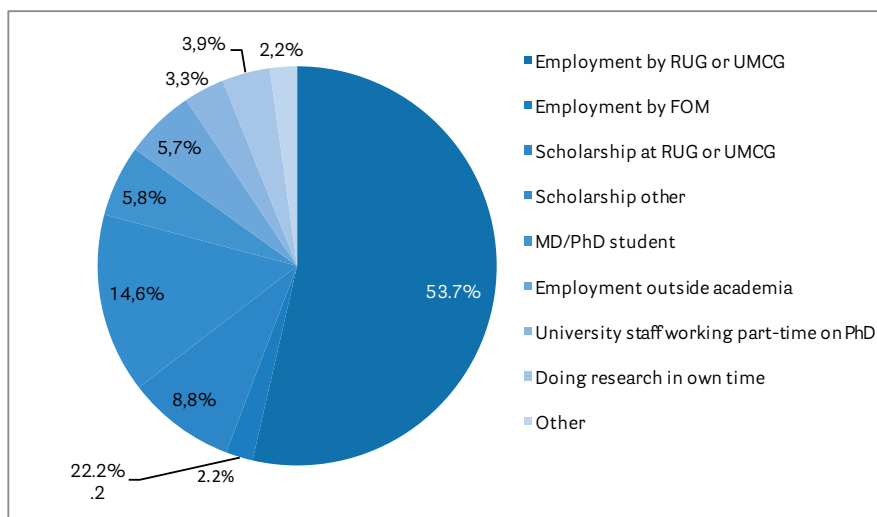


Figure 5. Type of affiliation with the University of Groningen

3.2.1 Affiliation with the University's Graduate Schools

Figure 6 shows the affiliation with each of the nine Graduate Schools as mentioned by the PhD students in the survey. In 2011, 12% of the respondents could not name their Graduate School. This had decreased to 2% in 2013 and to 1.3% in 2015.

The Graduate Schools indicated by the PhD students in the survey were compared with the University of Groningen Hora Finita registration system. Noticeable is the fact that 60 PhD students indicated a different Graduate School. Of these 60 respondents, 31 thought they were affiliated with the Graduate School of Medical Sciences when they were actually affiliated with the Graduate School of Science, while this was the other way around for six respondents.

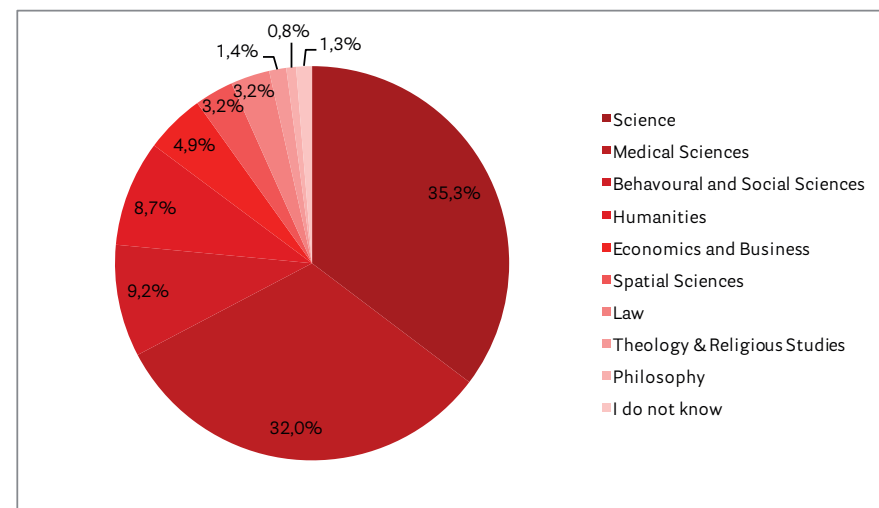


Figure 6. Respondents' affiliation with Graduate Schools (as reported in the survey)

Figure 7 shows the corrected affiliations based on Hora Finita. Further analyses on Graduate School differences are based on these corrected numbers (see Chapter 10). Similar to 2011 and 2013, the majority of the PhD students are affiliated with the Graduate School of Medical Sciences or the Graduate School of Science.

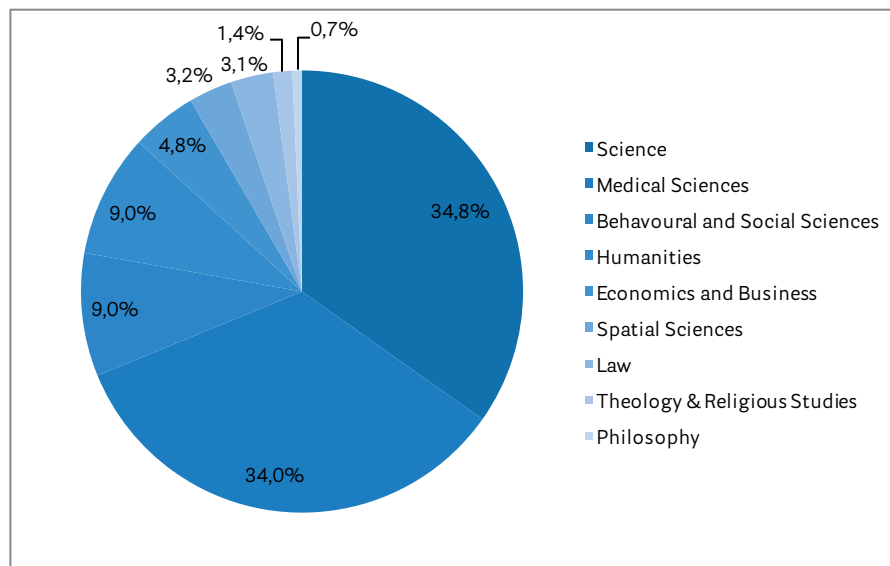


Figure 7. Affiliation with Graduate Schools (corrections based on Hora Finita)

3.3 PhD project phase

Figure 8 shows the project phase of the respondents: 29% are in their first year, 45% in their second or third year and 27% are in the final phase of their project (fourth year or more).

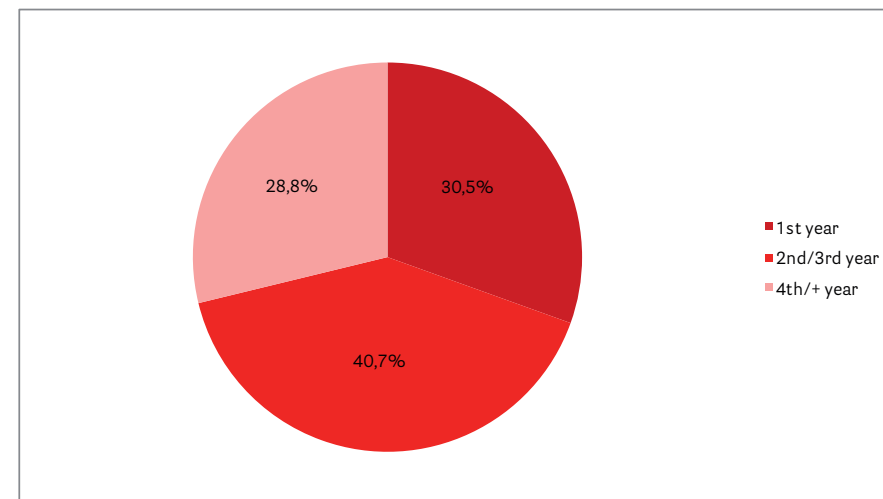


Figure 8. Phase of the PhD project

3.4 Summary of background characteristics

Table 2 summarizes the number of respondents (n), mean age, phase of the project and type of affiliation with the University for each Graduate School. Since the Graduate School of Philosophy has less than 15 respondents, no conclusions can be drawn from Table 2 for this Graduate School.

PhD students from the Graduate School of Humanities are, on average, the oldest respondents, while respondents from the Graduate School of Science are the youngest. The distribution over the phases does not differ significantly between the Graduate Schools; however, Law and Humanities have the highest proportion of senior respondents (fourth year or more). The majority of PhD students are employed (55%). The Graduate School of Spatial Sciences has the highest proportion of scholarship PhD students while Economics and Business has the highest proportion of employed PhD students.

Table 2. Age, phase and affiliation by Graduate School

| | n | Age | % Phase | | | % Affiliation | | |
|-----------------------|------|------|---------|---------|------|---------------|-------------|-------|
| | | Mean | 1st | 2nd/3rd | 4th | Empl. | Scholarship | Other |
| Science | 404 | 28.6 | 34.9 | 38.4 | 26.7 | 65.1 | 28.7 | 6.2 |
| Medical Sciences | 395 | 29.9 | 28.9 | 42.6 | 28.4 | 41.3 | 23.3 | 35.4 |
| BSS | 105 | 33.5 | 26.0 | 42.3 | 31.7 | 61.9 | 9.5 | 28.6 |
| Humanities | 104 | 33.7 | 26.2 | 35.9 | 37.9 | 56.7 | 15.4 | 27.9 |
| SOM | 56 | 29.6 | 33.9 | 44.6 | 21.4 | 71.4 | 16.1 | 12.5 |
| Spatial Sciences | 37 | 31.0 | 30.6 | 47.2 | 22.2 | 56.8 | 37.8 | 5.4 |
| Law | 36 | 30.1 | 22.2 | 30.6 | 47.2 | 66.7 | 30.6 | 2.8 |
| Theol. Relig. Studies | 16 | 33.2 | 25.0 | 56.3 | 18.8 | 43.8 | 12.5 | 43.8 |
| Philosophy | 8 | 29.1 | 25.0 | 62.5 | 12.5 | 87.5 | 12.5 | 0 |
| Total RUG | 1161 | 30.2 | 28.2 | 29.6 | 33.2 | 55.9 | 23.3 | 20.8 |

Note: BSS = Graduate School of Behavioural and Social Sciences, SOM = Graduate School of Economics and Business, the Graduate School of Philosophy did not have enough respondents to make meaningful conclusions.

3.5 Motivation, skills and competences

3.5.1 Motivation

The respondents were asked to report what motivated them to become a PhD student, and the majority (94%) answered this open question. The motives of 1,084 respondents could be divided into three categories: intrinsic, extrinsic and altruistic (see Figure 9). The majority (80%) of the PhD students reported intrinsic motives for starting a PhD, while 16% listed extrinsic motives first. Examples of intrinsic motives include passion for research, curiosity, personal development and interest in the subject, while examples of extrinsic motives include a PhD being a requirement for an academic career, or better job opportunities. Four percent reported altruistic reasons for starting the project: these PhD students want to make a contribution to society or in their home country. Almost 10% of the PhD students gave two reasons, of which the combination of an intrinsic and an extrinsic reason was most common.

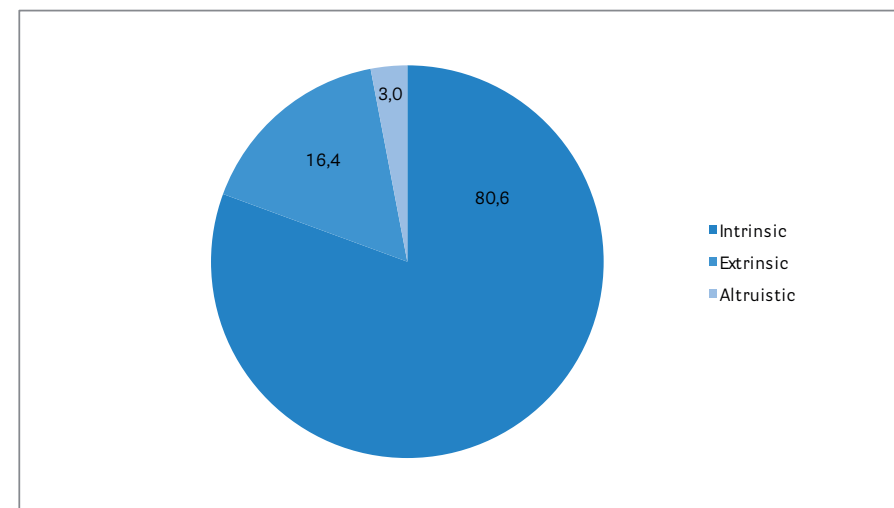


Figure 9. Primary motivation for becoming a PhD student

3.5.2 Skills and competences

The majority of the respondents felt they have developed the skills and competences required of a researcher (see Table 3). These percentages were computed by combining the number of PhD students who chose the options 'agree' or 'strongly agree'. Overall, respondents are least confident about their abilities to perform teaching activities, including supervising Bachelor's and Master's theses, working in teams, instructing support staff and communicating to the general public. These results are comparable with those from 2013.

Interestingly, skills and competences did not differ significantly between the different PhD phases (see Figure 10). More senior PhD students are more confident in their ability to 'Publish research results in academic journals' and 'Supervising students writing their theses' than PhD students who are in their first years. However, this finding was only borderline significant ($p = .06$).

Table 3. Abilities and skills developed by respondents

| I have developed the following abilities/skills: | Percentage |
|---|------------|
| Familiarizing myself with the subject matter and theoretical framework of a research project | 98.7 |
| Defining the subject matter and theoretical framework of a research project | 96.1 |
| Collecting, analysing and interpreting data both empirically and theoretically | 95.7 |
| Identifying, posing and resolving problems by formulating working hypotheses and performing adequate studies | 94.8 |
| Publishing research results in academic journals | 91.1 |
| Understanding ethical conduct as a researcher, lecturer and professional, including issues of intellectual property | 90.9 |
| Working in teams | 76.5 |
| Communicating to the general public | 73.3 |
| Supervising students writing Bachelor's or Master's theses | 69.2 |
| Preparing for teaching activities and performing them adequately | 68.3 |
| Instructing support staff | 64.7 |

There are significant differences according to affiliation type (Figure 11) and Graduate School (Figure 12). Concerning affiliation type, most of the differences concern employed PhD students and scholarship PhD students, except for 'Preparing and performing teaching activities', for which employed PhD students feel most confident (it should be noted here that scholarship PhD students are not allowed to teach). In addition, the skills necessary to 'Work in teams' differed for all three affiliation categories: scholarship students agreed most often, followed by employed PhD students.

PhD students from the Graduate School of Humanities, BSS and Economics and Business agreed less often with the statements concerning being able to instruct staff, preparing and performing teaching activities, supervising students and working in teams than PhD students from the Graduate School of Science. PhD students from Economics and Business and Humanities agreed less often on publishing research results, of which PhD students from the Graduate Schools of Science and Medical Sciences agreed more often.

Language difficulties

More than half of the PhD students have Dutch nationality and about 8% of these experienced difficulties due to language problems, compared to 29% of the PhD students with a non-Dutch nationality. This difference is significant ($\chi^2 = 87.2, p < .001$). Problems mentioned by Dutch PhD students mostly concerned writing and presenting in academic English (51%), problems with general communication in English (37%) and problems due to the poor level of English of international colleagues (12%). Problems reported by non-Dutch speakers were: general communication in English (38%), problems with writing and presenting in academic English (20%), social problems due to their own poor level of Dutch in the work space (12%) and in their private lives (14%), problems due to the fact that Dutch is needed for their PhD work (10%) and problems due to Dutch communication of government and the University (16%).

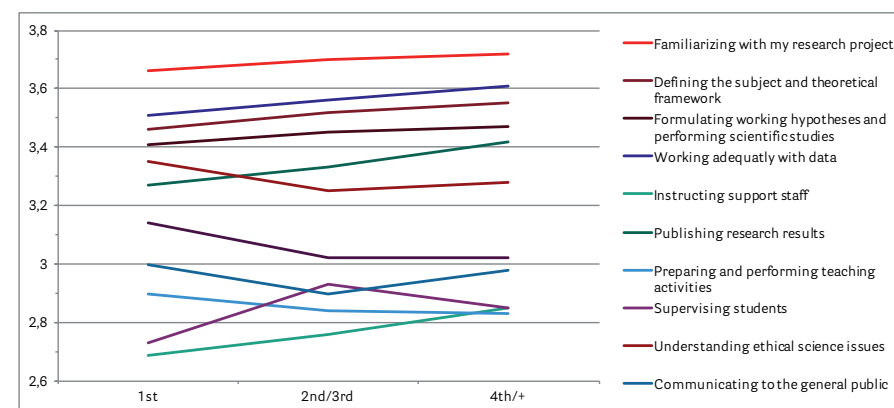


Figure 10. No significant differences in skills and competences by project phase

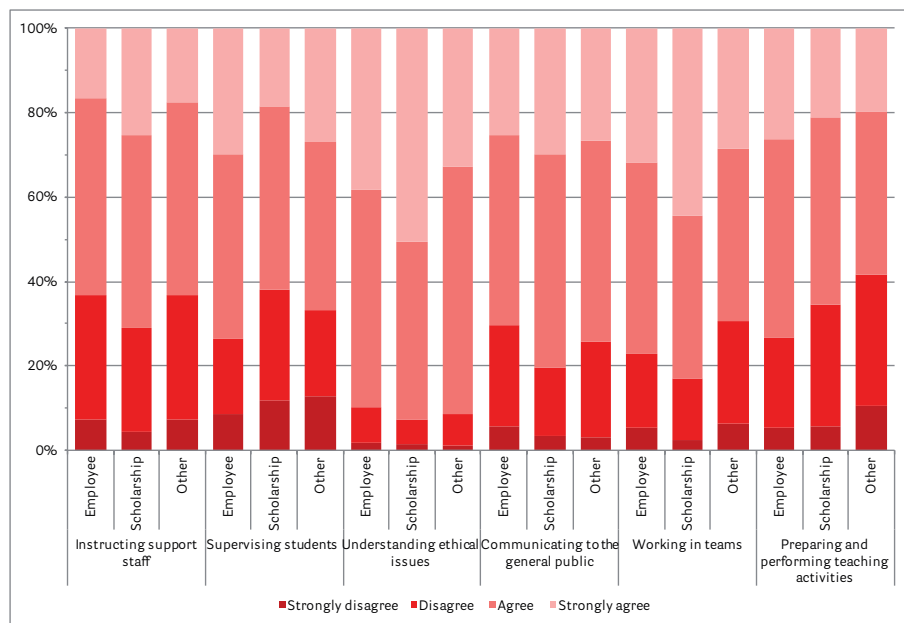


Figure 11. Significant differences in skills and competences by affiliation

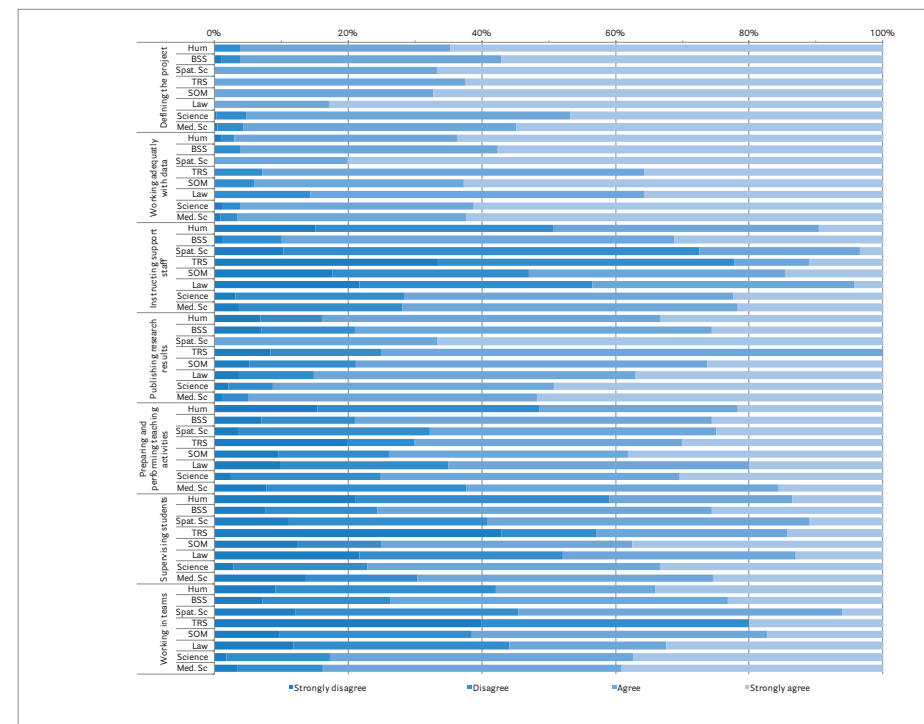


Figure 12. Significant differences in skills and competences by Graduate School

4 PhD Project

This chapter discusses the characteristics of the PhD projects and considers a number of themes, including PhD students' training and their satisfaction with this, as well as their teaching duties and the provision of information.

4.1 Characteristics of the PhD project

4.1.1 Time span

The first issue to be addressed in this chapter concerns the confidence of PhD students in being able to finish in time. Of the respondents, 41% believed they could finish on time (4% less than in 2013), one-third were still uncertain and one-quarter thought finishing on time was not feasible.

There are differences according to project phase: about 42% in phases 1 and 2 thought that finishing on time was feasible, while over half of the PhD students in their final year (54%) thought this was not. There are no differences between different affiliation categories. However, there are differences between Graduate Schools (see Figure 13), although this is mainly due to differences in the category 'too early to say', because when we examined the answer options 'Yes' and 'No' differences were no longer significant ($p = .09$). PhD students from Theology and Religious Studies, Economics and Business, and Humanities were slightly more confident in their ability to finish on time than PhD students from other Graduate Schools.

Overall, PhD students expected they would need, on average, 8.6 additional months to finish their project. This is more than in the previous years (2013: 7.6 months; 2011: 6.6 months; 2009: 8.0 months). Scholarship PhD students claimed they would need 9 months, employed PhD students 7 months and PhD students with another type of affiliation about 12 months.

Expected reasons for not finishing by the official end date are summarized in Table 4. In the 2015 survey, options were added to the list of possible reasons. PhD students could choose all options as there was no maximum. The most often mentioned reason for delay was a too ambitious research plan or a delay in the research. Comments made in the category 'Other' consist mostly of combinations of the predefined reasons.

Table 4. Reasons for not finishing in time

| Reason for not finishing in time | Percentage |
|---|------------|
| The research plan is too ambitious and/or the research is delayed | 45.4 |
| Unforeseen personal circumstances | 24.4 |
| Problems with supervision | 21.3 |
| I am encountering technical problems (software, laboratory) | 17.8 |
| I have difficulty writing | 16.8 |
| I have difficulty obtaining or analysing my data | 16.5 |
| Loss of personal motivation | 11.7 |
| I plan to use the full period of my appointment/scholarship to perform research and start writing the thesis after that | 10.2 |
| I am spending too much time on the comments from reviewers/editors | 10.2 |
| I spend too much time on teaching activities | 8.3 |
| My workspace or laboratory moved to a different location | 4.1 |
| I have problems with colleagues | 3.2 |
| I do not have the right skills for this job | 2.9 |
| I took too many courses | 0.6 |
| Other | 35.9 |

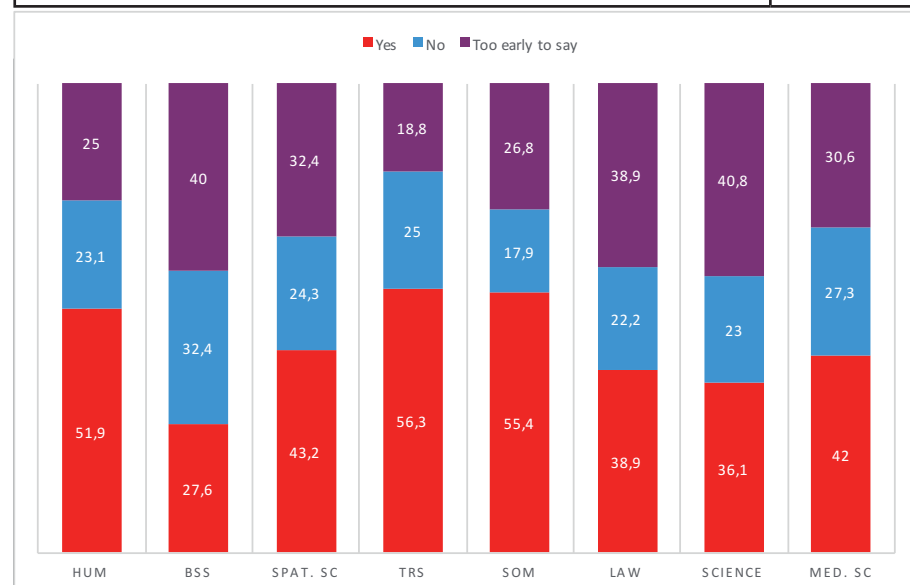


Figure 13. Being able to finish in time by Graduate School

4.1.2 Research proposal

PhD students start their project with different kinds of research proposals. These are presented in Table 5, along with the percentages for each. The majority of the respondents had a predetermined research proposal. The category 'Other' revealed that several PhD students combined a predetermined research proposal with ideas of their own.

Table 5. Type of research proposal

| Research proposal | Percentage |
|---|------------|
| It was a predetermined research proposal | 29.3 |
| It was a predetermined, externally funded research proposal | 28.2 |
| I was free to develop my own research proposal | 23.1 |
| I applied with my own research proposal | 15.1 |
| Other | 3.8 |

4.1.3 Discontinuing the PhD

In 2015, 24% of the respondents considered discontinuing at some point. This is higher than in 2013 (22%) but lower than in 2011 (27%). The thought of quitting in 2015 is comparable to that in 2013 for the first three years; however, there is an increase in and after the fourth year (see Table 6). About 8% indicated that they thought about leaving at multiple stages in the project.

Table 6. Percentage of all respondents who considered discontinuing

| Stage in which discontinuing was considered | % 2009 | % 2011 | % 2013 | % 2015 |
|---|--------|--------|--------|--------|
| In the first year | 8.8 | 13.4 | 12.9 | 11.2 |
| In the second year | 6.6 | 14.4 | 11.7 | 11.3 |
| In the third year | 2.3 | 9.0 | 6.7 | 7.0 |
| In the fourth year | 0.5 | 2.8 | 2.6 | 3.3 |
| After the fourth year | * | 1.5 | 1.0 | 2.1 |
| At different moments in my PhD project | 10.6 | * | * | * |

* Not included in the survey in that specific year

Thoughts about quitting are mainly related to uncertainty about individual capabilities or the PhD work itself, problems with supervision, the execution of the project or discontent with the working conditions (see Table 7). These reasons are comparable to the results of 2013. Almost 40% of the PhD students indicated one reason, while one-third indicated two reasons and 17% indicated three reasons why they had thought about discontinuing their PhD. In the category 'Other', respondents mentioned reasons such as personal circumstances or very specific problems.

Table 7. Reasons for considering discontinuing the PhD

| Reason for considering discontinuing | Percentage |
|---|------------|
| Uncertainty about my capabilities/PhD work | 41.6 |
| Problems with supervision | 34.8 |
| Problems with the execution of the project | 34.1 |
| Discontent with the working environment | 32.6 |
| Lost interest in the subject | 14.7 |
| Discontent with the working conditions/salary | 13.3 |
| Other | 28.0 |

Of the PhD students, 14% regretted their decision to start a PhD. Almost half of the PhD students were not sure about the benefits ('I invested a lot and what will it get me?') and others would have liked a different topic (17%). Reasons mentioned in the category 'Other' were unclear expectations, publication pressure, too little training, unfair treatment for bursary students, disappointment in science or disappointment in the department.

4.2 Education programme

PhD students were asked how many ECTS they have to earn as part of their PhD, which is on average 24 ECTS. At the time of data collection, PhD students had earned about 14 ECTS in about four courses. Figure 14 shows, per Graduate School, the average number of ECTS that PhD students have to earn and the average total ECTS that they have earned so far.

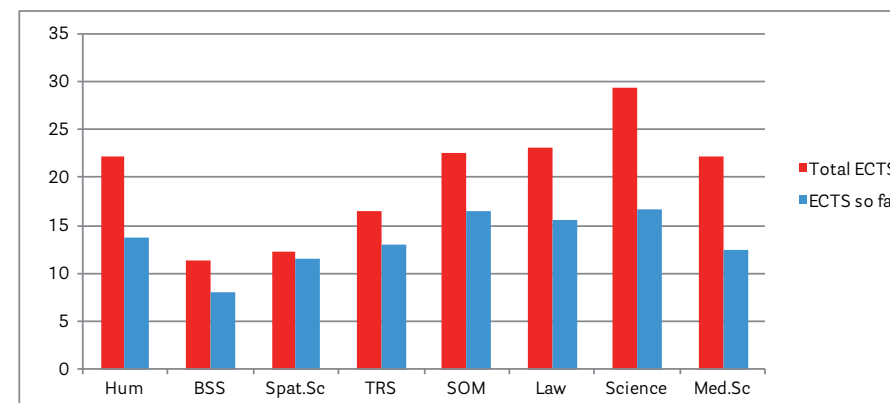


Figure 14. Average total number of ECTS and average number of ECTS earned so far by Graduate School

About one-fifth of the PhD students had completed one course, one-third had completed two to three courses and one-quarter more than three courses. PhD students in the middle of their project had gained about 16 ECTS in about four courses and those in the final stage had gained 23 ECTS in approximately five courses.

PhD students were also asked about the type of courses they had completed. Over half of the respondents attended at least one content-related course and/or one generic skills course (see Table 8). Courses mentioned in the category 'Other' consisted of combinations of courses in the predefined categories.

Table 8. Educational activities completed by respondents

| Educational activities | Percentage |
|---|------------|
| Content-related courses, including statistics and methodology, etc. | 49.0 |
| Generic skills courses such as time-management and presentation, etc. | 43.5 |
| Introductory event organized by the Dean of Graduate Schools | 32.4 |
| Languages | 25.9 |
| Teaching skills | 12.0 |
| Career events for jobs inside academia | 9.6 |
| Career events for jobs outside academia | 9.1 |
| IT | 7.6 |
| Other | 8.8 |

The satisfaction with educational activities was indicated by the following items:

- I am satisfied with the number of educational activities offered.
- I am satisfied with the quality of educational activities offered.
- I am satisfied with the diversity of educational activities offered.
- I am satisfied with the opportunities I have to participate in educational activities.
- Overall, I am satisfied with the educational activities in which I have taken part.

The average score was 3.0, which is the same as in 2013 and 2011. The Graduate School of Theology and Religious Studies scored lowest, with an average score of 2.7, while the Graduate School of Economics and Business scored highest, with an average of 3.1. There were no differences between phase and affiliation. Differences between Graduate Schools are shown in more detail in Figure 15.

Table 9 presents the satisfaction with the separate items (summation of strongly agree + agree). Overall, PhD students are highly satisfied (> 75%), except for the diversity of the educational activities offered.

Table 9. Satisfaction with education

| Education | Percentage |
|---|------------|
| I am satisfied with the number of educational activities offered | 79.6 |
| I am satisfied with the quality of the educational activities offered | 81.8 |
| I am satisfied with the diversity of the educational activities offered | 72.9 |
| I am satisfied with the opportunities I have to participate in educational activities | 76.0 |
| Overall, I am satisfied with the educational activities in which I have participated | 85.1 |

4.3 Teaching activities

Since only employed PhD students are allowed to teach, we will only report in detail about this particular group of PhD students (n = 649) in relation to this matter. About one-quarter of this group did not have teaching or supervision tasks. When we take a closer look at this non-teaching group, it is apparent that half consists of first-year PhD students.

PhD students who do teach usually perform supervisory duties or give small-scale lectures (Table 10). On average, PhD students report spending 14 hours on teaching and supervising each month; which is 2 hours less than reported in 2013.

Table 10. Percentage of teaching activities performed by employed PhD students

| Teaching activities | Percentage |
|--|------------|
| No, I do not teach or supervise students | 27.6 |
| Yes, supervising students | 50.4 |
| Yes, small-scale courses (seminars/tutorials/'werkcolleges') | 39.3 |
| Yes, practicals (experimental work, lab work) | 26.5 |
| Yes, large-scale lectures ('hoorcollege') | 12.2 |

PhD students who have teaching duties (n = 471) were asked if they received sufficient training for these tasks and only one-third answers 'yes'. In addition, PhD students were asked what kind of training they received. They could choose from two options: 'Training for teaching assistants' (organized by the University of Groningen) or 'Other'. In the case of the latter, PhD students were asked to describe these forms of training or experience (see Table 11).

The PhD students who reported not having received sufficient training were asked for additional comments, but only 20.2% of 331 PhD students gave a response to this request. The majority (76.1%) said they did not receive any support from colleagues or their supervisor (even when they asked) and 19.4% indicated not having received any information on how to supervise students.

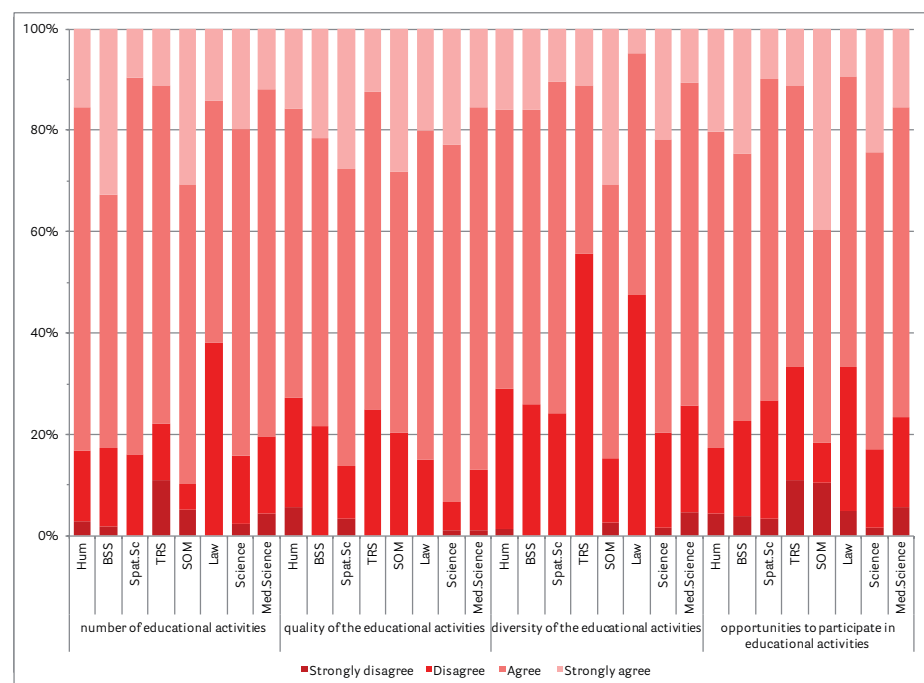


Figure 15. Significant differences in satisfaction with education between Graduate Schools

Table 11. Overview of training/experiences of employed PhD students with teaching

| Training for teaching/supervising students | Percentage |
|---|------------|
| Training for teaching assistants, organized by the University | 46.2 |
| Experience from previous job | 14.6 |
| Feedback from supervisor | 14.6 |
| Teacher training for PhD students, organized by Graduate School | 5.4 |
| Training for teaching assistants, organized by another university | 5.4 |
| Basis Kwalificatie Onderwijs | 4.6 |
| Other course | 4.6 |
| Master's in Education or Master's in Education & Communication | 3.1 |
| Feedback from colleagues | 1.5 |

The majority (93.3%) of PhD students with teaching duties answered the question about satisfaction with the amount of teaching. Table 12 shows that a little over 70% were satisfied with the amount of time they spent on teaching or supervision. This table presents the mean number of monthly hours of teaching duties for each group.

Table 12. Satisfaction with teaching and supervision

| Opinion | Percentage | Monthly hours mean (SD) |
|---|------------|-------------------------|
| I would like to teach/supervise less | 13.9 | 24.5 (20.8) |
| I am satisfied with the amount of time I spend teaching/supervising | 72.2 | 15.2 (12.8) |
| I would like to teach/supervise more | 13.9 | 10.1 (10.4) |

PhD students were asked whether they thought that teaching and supervisory activities contributed to their PhD project, and the majority (89.4%) answered positively, which is more than in 2013 (67%). Table 13 presents the areas in which the teaching activities are believed to contribute to the PhD project. The answers of PhD students who chose the option 'Other' can be categorized into: 1) explaining complex concepts clearly (24%), 2) improve skills such as management, communication, teaching and supervision, (32%), 3) motivation and/or fulfilment (12%), 4) transfer knowledge (12%) and 5) working with students (20%).

Table 13. Areas in which teaching contributes to the PhD Project

| Contribution to the project | Percentage |
|------------------------------------|------------|
| Preparing for a career in academia | 52.5 |
| Presenting in public | 48.7 |
| Generating and formulating ideas | 45.6 |
| Achieving my research goals | 39.9 |
| Structuring my PhD project | 27.2 |
| Other | 8.9 |

4.4 Information provided by the University of Groningen

Overall, about 70% of the respondents believed they were well informed about the regulations and/or conditions of their employment/scholarship contract with the University of Groningen. The most satisfied PhD students were in Economics and Business (SOM) and Science (see Figure 16).

When looking for information about employment/scholarship, the website and contract are mostly consulted (see Table 14). Approximately 50% use their PhD guide and only one-third the information package received at the start of their PhD. In the category 'Other', consulting supervisors, colleagues, HRM or the CAO were mentioned.

PhD students from Science, Humanities and the Behavioural and Social Sciences most often used the website, while Economics and Business PhD students used their contract as a primary source of information and Medical Sciences PhD students used their PhD Guide.

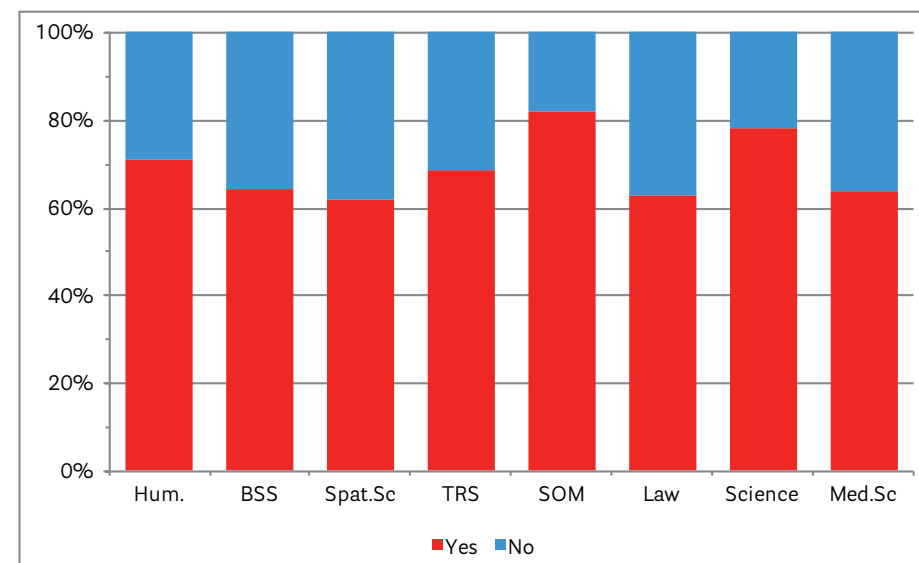


Figure 16. Satisfaction with information provision by Graduate School

Table 14. Information provision

| Source of information | Percentage |
|-----------------------------|------------|
| Website | 62.4 |
| Contract | 57.5 |
| PhD guide | 50.6 |
| Information pack on arrival | 32.9 |
| Other | 8.7 |

The majority of the respondents (80%) had not experienced difficulties regarding information provision. The difficulties that were experienced mainly concerned issues with finances and taxation, the vagueness of rights and policies (especially for scholarship PhD students) and which courses can and/or should be followed. Some PhD students mentioned not having received the information package and, just as in 2013, some negative remarks about the website were made (unclear and incomplete information). The number of difficulties experienced was different between the Graduate Schools. PhD students from the Graduate School of Humanities and the Graduate School of Medical Sciences indicated the most problems, while those from Economics and Business (SOM) indicated the least (see Figure 17). There were no differences according to phase, nationality (Dutch versus non-Dutch) or affiliation.

4.5 Hora Finita

In 2015, questions about familiarity with the registration system, Hora Finita, were added to the survey. Almost three-quarters (74%) of the PhD students said they were familiar with the system and they were asked to answer three more questions about different aspects of Hora Finita. Again, about three-quarters (77%) knew they could enter information about training activities in Hora Finita and that formalities about their thesis defence were digitally accessible. A slightly smaller number of respondents (66%) knew they could access their R&D interview forms.

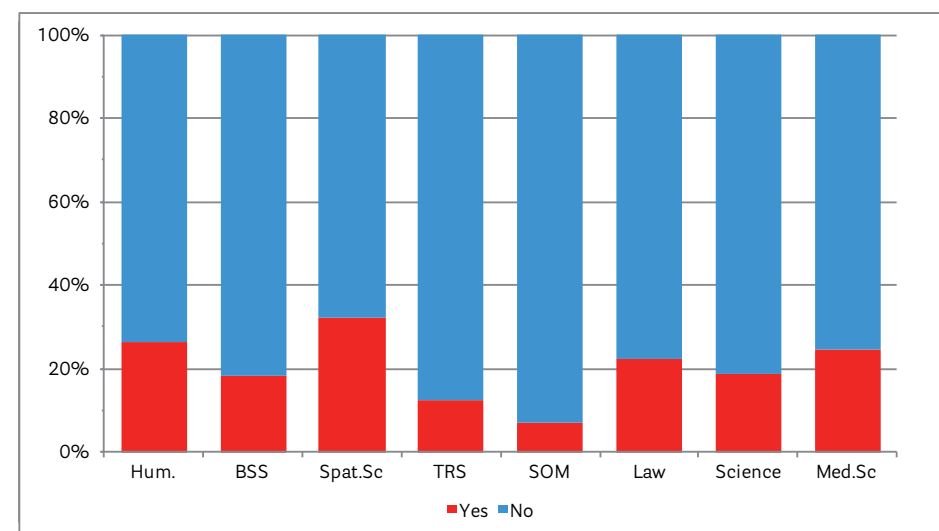


Figure 17. Difficulties with information provision by Graduate School

Familiarity with Hora Finita differed between the Graduate Schools. PhD students from Medical Sciences were most familiar with the system, while PhD students from BSS were least familiar (see Figure 18). Familiarity also differed according to phase and affiliation: PhD students in the final stage of their project and PhD students with a scholarship were significantly less familiar with Hora Finita than their counterparts.

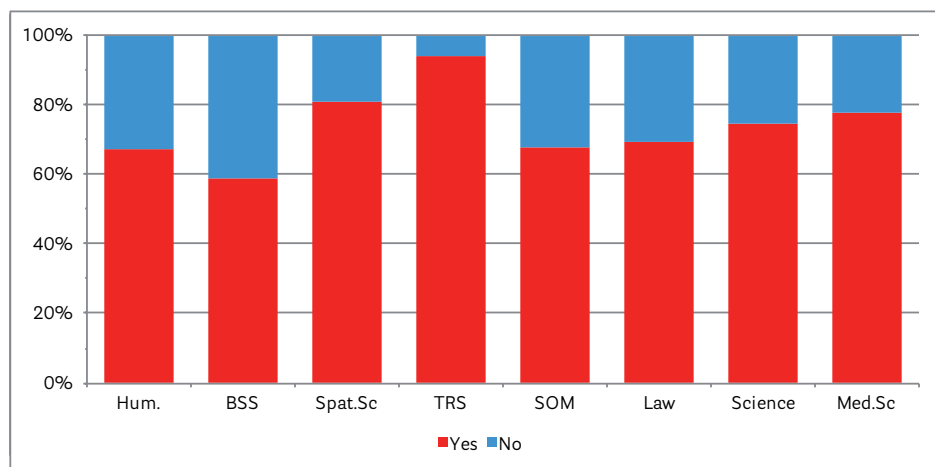


Figure 18. Familiarity with Hora Finita by Graduate School

5 Supervision

Supervision is an essential part of a successful PhD project. This chapter first considers the performance evaluation in the regular Result and Development (R&D) interviews as well as the go/no-go interview in the first year. Subsequently, the Training and Supervision Plan (TSP) will be discussed, followed by the supervision provided by the Graduate School. This chapter concludes with the organization and quality of the supervision provided by the primary and daily supervisor(s).

5.1 Performance evaluation

According to University regulations, PhD students should have an annual Result and Development interview. PhD students in their first year (who have not yet completed a whole year are not included in the following analyses).

5.1.1 Result and Development interview

Of the respondents who were in their second or subsequent year, 69% indicated that their performance had been evaluated in a Result and Development (R&D) interview, while 17% indicated that this was done irregularly, and the performance of 14% had not yet been evaluated. These results are comparable to 2013 (68%, 21% and 11% respectively).

There are differences between Graduate Schools in relation to the R&D interview (see Figure 19). About one-quarter of the PhD students from the Graduate School of Medical Sciences and between 15% and 20% of those from Humanities, Behavioural and Social Sciences (BSS), Spatial Sciences and Law reported not having had an R&D interview. PhD students from the Graduate School of Theology and Religious Studies (TRS), the Graduate School of Science and the Graduate School of Economics and Business (SOM) most often reported that they had such an evaluation.

PhD students in their second or third years have more often had an R&D interview (73.7%) compared to those in their fourth or subsequent year (63.1%), with the latter group more often indicating that they were evaluated irregularly (21.6%) or have not had such an interview at all (15.3%).

More than three-quarters (76.5%) of the employed PhD students reported that they have regular evaluation moments, compared to 67.6% of those with a scholarship and 53.1% of PhD students with another type of affiliation. Of the employed PhD students, only 6.6% reported not to have had a formal evaluation thus far, compared to 14.6% of the scholarship PhD students and 32.8% of the PhD students with another type of affiliation.

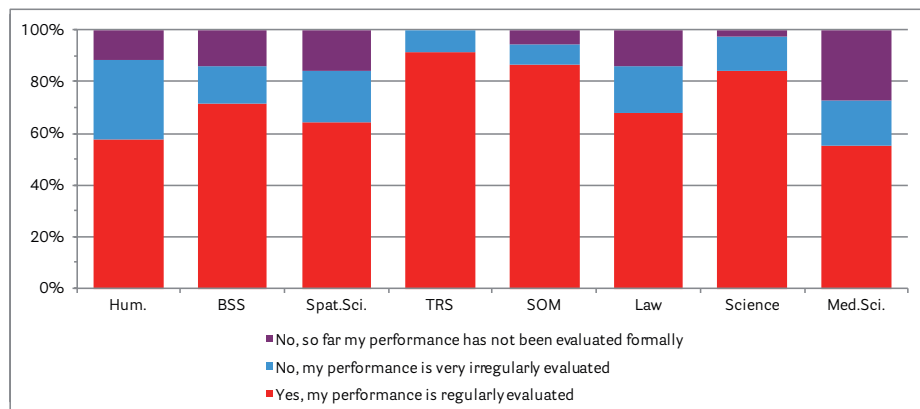


Figure 19. Performance evaluation by Graduate School

We asked the PhD students which people were present at their R&D interview. A majority of the PhD students indicated that the main supervisor was present (see Table 15). In less than 10% of the interviews, a Graduate School delegate or an HR representative was present. People mentioned in the category 'Other' were most often the head of the department/institute, although in some cases another staff member or external advisor was mentioned.

Table 15. People present at R&D interview

| People present at the R&D interview | Percentage |
|---|------------|
| Primary supervisor/co-supervisor | 87.4 |
| Daily supervisor | 44.8 |
| Graduate School delegate | 8.9 |
| Personnel department representative (HRM) | 6.8 |
| Other | 5.2 |

5.1.2 Go/no-go interview

Less than three-quarters (69.8%) of PhD students in their second or later year have had a go/no-go interview and there are differences between Graduate Schools (see Figure 20). The go/no-go interviews are least common at the Graduate School of Medical Sciences. Furthermore, PhD students with an employment status reported having a go/no-go interview most often (85.5%), compared to PhD students with a scholarship (65.9%) and those with other types of affiliation (34.5%).

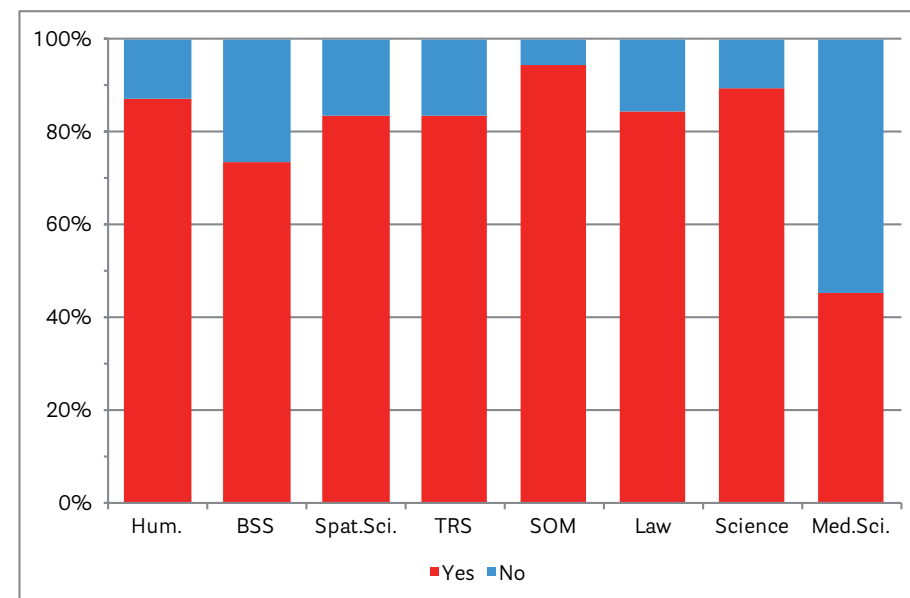


Figure 20. Go/no-go interview within the first year by Graduate School

Table 16 lists the people present at the go/no-go interview. Over the years there has been an increase in the attendance of the main supervisor and a Graduate School delegate, while a decrease is observed in the attendance of an HRM representative. People mentioned in the category 'Other' were most often the head of the department or institute and, in some cases, another staff member, external advisor or even other PhD candidates.

Table 16. People present at go/no-go interview

| People present at the go/no-go interview | % 2011 | % 2013 | % 2015 |
|---|--------|--------|--------|
| Primary supervisor/co-supervisor | 84.6 | 81.0 | 92.3 |
| Daily supervisor | 45.2 | 57.6 | 47.6 |
| Graduate School delegate | 13.5 | 12.4 | 15.7 |
| Personnel department representative (HRM) | 21.3 | 17.4 | 10.5 |
| Other | 6.8 | 8.8 | 5.2 |

5.2 Training and Supervision Plan (TSP)

Since 2009, the proportion of PhD students with a formal Training and Supervision Plan (TSP) has increased from 57% (in 2009 and 2011) and 63% (in 2013) to 69% in 2015. Similar to 2013, 18% of the PhD students reported they did not have a TSP and 13% were not sure.

There are significant differences between Graduate Schools. Figure 21 presents the answers to the question: 'Do you have a Training and Supervision Plan?' by Graduate School. At least 80% of the PhD students from Science, Economics and Business (SOM) and also Law had a TSP. TSPs are least present among PhD students from the Medical Sciences. The data also revealed a difference according to affiliation: about 75% of PhD candidates with a student or employee status had a TSP compared to only 40% of the PhD students with another type of affiliation.

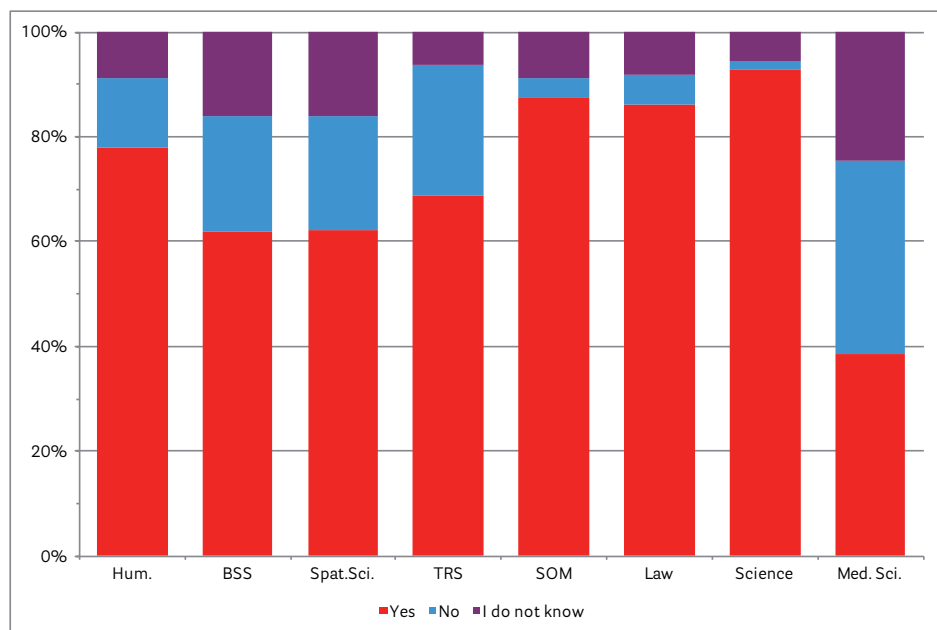


Figure 21. Percentage of PhD students with a TSP by Graduate School

PhD students with a TSP were asked how many months after the start of their project their TSP was formalized. Almost 40% could not answer this question. The months mentioned by those who could are divided in six categories (see Table 17). Two-thirds of the PhD students said that their TSP was formalized within at least three months after the start.

Table 17. Formalization of TSP

| Category | Percentage |
|---|------------|
| I do not know | 38.7 |
| Before start | 2.5 |
| At start | 10.3 |
| Within the first month after start | 16.5 |
| Within the second/third month after start | 13.8 |
| Between 4 and 12 months after start | 16.6 |
| After 12 months after start | 1.6 |

A majority of TSPs include an explanation of the research content and design and information about the time schedule (see Table 18). Only one-third include agreements concerning teaching activities and only one-quarter about thesis requirements. In comparison with the results of previous years, the TSP has become a more complete document. However, only one-third of the PhD students in their second or third years said they updated their TSP regularly.

Table 18. Elements present in TSP

| Elements in TSP | Percentage |
|---|------------|
| Research content and design | 84.0 |
| Time planning and time management | 81.9 |
| Educational activities | 74.6 |
| Number of contact hours with your supervisors | 37.2 |
| Evaluation and appraisal milestones | 37.1 |
| Number of teaching activities | 32.3 |
| PhD thesis requirements | 25.0 |

5.2.1 Quality and quantity requirements

As was done in previous surveys, PhD students were asked if formal quantity (e.g. number of pages, chapters or articles) and quality (e.g. publishing in high-ranking journals) agreements had been made. In 2009, over 60% of the respondents said that such requirements were stipulated, but this decreased to 40% in 2011 and 32% in 2013. This year, 33% of the PhD students said that formal quantity agreements were made and only 13% said this was done concerning quality. The majority of PhD students who do have these formal agreements

reported being very satisfied; only about 9% considered these agreements to be too demanding (compared to 7% in 2013).

When we look at differences between the groups, we see differences in quantity requirements according to phase and differences in quality agreements according to phase and affiliation. Logically, PhD students who are further into their project more often mentioned quantity and quality requirements than those who had just started. PhD students with an employment status reported significantly less often (19.0%) that quality agreements were made than PhD students with a scholarship status (31.1%).

Just as in 2013, 14% of the respondents indicated they were familiar with the requirements for a cum laude distinction for their dissertation. Of this 14%, half had the ambition to achieve this distinction. The wish to achieve the cum laude distinction significantly decreases with the phase of the project: 61% of PhD students in their first year versus 44% of those in their second or third years and 33% in their final years. There were no differences according to affiliation or Graduate School.

5.2.2 Satisfaction with TSP

TSP satisfaction was measured with the following five items:

- My training and supervision plan serves as a good guideline throughout my PhD.
- Drawing up a training and supervision plan helps me plan my PhD project.
- I have sufficient opportunities to revise my training and supervision plan when necessary.
- My training and supervision plan is evaluated regularly in a formal evaluation.
- Overall, I am satisfied with my training and supervision plan.

Generally speaking, the PhD students were moderately satisfied with their TSPs. The average score was 2.7, which is lower than in 2013. PhD students with a scholarship and PhD students in their first, second or third years, were more satisfied than their counterparts.

Figure 22 shows the change in TSP satisfaction over time for the Graduate Schools that had more than 15 respondents in every survey. The satisfaction of PhD students from the Graduate School of Behavioural and Social Sciences has increased the most, although their score is still

the lowest, followed by Medical Sciences. Just as in 2013, PhD students from the Graduate School of Science were most satisfied with their TSPs.

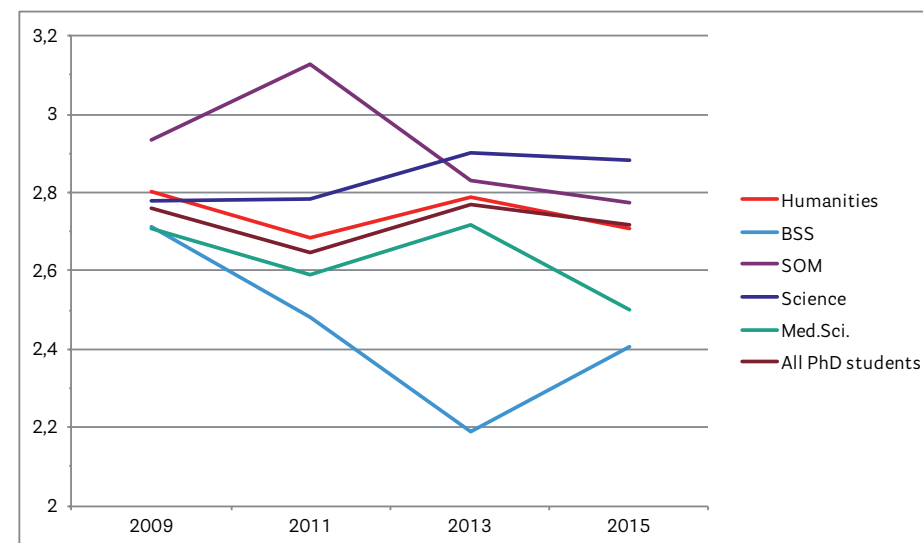


Figure 22. Mean scale score on TSP satisfaction by Graduate School in 2009, 2011, 2013 and 2015

Table 19 presents the level of agreement (summation of highly agree + agree) with the separate items of the TSP scale. About 40% agreed with the proposition that their TSP is evaluated regularly in a formal evaluation, while about 60% thought the TSP was a good guideline that could help in planning their PhD.

Table 19. Training and Supervision Plan

| TSP | Percentage |
|--|------------|
| My training and supervision plan serves as a good guideline throughout my PhD. | 58.6 |
| Drawing up a training and supervision plan helps me plan my PhD project. | 64.7 |
| I have sufficient opportunities to revise my training and supervision plan when necessary. | 69.3 |
| My training and supervision plan is evaluated regularly in a formal evaluation. | 39.8 |
| Overall, I am satisfied with my training and supervision plan. | 71.9 |

When taking a closer look at the separate items of the TSP satisfaction scale we see that there are differences between the Graduate Schools. These differences are presented in Figure 23 and Figure 24. Differences on all items are also found according to project phase. Figure 25 reveals that PhD students who have just started are most satisfied. This finding can be explained in two ways: 1) new PhD students are indeed more satisfied with the format of the TSP or, 2) they are satisfied with their plan at the beginning of the project because they have just written it.

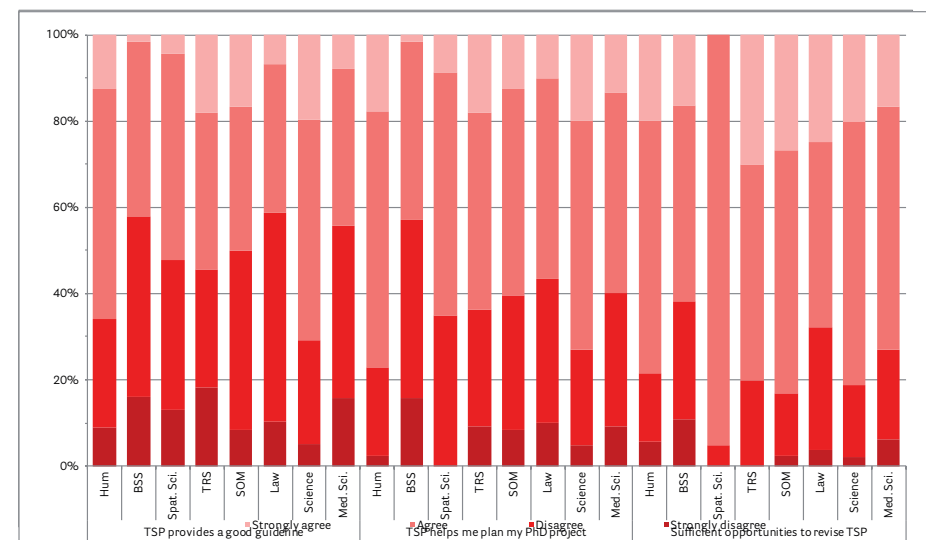


Figure 23. Significant items of satisfaction with TSP by Graduate School (1)

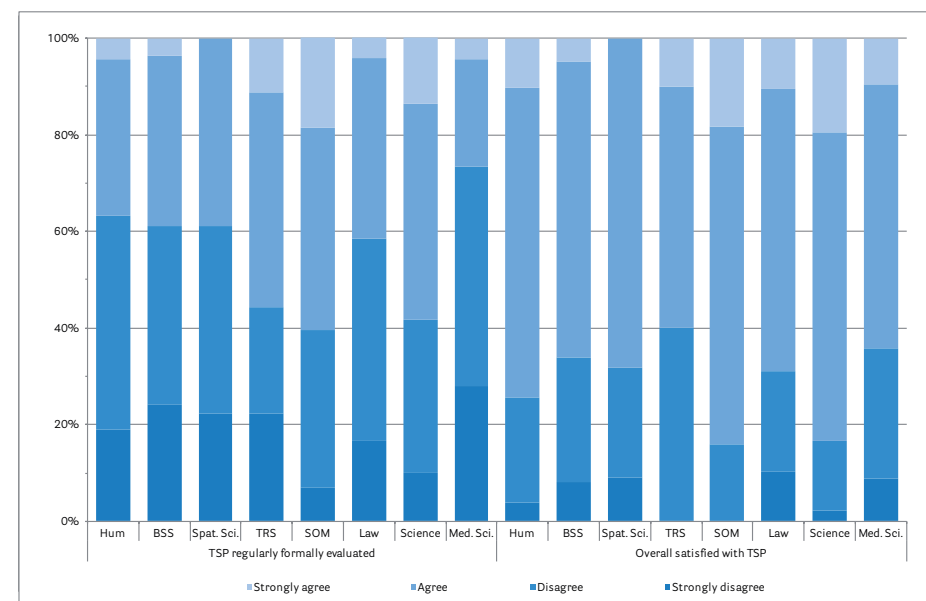


Figure 24. Significant items of satisfaction with TSP by Graduate School (2)

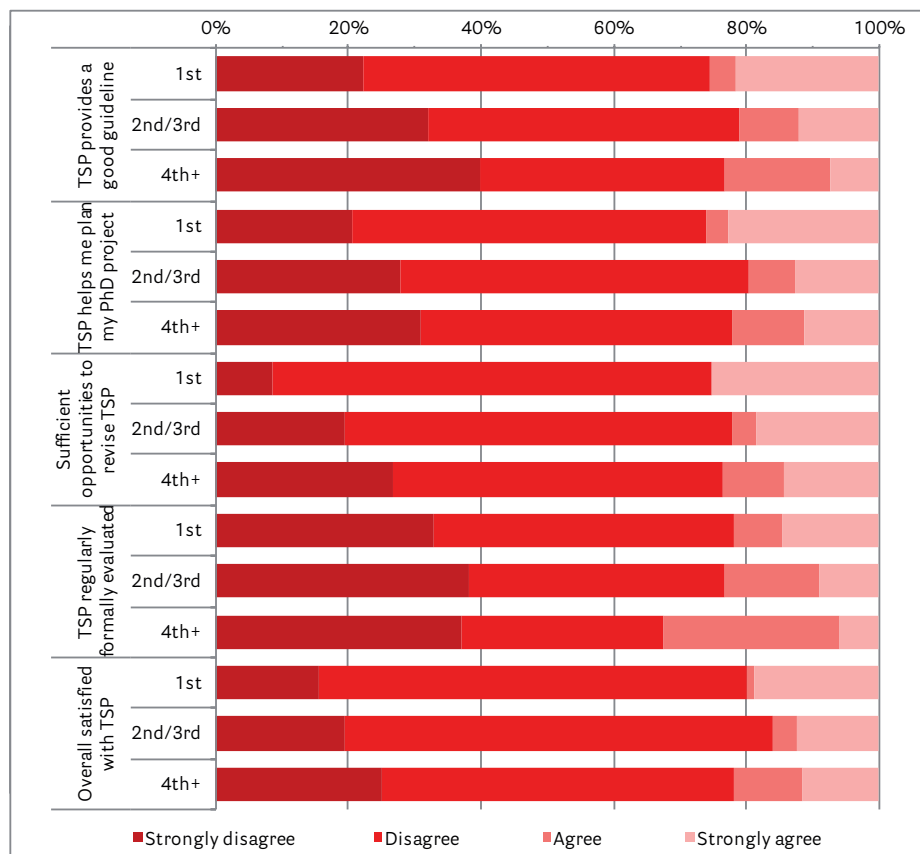


Figure 25. Significant items of satisfaction with TSP by phase

5.3 Graduate School

PhD students were asked if they were familiar with the role of their faculty's Graduate School. In 2015, 64% answered positively, which is less than in previous years (2013: 71%; 2011: 75%; 2009: 67%). Familiarity differs between the Schools (see Figure 26). The Graduate School of Behavioural and Social Sciences was least known by its PhD students, as was the case in previous years.

Familiarity also differs according to affiliation: PhD students with an employment affiliation are a little more familiar with their Graduate School (68%) compared to those with scholarship status (60%) or another type of affiliation (55%).

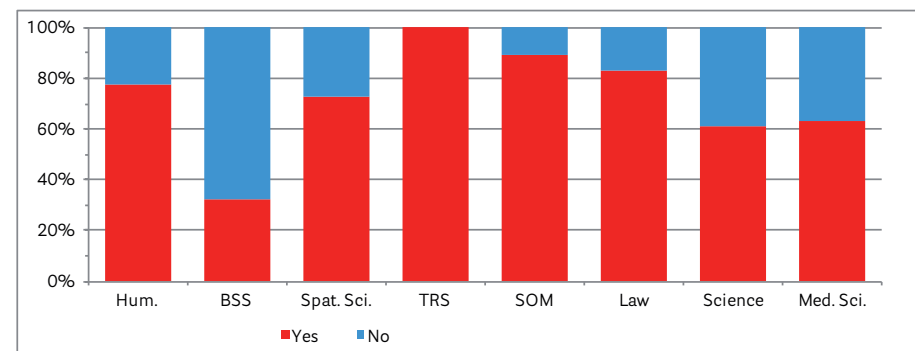


Figure 26. Familiarity with the Graduate School

A little less than half of the respondents (47%) who were familiar with the role of their Graduate School attended an introductory module at the Graduate School (51% in 2013 and 43% in 2011). Graduate Schools differ significantly in the percentage of participants who attended these modules (see Table 20). The highest proportion was found for the Graduate School of Humanities and the Graduate School of Law and the lowest percentage was found for the Graduate School of Behavioural and Social Sciences.

Table 20. Graduate School Introduction module attendance

| Graduate School | Percentage |
|---------------------------------------|------------|
| Humanities | 66.3 |
| Behavioural and Social Sciences (BSS) | 16.2 |
| Spatial Sciences | 29.7 |
| Theology and Religious Studies | 18.8 |
| Economics and Business (SOM) | 44.6 |
| Law | 66.7 |
| Science | 49.0 |
| Medical Sciences | 48.6 |

Satisfaction with the Graduate School was measured using seven items rated on a four-point Likert scale:

- I know whom I can turn to in the Graduate School when facing problems in general, e.g. with my supervision or training.
- I am satisfied with the education provided by my Graduate School.
- I am satisfied with the way my Graduate School monitors and supports the supervision of my PhD project.
- I am satisfied with the way in which my Graduate School monitors the progress of my PhD project.
- My Graduate School provides for a stimulating study and research environment, which allows for interaction and efficiency.
- My Graduate School provides me with adequate information (website, PhD guide).
- Overall, I am satisfied with how my Graduate School functions.

This scale score was only calculated for the PhD students who were familiar with the role of their Graduate School ($n = 730$). The average score on this topic was 3.0, which is significantly higher than the average score of 2.9 in 2013. The average score differs significantly between Graduate Schools, affiliation and project phase. Similar to 2013, PhD students with a scholarship and those at the beginning of their project were most satisfied with their Graduate School. PhD students from the Graduate School of Economics and Business gave their Graduate School the highest rating (3.3), while PhD students from the Graduate School of Behavioural and Social Sciences were least satisfied (2.8). This means that there is a relationship between familiarity with the role of the Graduate School and satisfaction with the Graduate School, as was found in 2011.

Table 21 gives an overview of the percentage of PhD students who agreed or strongly agreed with the propositions about the Graduate School. More than 80% were satisfied with the education offered and the information provided, and most PhD students know who they can turn to within their Graduate Schools when facing problems. However, PhD students were less satisfied with the way the Graduate School monitors and supports the supervision and progress of their PhD project.

Table 21. Satisfaction/familiarity with different roles of the Graduates Schools

| Roles of the Graduate Schools | Percentage |
|---|------------|
| I know whom I can turn to in the Graduate School when facing problems in general, e.g. with my supervision or training | 84.8 |
| I am satisfied with the education provided by my Graduate School | 84.0 |
| I am satisfied with the way my Graduate School monitors and supports the supervision of my PhD project | 75.3 |
| I am satisfied with the way in which my Graduate School monitors the progress of my PhD project | 72.5 |
| My Graduate School provides for a stimulating study and research environment, which allows for interaction and efficiency | 75.2 |
| My Graduate School provides me with adequate information (website, PhD guide) | 87.3 |
| Overall, I am satisfied with how my Graduate School functions | 88.0 |

When we look at the individual items of the satisfaction scale in more detail it becomes evident that PhD students from the Graduate School of Economics and Business (SOM) are most satisfied with their Graduate School: they give the highest satisfaction scores on all seven items (see Figure 27 and Figure 28).

Significant differences according to phase and affiliation were also found, but not for all items. PhD students with an employment status or a scholarship are more satisfied about whom they can turn to in the Graduate School. This seems logical, since PhD students with other types of affiliation are often not situated close to the Graduate School. PhD students with a scholarship are significantly more satisfied with the educational activities provided by the Graduate School compared to the others. Finally, PhD students who are further into their project are significantly less satisfied with the way the Graduate School monitors and supports their supervision and progress.

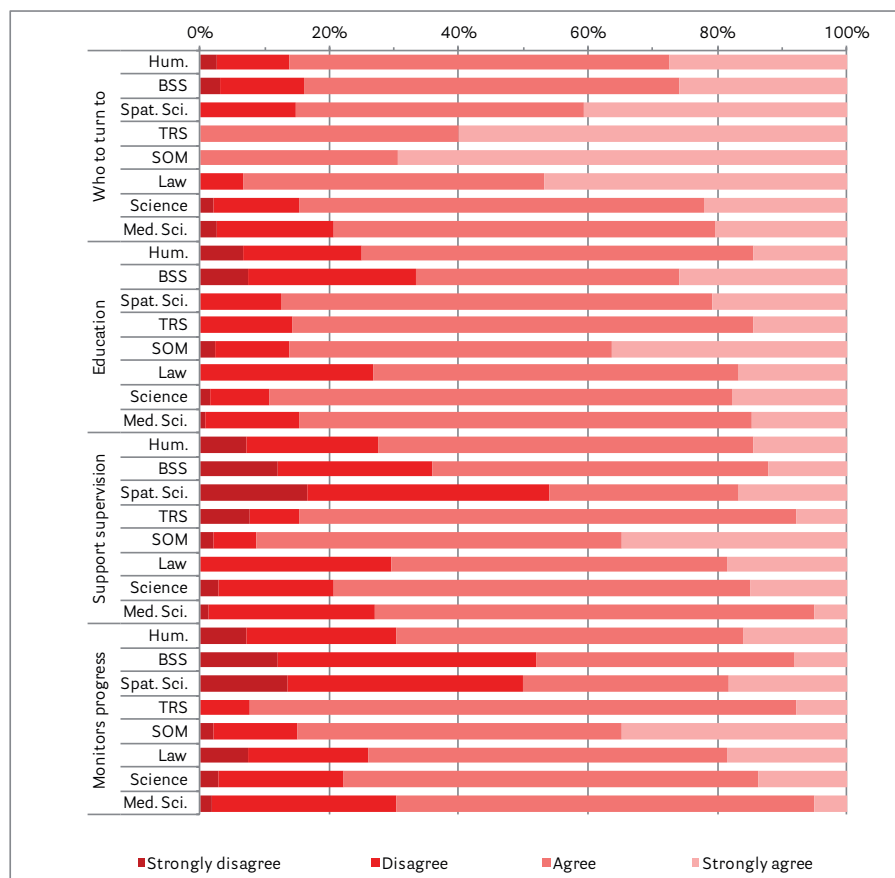


Figure 27. Significant items of satisfaction with Graduate School (1)

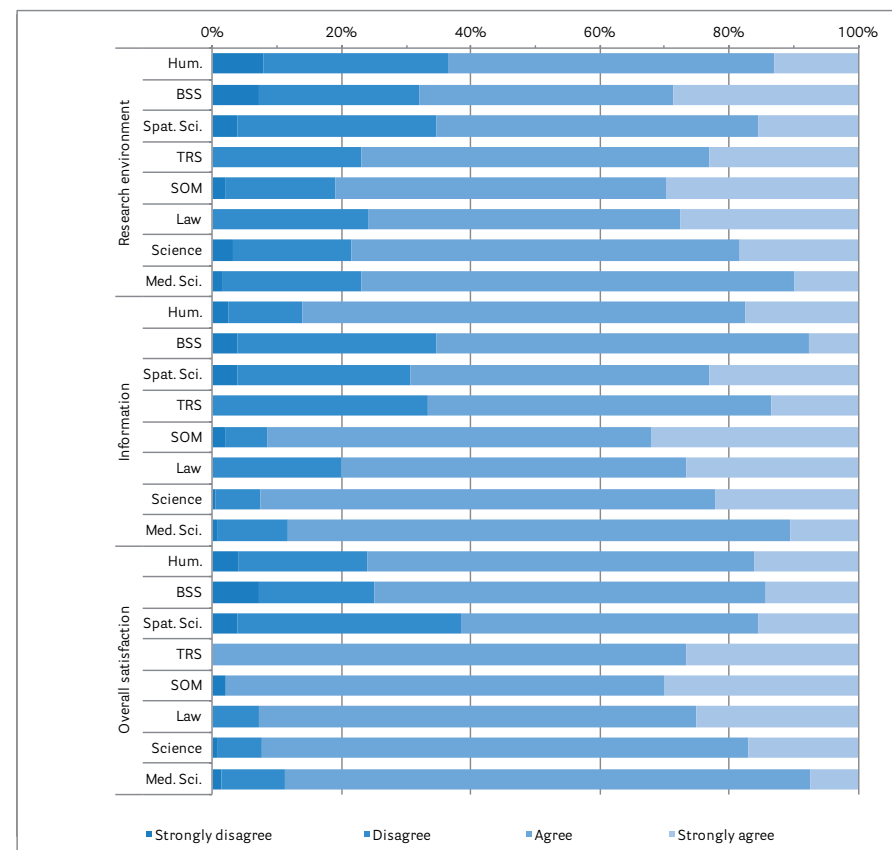


Figure 28. Significant items of satisfaction with Graduate School (2)

5.4 Supervisors

PhD students were asked to indicate how many supervisors they have. The average number is 2.9 (minimum 1, maximum 8), which is higher compared to 2013, when it was 2.3. Respondents were also asked to distinguish between supervisors and daily supervisors. On average the respondents had 2.0 supervisors (e.g. main supervisor; second supervisor) and 0.9 daily supervisors (e.g. postdocs, assistant professors). The majority of the PhD students had an appointment with their primary supervisor at least once a month (see Table 22) and 67% (Table 23) met at least once a week with their daily supervisors.

Table 22. Frequency of meetings with primary supervisors

| Frequency | Percentage |
|---------------------------------|------------|
| Daily | 5.4 |
| Once a week | 29.8 |
| Once every two weeks | 23.3 |
| Monthly | 30.2 |
| Twice a year | 8.8 |
| Yearly | 0.8 |
| I have never had an appointment | 0.7 |

Table 23. Frequency of meetings with daily supervisors

| Frequency | Percentage |
|---------------------------------|------------|
| Daily | 15.3 |
| Once a week | 51.2 |
| Once every two weeks | 21.8 |
| Monthly | 9.4 |
| Twice a year | 1.8 |
| Yearly | 0.0 |
| I have never had an appointment | 0.6 |

5.4.1 Satisfaction with supervision

Satisfaction with supervision was measured using 14 items divided into two categories, one relating to the organization of supervision and one relating to the quality of supervision. All items were scored on a four-point Likert scale. Compared to 2013, one new question was added to the organization scale.

The seven items about the organization of supervision were:

- I am satisfied with the way my supervision is organized.
- At our meetings my supervisors are usually well prepared.
- I am satisfied with the number of meetings I have with my supervisor(s).
- I am satisfied with the number of meetings I have with my daily supervisor(s).
- When I need information at short notice, at least one of my supervisors is available.
- I have enough freedom to determine my own contribution to my research project.
- I have a clear picture of what I can expect of my primary supervisors/co-supervisors and daily supervisors (new).

Compared to 2013, three new questions were added to the quality of supervision scale and one item was not included in 2015. The eight items about the quality of supervision were:

- My supervisors provide me with adequate feedback.
- I feel my contributions to my PhD project are taken seriously (new).
- My supervisors support me in choosing educational activities which I find interesting.
- I am being stimulated by my supervisors to present my work at conferences.
- Generally speaking, my supervisors agree with each other on where my research should be going.
- My supervisors make me feel enthusiastic about my project (new).
- My supervisors encourage me to expand my network of professional contacts (new).

The item that was excluded is:

- My supervisors show commitment to my project.

The organization of supervision scale had an average score of 3.3. This is a rather good score and does not differ from the scores in 2013 and 2011. Most of the larger Graduate Schools do not exhibit major differences across the four moments of measurement (see Figure 29). The increase for Behavioural and Social Sciences and the decrease for Humanities and Economics and Business are not significant. The 2015 satisfaction score for organization of supervision did not differ between Graduate Schools, affiliation or phase.

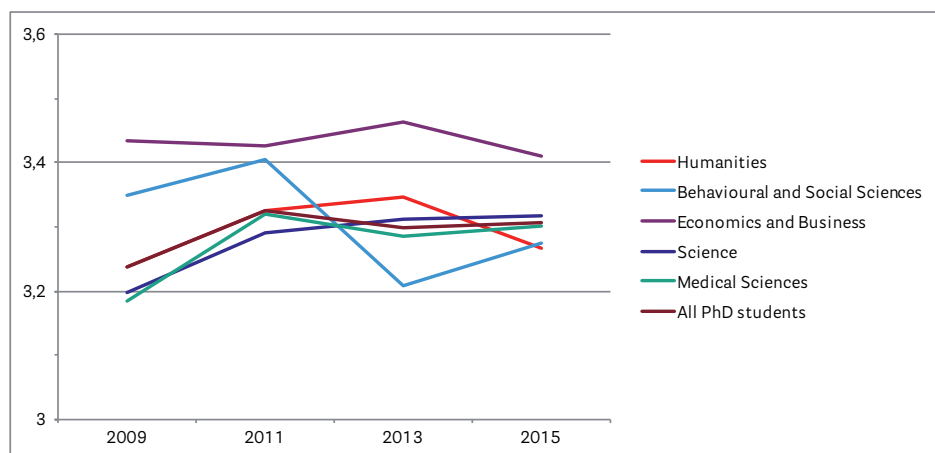


Figure 29. Mean scale score on satisfaction with organization of supervision by Graduate School in 2009, 2011, 2013 and 2015

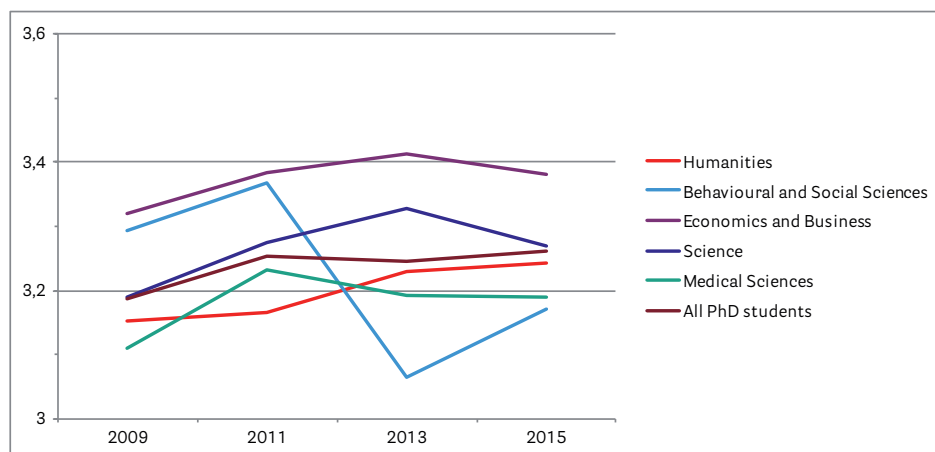


Figure 30. Mean scale score on satisfaction with quality of supervision by Graduate School in 2009, 2011, 2013 and 2015

Similar results were found for the quality of supervision, for which the average score was 3.3. This is a little higher compared to 2013 and 2011 (3.2), but not significantly.¹ The average scores on the quality of supervision are to a large extent similar to the scores on the organization of supervision, with most Graduate Schools' scores rather stable over the years.

The increase for Behavioural and Social Sciences and the decrease for Sciences (see Figure 30) are not significant. The satisfaction score for supervision quality differs only according to phase (see Figure 31); similar to 2013, the further into the project, the more critical PhD students are about the quality of supervision. No differences were found between Graduate Schools or affiliation.

Table 24 and Table 25 show the percentage of agreement (summation of 'strongly agree' and 'agree') with the propositions regarding supervision. Overall, it appears that PhD students are satisfied with the organization and the quality of their supervision. PhD students are least satisfied with the number of appointments with their daily supervisors and with their supervisor's support in relation to educational activities and network expansion.

Since problems with the frequency of supervision can have two sides, that is, too many or too few appointments, we compared the frequency of appointments with the daily supervisor between respondents who were not satisfied (highly disagree + disagree) with those who were satisfied (highly agree + agree). Significantly fewer frequent meetings with the daily supervisor were found in the group that was not satisfied.

Table 24. Organization of supervision

| Roles of the Graduate Schools | Percentage |
|--|------------|
| I am satisfied with the way my supervision is organized | 84.9 |
| At our meetings my supervisors are usually well prepared | 84.8 |
| I am satisfied with the number of meetings I have with my supervisor(s) | 86.8 |
| I am satisfied with the number of meetings I have with my daily supervisor(s) | 75.1 |
| When I need information at short notice, at least one of my supervisors is available | 91.0 |
| I have enough freedom to determine my own contribution to my research project | 93.5 |
| I have a clear picture of what I can expect of my primary supervisors/co-supervisors and daily supervisors | 88.8 |

Table 25. Quality of supervision

| Roles of the Graduate Schools | Percentage |
|---|------------|
| My supervisors provide me with adequate feedback | 89.7 |
| I feel my contributions to my PhD project are taken seriously | 93.2 |
| My supervisors support me in choosing educational activities which I find interesting | 75.6 |
| I am being stimulated by my supervisors to present my work at conferences | 85.6 |
| Generally speaking, my supervisors agree with each other on where my research should be going | 82.4 |
| My supervisors make me feel enthusiastic about my project | 88.8 |
| My supervisors encourage me to expand my network of professional contacts | 77.4 |
| Overall, I am satisfied with the supervision I receive | 82.7 |

5.4.2 Appreciations and frustrations concerning supervision/supervisors

Respondents were asked what they appreciated most about their supervision. Table 26 summarizes their answers. The majority of the respondents appreciated the feedback, expertise or support given by their supervisor(s). In the category 'Other', no new aspects were mentioned. About three-quarters noted that they appreciated several or all aspects mentioned in the predefined categories, while one-quarter noted that they did not appreciate any of the aspects mentioned. PhD students were also asked which aspects of supervision they find most challenging or frustrating. More than half of the respondents reported not to have faced challenges or frustrations in relation to supervision (see Table 27), which is comparable to the results of 2013. Almost all 124 comments made in the category 'Other' (see table) concerned combinations of the predefined categories.

Table 26. Aspects PhD students appreciate most in the supervision

| Appreciated most in supervision | Percentage |
|---|------------|
| Feedback, expertise or support given by my supervisor(s) | 50.2 |
| Approachability/availability of my supervisor(s) | 17.5 |
| Commitment/enthusiasm of my supervisor(s) | 13.3 |
| Freedom in my project | 13.0 |
| Personal characteristics of my supervisor(s) or our personal relationship | 3.9 |
| Other | 1.6 |

Table 27. Causes of challenges or frustrations in the supervision

| Challenges/frustrations in supervision | Percentage |
|---|------------|
| None | 51.6 |
| Frequency of supervision | 9.8 |
| Quality and/or content of supervision | 8.0 |
| Too many or disagreeing supervisor(s) | 5.7 |
| Lack of expertise of my supervisor(s) | 4.9 |
| Lack of interest or lack of commitment of supervisor(s) | 4.7 |
| Personal fit with supervisor(s) | 4.2 |
| Other | 11.6 |

Figure 32 presents the division over the eight challenges/frustration categories (see Table 22) for each Graduate School. PhD students who do not experience frustrations or challenges with their supervision (in grey) mainly belong to the Graduate School of Science and the Graduate School of Economics and Business. Problems due to 'Quality and/or content of supervision' are most mentioned by PhD students from the Medical Sciences, Spatial Sciences and Humanities. Problems due to 'Frequency of supervision' were mostly reported by PhD students from Science, Law, Economics and Business, Theology and Religious Studies (TRS) and Behavioural and Social Sciences.

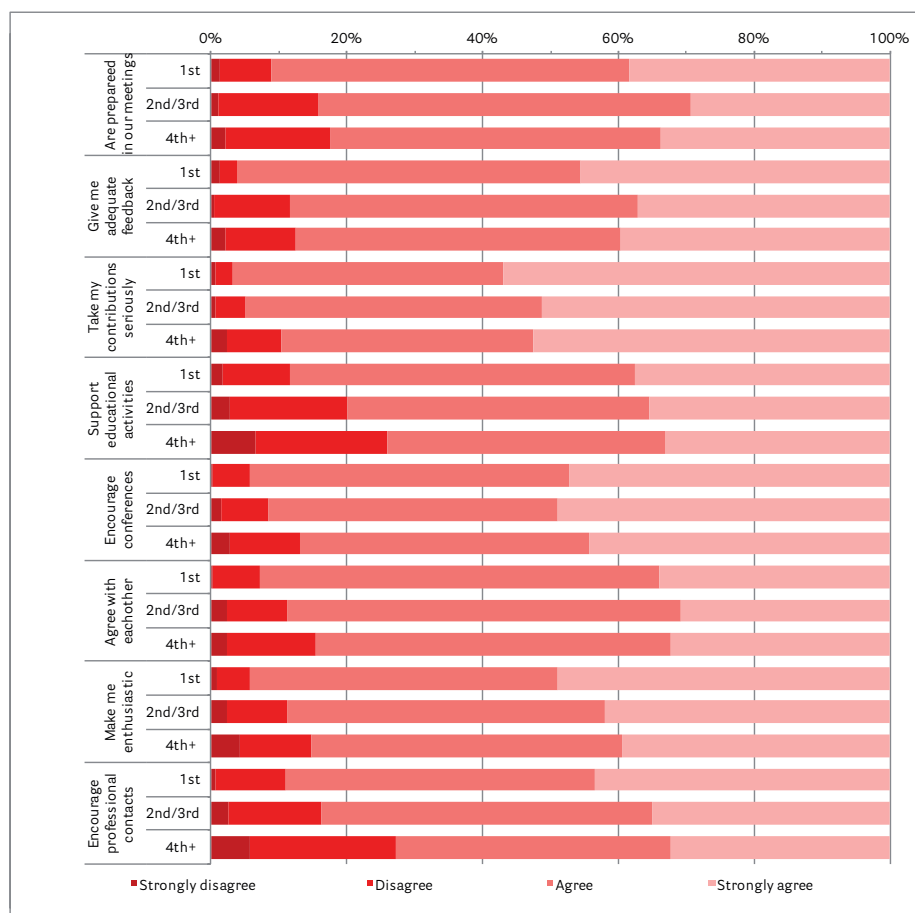


Figure 31. Significant items of satisfaction with quality of supervision by phase

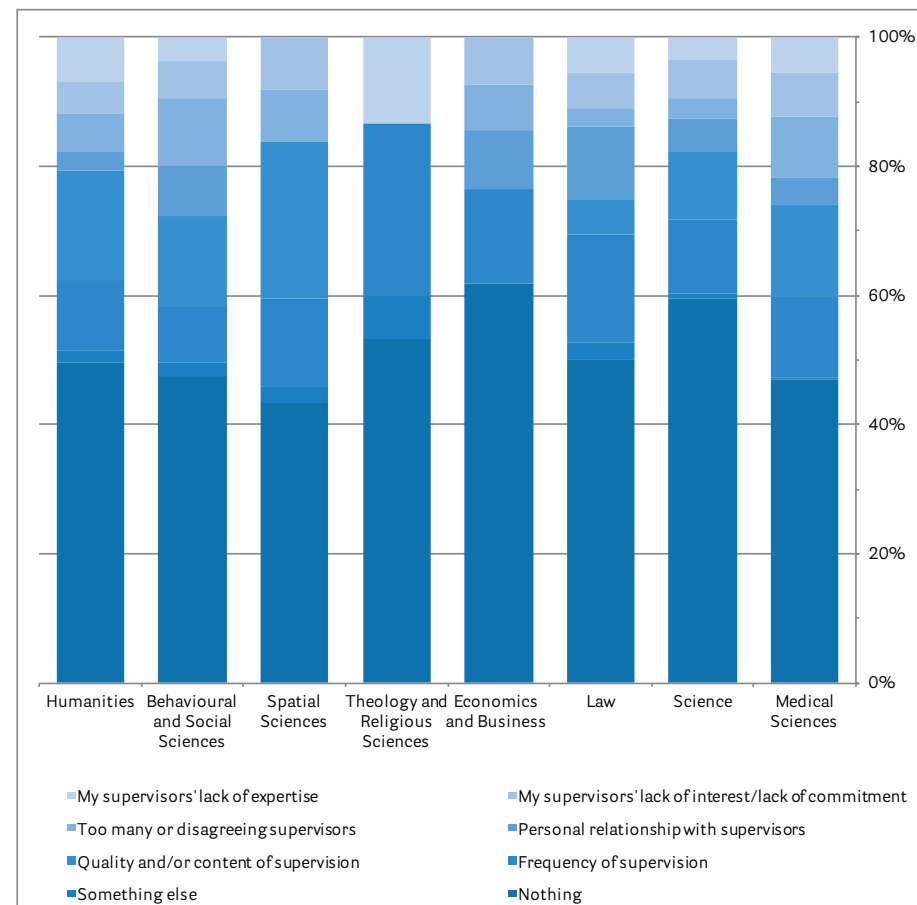


Figure 32. Causes of challenges and frustrations related to supervision by Graduate School

6 Work environment

In this chapter we focus on the work environment of the PhD students. We will discuss their satisfaction with the expertise and support within the department, their satisfaction with their contact with peers, work-related stressors and their overall satisfaction with their work.

6.1 Expertise and support

Five items contributed to a satisfaction score relating to the students' experience of expertise and support in the department. In the first two PhD surveys, this score consisted of six items, but since 2013 the items about access to books and journals have been combined into one. The items concerning expertise and support were:

- A sufficient number of experts are available in my working environment to help me deal with problems related to my project.
- I have regular (formal or informal) contact with fellow PhD students about my PhD project.
- I am a member of a research group that meets at least once every two weeks.
- I have good access to the books and journals that are relevant to my research topic.
- I received good support during the collection of my data.

In general, PhD students were satisfied with the expertise and support available in their departments: the average score was 3.2 and thereby significantly higher compared to 2013. Figure 33 presents the change in satisfaction over time for the Graduate Schools that had more than 15 respondents in each survey. All Graduate Schools scored somewhat higher than in 2013, but the Graduate School of Economics and Business exhibits the largest increase. Just as in 2013, PhD students from the Graduate Schools of Humanities were least satisfied with the expertise and support available and PhD students from Science were again most satisfied.

Table 28 shows the agreement (summation of highly agree + agree) with the separate propositions. PhD students were most satisfied with the access to books and journals. Less than 70% agreed they were a member of a research group that meets at least once every two weeks. Less than 75% were satisfied with the support available from experts and fellow PhD students in general, and specifically during the collection of data.

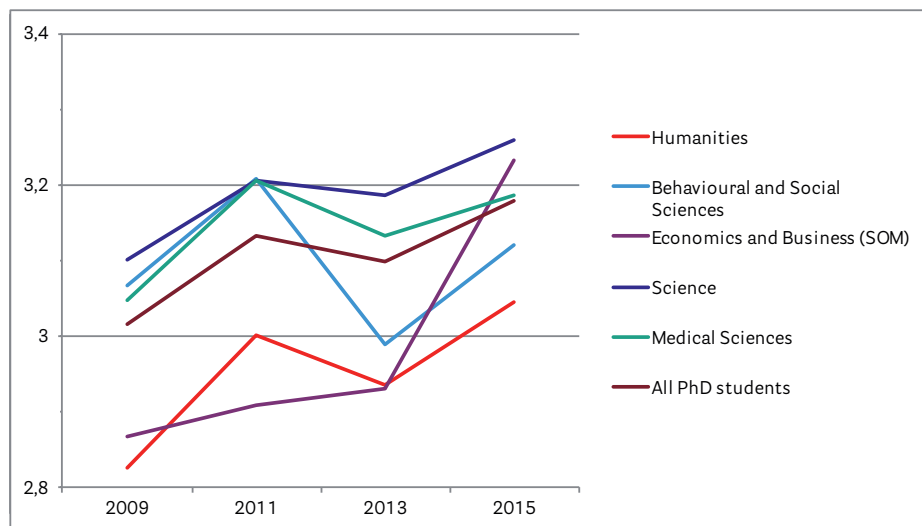


Figure 33. Mean scale score on satisfaction with expertise and support provided by the Graduate School in 2009, 2011, 2013 and 2015

Table 28. Expertise and support in the working environment

| Expertise and support | Percentage |
|--|------------|
| A sufficient number of experts are available in my working environment to help me deal with problems related to my project | 73.0 |
| I have regular (formal or informal) contact with fellow PhD students about my PhD project | 74.9 |
| I am a member of a research group that meets at least once every two weeks | 65.3 |
| I have good access to the books and journals relevant to my research | 95.0 |
| I received good support during the collection of my data | 73.9 |

Significant differences are present for specific items for both Graduate School and phase. Figure 34 presents the significant differences between PhD students from different Graduate Schools on four of the five items of the Expertise satisfaction scale. PhD students from SOM, BSS and the Humanities indicated they were not a member of a research group that meets

frequently. Moreover, 35% of the Humanities PhD students were not satisfied with the availability of experts. Figure 35 reveals significant differences between the phases of the project. Just as in 2013, PhD students who are further advanced in their project are more critical about the expertise and support available in their department.

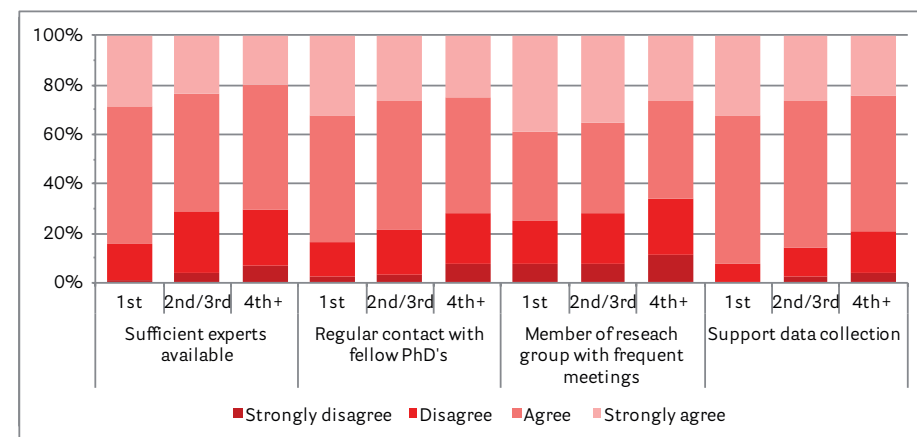


Figure 34. Significant items of satisfaction with expertise and support by Graduate School

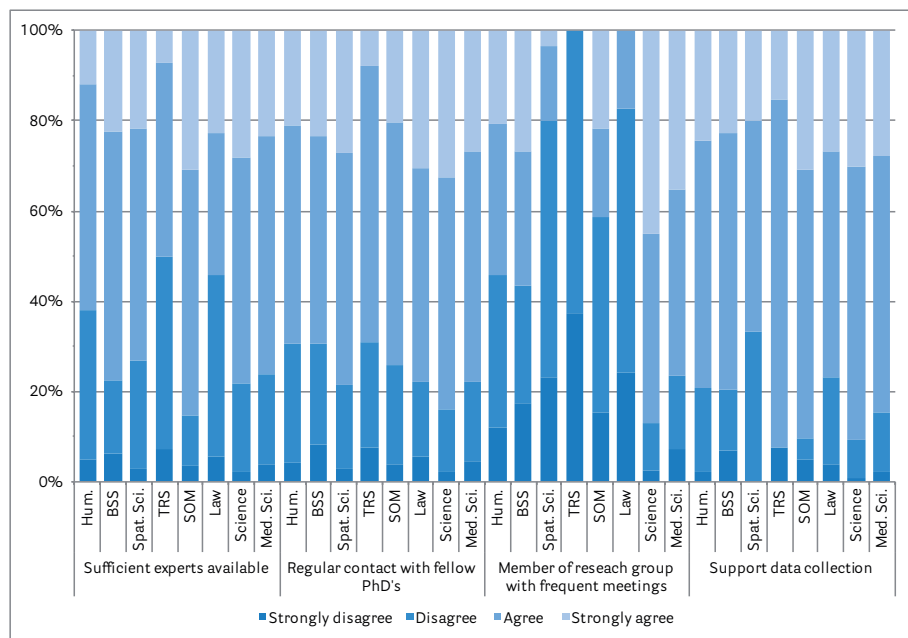


Figure 35. Significant items of satisfaction with expertise and support by phase

6.2 Contact with other PhD students

In the 2009 and 2011 surveys, PhD students were asked about several aspects of their work conditions. In 2013 and 2015, the decision was made to adjust this satisfaction scale to focus more on the contact PhD students have with other PhD students and staff members and how satisfied they are with these contacts. The items of the scale were:

I am satisfied with ...

- my contact with other PhD students in my department.
- my contact with other PhD students in my Graduate School.
- my contact with other PhD students at the University of Groningen.
- my contact with other PhD students in my field (nationally).
- my contact with other PhD students in my field (internationally).
- my contact with other staff members in the research group.

Similar to 2013, the average score on this scale was 2.9, indicating moderate satisfaction with the contact PhD students have with other groups of PhD students. No differences were found for phase or affiliation. Significant differences between Graduate Schools are seen in Figure 36. PhD students from the Medical Sciences are most dissatisfied with the international contacts they have with others in their field, while Economics and Business PhD students are most satisfied with the contact they have with others in their department. However, together with BSS, PhD students from Economics and Business are most dissatisfied with the contact they have within the University.

Table 29 shows the satisfaction with the different items (summation of highly agree + agree). PhD students are most satisfied with their contact with PhD students in their department and other staff members in the research group. The satisfaction with contact at their Graduate School, the University of Groningen or in their field (national and international) is much lower.

Table 29. Contact with other PhD students in the working environment

| I am satisfied with... | Percentage |
|---|------------|
| ..my contact with other PhD students in my department | 85.3 |
| ..my contact with other PhD students at my Graduate School | 62.5 |
| ..my contact with other PhD students at the University of Groningen | 53.7 |
| ..my contact with other PhD students in my field (nationally) | 56.0 |
| ..my contact with other PhD students in my field (internationally) | 53.9 |
| ..my contact with other staff members at my research group | 79.4 |

6.3 Work-related stress

This year, a new question was added to assess the work areas in which PhD students experience stress. Almost 40% experienced stress due to publication pressure and deadlines, and about one-quarter felt stress due to the complexity of the work and the overall workload. One-fifth reported stress due to contact with management and supervisors (see Table 30 for an overview of all areas). In the category 'Other', uncertainty about career prospects, combining PhD work with other work, not finishing on time, presenting scientific work and unclear rules and administrative issues were mentioned. Almost 14% reported that they did not experience stress.

Table 30. Areas of work-related stress

| Category | Percentage |
|--|------------|
| Pressure to publish | 39.8 |
| Deadlines | 36.3 |
| The complexity of the work | 26.1 |
| Workload | 25.2 |
| Contact with management/supervisors | 19.5 |
| Pace of work | 17.9 |
| Working outside office hours | 17.8 |
| Interruptions at work | 17.2 |
| Equipment/facilities with which you work | 14.0 |
| Content of the work | 8.4 |
| Significant personal incidents | 7.8 |
| Teaching activities | 7.4 |
| Contact with colleagues | 7.0 |
| Inappropriate behaviour | 6.4 |
| Significant work-related incidents | 5.3 |
| Other extracurricular activities | 3.9 |
| Contact with students | 2.2 |
| I do not experience stress | 13.6 |
| Other | 7.8 |

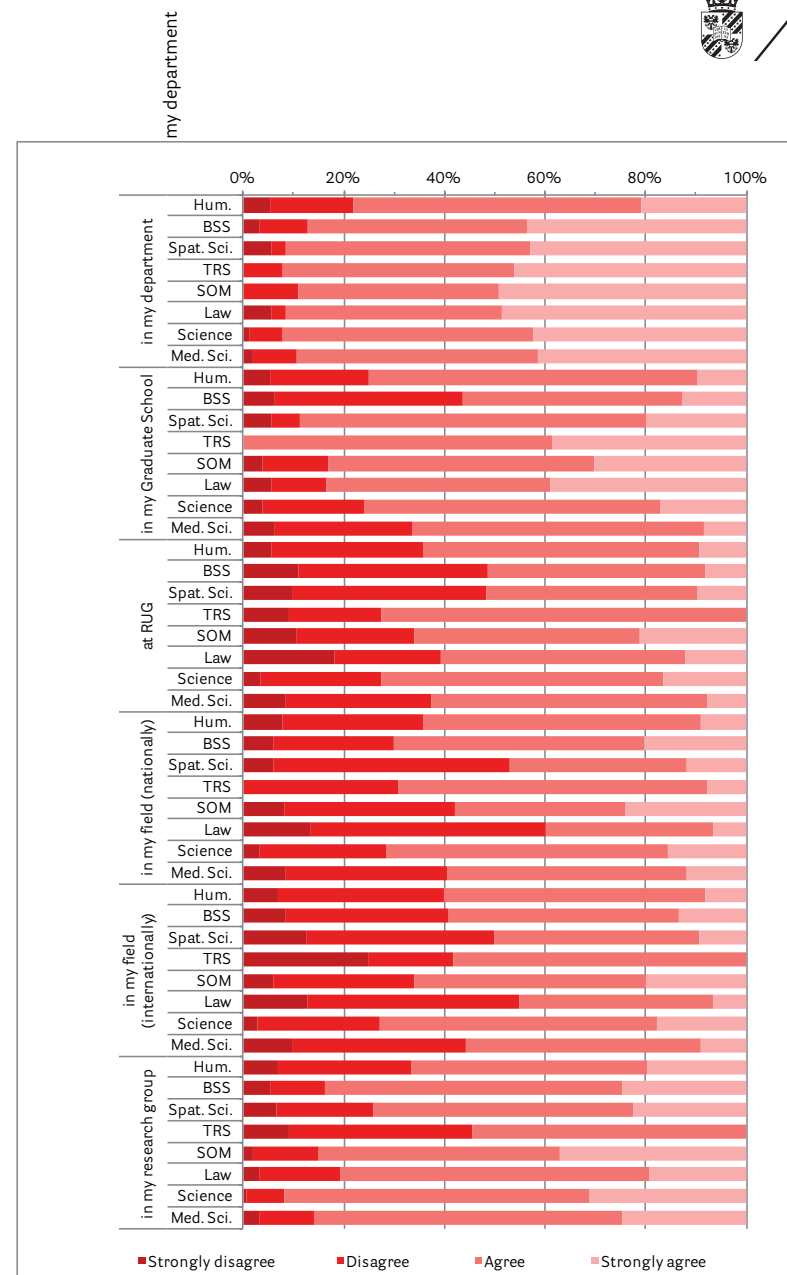


Figure 36. Satisfaction with contact with others by Graduate School

6.4 Overall work satisfaction

The final satisfaction scale in this chapter deals with the PhD students' overall satisfaction with their work. The three items for this scale were:

- Overall, I am satisfied with the content of my work.
- Overall, I am satisfied with my working environment.
- Overall, I am satisfied with my social relationships at work.

The average score was 3.3, which is rather good. Overall, 92.2% of PhD students were satisfied with the content of their work, 87.8% were satisfied with the working environment and with social relationships at work. Graduate Schools do not differ significantly on overall work satisfaction (see Figure 37), nor do PhD students with different types of affiliations. However, PhD students in their first year were significantly more positive on all three items compared to PhD students in later years (see Figure 38).

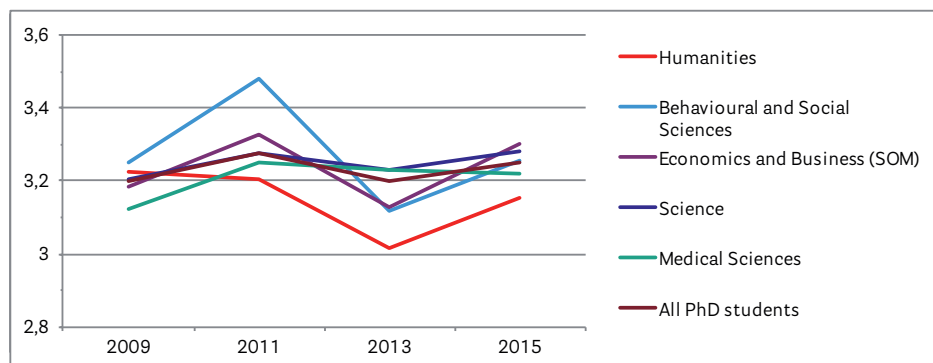


Figure 37. Mean score on satisfaction with work by Graduate School in 2009, 2011, 2013 and 2015

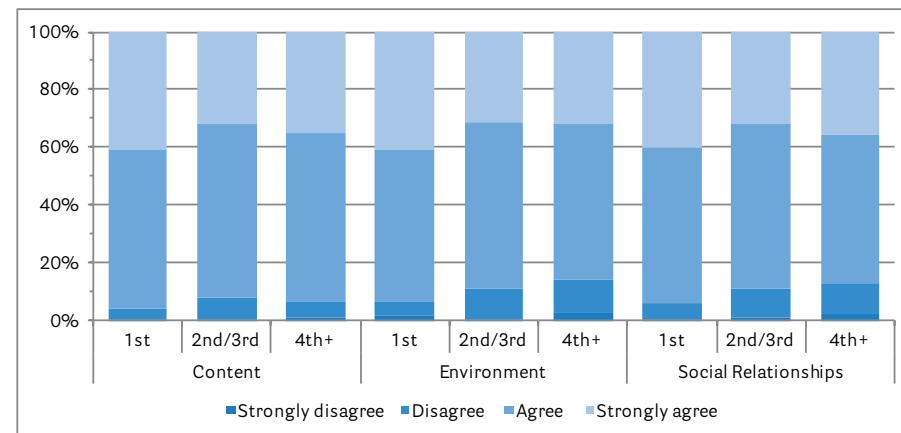


Figure 38. Mean score on satisfaction with work by phase

7 Career development

This chapter discusses the future prospects of PhD students. We focus first on their current orientation towards a future career and then on the desired job after graduation and the feasibility of obtaining such a job.

7.1 Career orientation

When we asked PhD students whether they were exploring future career options, 61.2% said they were. It is not surprising that a greater number of PhD students in their final year are exploring future career options (61.8%) than those in their second or third years (8.2%). Nevertheless, approximately 30% of the PhD students who had been working for one year or less on their PhD research were already thinking about their career after graduation. PhD student explorations differ between Graduate Schools (see Figure 39). PhD students from Law and Humanities most often mentioned that they were exploring career options. Furthermore, PhD students with a scholarship explore career options significantly less often (54.2%) than PhD students with an employment status (65.0%) and those with another type of affiliation (58.9%).

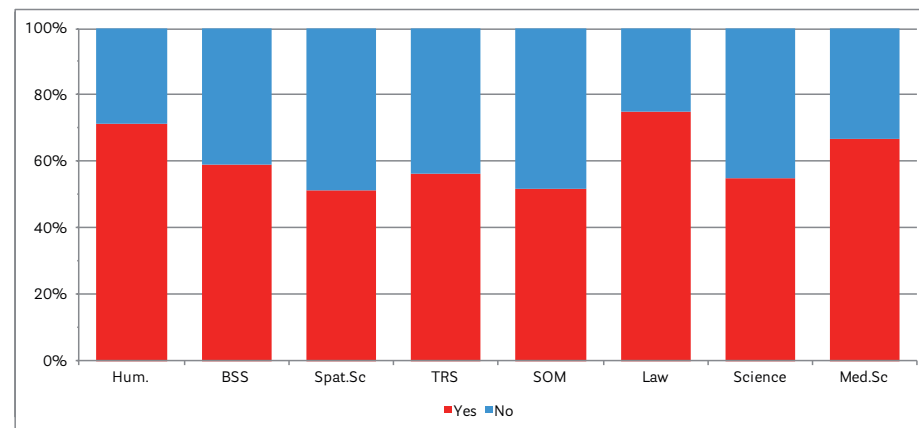


Figure 39. Exploration of future career options by Graduate School

PhD students who were not yet exploring future career options were asked when they thought they would do so. The results are presented in Figure 40.

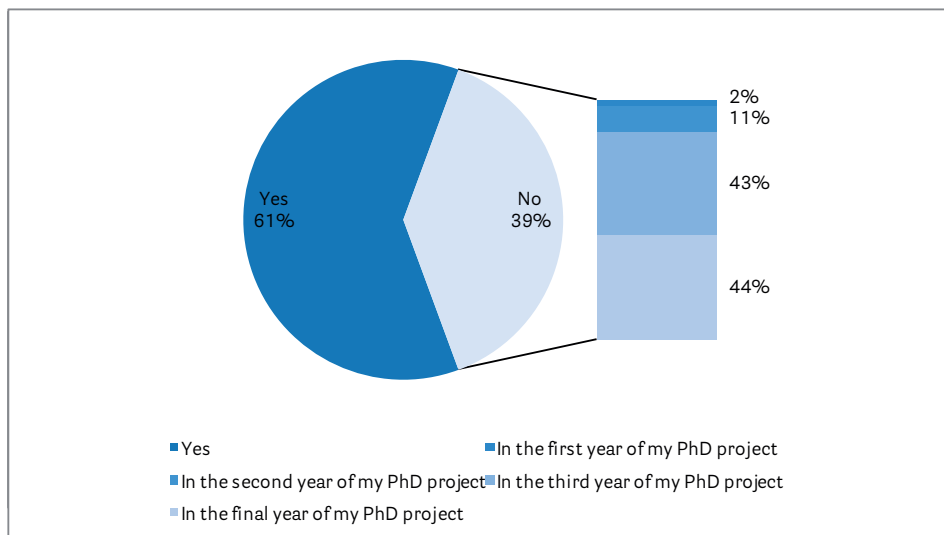


Figure 40. Percentage of all respondents who explored a future career, or indication of when they planned to start exploring future career

7.2 Career training

Only 30% of the respondents were familiar with the career training opportunities of the University's HR Experts department. In the 2015 survey, a new question was added to assess the familiarity with NEXT Career Services of the University of Groningen and less than 20% (18.0%) had heard of NEXT Career Services. Familiarity with career training activities organized by HR and NEXT differs between the Graduate Schools (see Figure 41). Both HR and NEXT were best known among PhD students from Humanities, Economics and Business and Behavioural and Social Sciences.

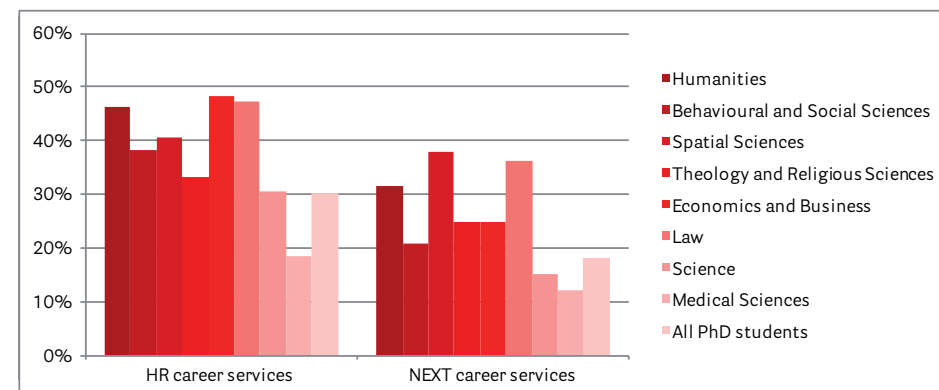


Figure 41. Familiarity with University of Groningen career services by Graduate School

PhD students with an employee status were more familiar with the career training opportunities organized by HR and NEXT than PhD students with a scholarship status or another type of affiliation (see Figure 42). Familiarity also differs according to phase. PhD students in the final stages of their project were more familiar with the activities organized by HRM (see Figure 43); however, activities organized by NEXT were better known among PhD students who had just started.

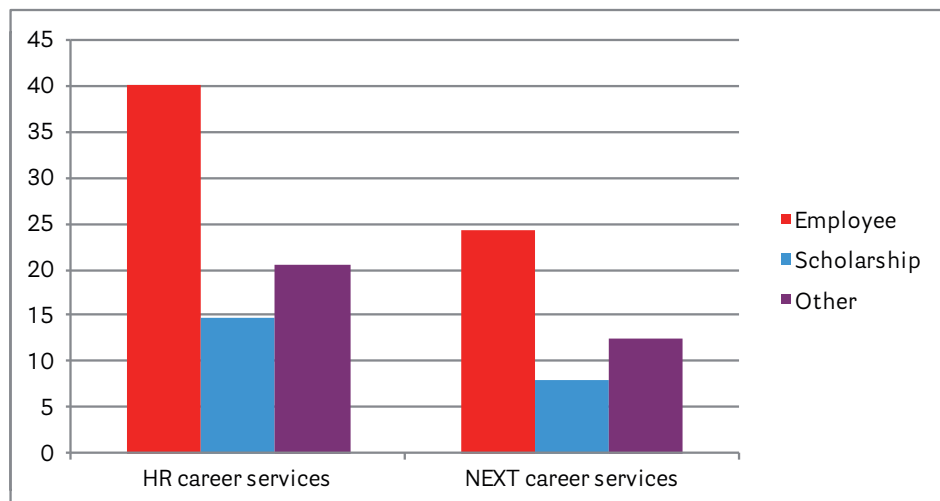


Figure 42. Familiarity with career training activities organized by HRM and NEXT by affiliation

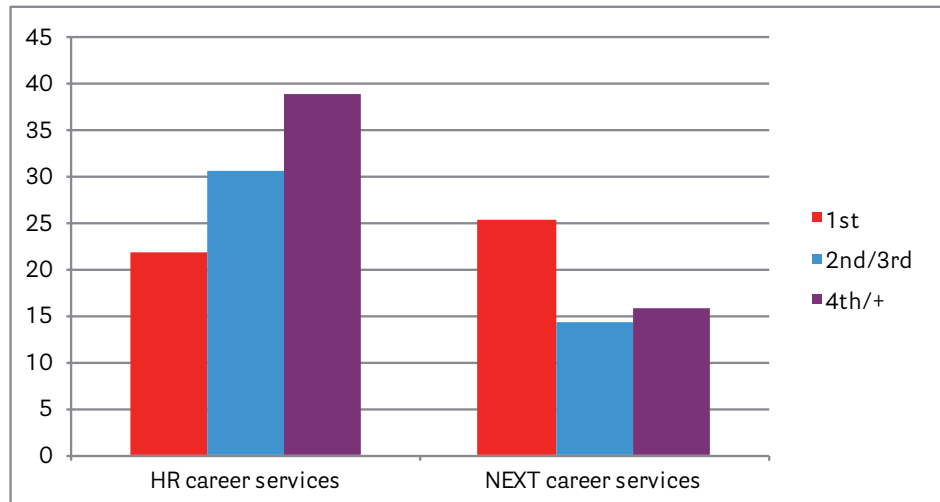


Figure 43. Familiarity with career training activities organized by HRM and NEXT by phase

7.3 Career development activities

A total of 158 respondents reported having attended a career development activity and, similar to 2013, about one-quarter of this group consists of PhD students in the last stage of their project. In addition to this difference according to phase there is a difference according to affiliation: PhD students with an employment status (18.3%) significantly attended more activities than PhD students with a scholarship (8.5%) or other type of affiliation (6.6%). Almost all PhD students who attended an activity mentioned the name of the activity. A summary of these categories can be found in Table 31.

Table 31. Career activities attended

| Career activities | Percentage |
|--|------------|
| University PhD Day | 23.1 |
| University HRM career course for PhD students and postdocs | 15.7 |
| Workshop (external) | 13.4 |
| Graduate School events | 9.7 |
| Career days (external) | 9.0 |
| Career course (external) | 6.7 |
| Course Future Science or Business | 6.0 |
| My career at a university of applied sciences | 3.7 |
| Beta Bedrijven dagen | 3.0 |
| NEXT workshop | 3.0 |
| Other University HRM course | 1.5 |
| FOM career training | 1.5 |
| Personal trainer/coach | 1.5 |

7.4 Future career

PhD students were asked about the kind of work they would prefer once they graduated and what kind of work they expect they would do. Table 32 shows that all of the predefined options are more aspired to than expected. This means that many PhD students are not very confident about finding their preferred job. It also indicates that respondents do not think they would have to accept a job that they do not prefer. As in the previous PhD survey, in general, most positions aspired to are research and/or academic positions and the most preferred position is a postdoctoral position

Table 32. Preferred and expected future work

| Future work | Preferred | Expected |
|---|-----------|----------|
| Postdoctoral position in the Netherlands | 39.7 | 25.4 |
| Postdoctoral position abroad | 37.3 | 29.8 |
| Assistant professorship | 24.6 | 9.2 |
| Research position at a government institute (e.g. at the CBS, CPB, etc.) | 24.5 | 13.1 |
| Commercial research position | 24.1 | 16.7 |
| Other position at a university | 22.1 | 15.8 |
| Teaching/lecturing position at an institute for higher vocational education (HBO) | 17.4 | 14.6 |
| Consultancy | 14.4 | 10.6 |
| Policy advisor for the government | 12.7 | 5.9 |
| Management position | 12.1 | 6.6 |
| Setting up my own business | 12.1 | 7.4 |
| Other | 17.5 | 17.3 |

We subsequently presented the respondents with a number of items concerning their future prospects. Similar to 2013, 71.8% of the respondents believed that finding their preferred job was an attainable goal, 3.8% were less confident and 24.4% did not have an opinion about the feasibility of finding their preferred job. About one-third (32.1%) wanted to write a research proposal for a position after their PhD (which is more than in 2013) compared to 22.9% who did not and 44.9% that were not sure. The majority of the respondents were determined

to finish their dissertation before finding a full-time job (78.2%). This determination differs according to phase: PhD students at the start and middle of their projects were more certain (about 80%), compared to 67.7% in their final stage.

Comparable to 2013, the majority believed that his/her prospects after obtaining a PhD were sufficient and that the doctoral title and the content of their project would be useful in their future career (see Table 33). Worth noting is the finding that 60% of the PhD students believe the University supports them with their future career planning, while only 30% said they were aware of the activities organized by the University. Finally, two-thirds of the PhD students reported that job opportunities at the University were not sufficient.

Significant differences on the agreement with these items were found for phase (see Figure 44) and Graduate School (see Figure 45). PhD students who are further into their project were the least confident that the title and content of their PhD would help them find a job. On the other hand, senior PhD students agreed more often with the statement that the University supports their future career planning and that there were sufficient job opportunities at the University.

Table 33. Items about future prospects

| Future prospects | Percentage |
|--|------------|
| Overall, I think my prospects after finishing my PhD are sufficient | 82.5 |
| Obtaining my PhD degree will help me find a job | 86.4 |
| The content of my PhD project is useful for my future career | 85.5 |
| The University supports me in my future career planning | 55.9 |
| There are sufficient job opportunities at this university after completion of my PhD | 31.6 |

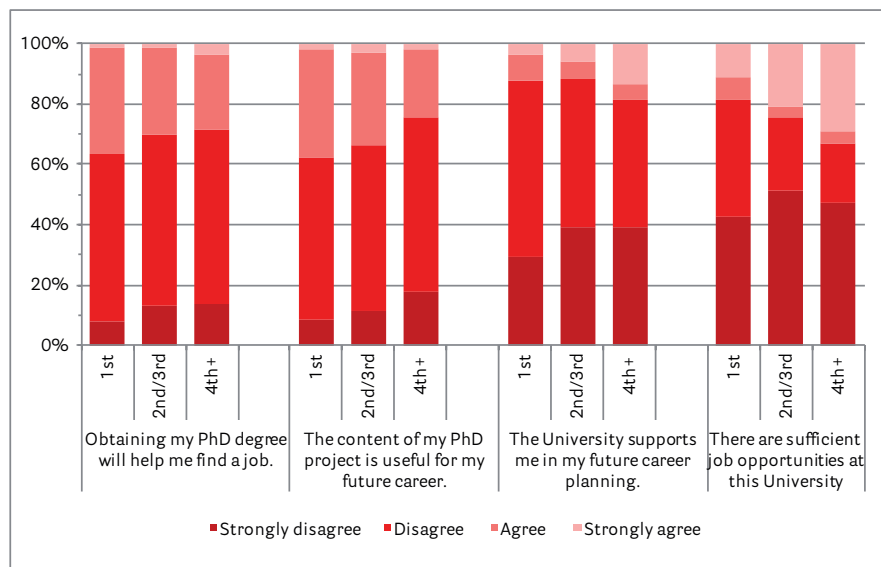


Figure 44. Significant items of satisfaction with future prospect by phase

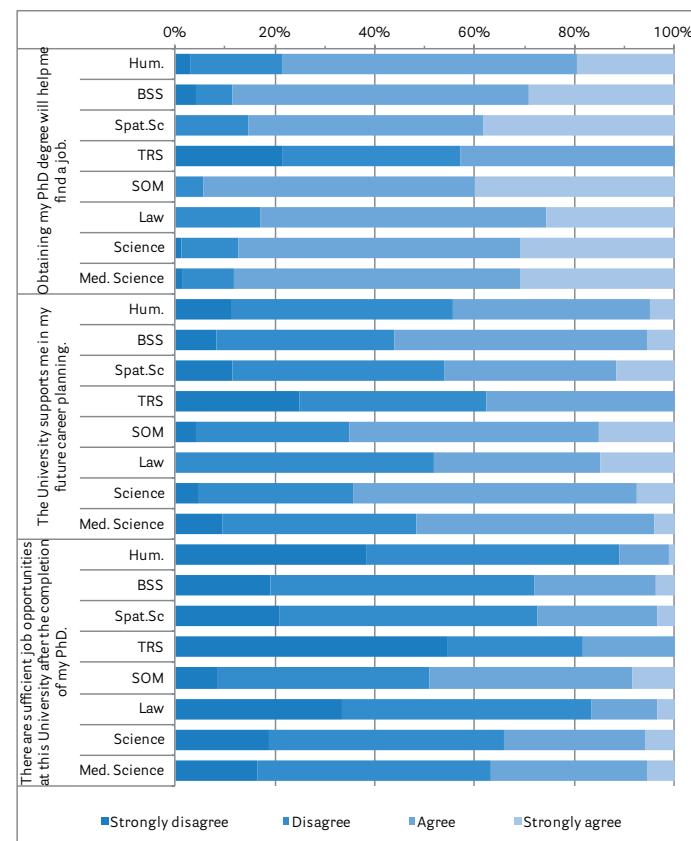


Figure 45. Significant items of satisfaction with future prospects by Graduate School

8 PhD organizations

This chapter focuses on the familiarity with and activities of PhD organizations at the Graduate Schools and the two local PhD organizations GOPHER (Groningen Organization for PhD Education and Recreation) and GRIN (Groningen Graduate Interest Network).

Familiarity with the Graduate Schools' PhD Council has slightly increased to 55%, compared to 2013 (49%). Familiarity with GOPHER is greater than familiarity with GRIN. There are differences between Graduate Schools (see Table 34). Moreover, employed PhD students are more familiar with GOPHER than scholarship students and PhD students with another type of affiliation. Finally, the more advanced the PhD students are in their project, the more familiar they are with the Graduate Schools' PhD organization.

Table 34. Familiarity with PhD organizations

| Graduate School | PhD Council | Gopher | GRIN |
|---------------------------------|-------------|--------|------|
| Humanities | 79.8 | 76.0 | 47.1 |
| Behavioural and Social Sciences | 39.0 | 50.0 | 20.2 |
| Spatial Sciences | 89.0 | 70.3 | 21.6 |
| Theology and Religious Studies | 56.3 | 56.3 | 18.8 |
| Economics and Business | 48.2 | 75.0 | 42.9 |
| Law | 94.4 | 66.7 | 36.1 |
| Science | 49.0 | 61.9 | 27.3 |
| Medical Sciences | 53.4 | 55.5 | 26.4 |
| Total | 54.9 | 60.6 | 28.8 |

The number of respondents who were satisfied with the number of activities and services offered by the PhD organizations has increased from 73% in 2013 to 86% in 2015. There is a significant difference between PhD students with a Dutch and a non-Dutch nationality (9.3% versus 20.0% dissatisfied). About 10% of the PhD students who were not satisfied gave reasons for their answer. Similar to 2013, PhD students indicated that they especially would like more information about practical issues concerning their PhD and living in Groningen. Social activities (cultural and sport) and general courses (academic writing, writing funding applications) were also mentioned quite frequently.

9 Conclusions and recommendations

The overall picture presented by the 2015 PhD survey is positive. Significant improvements in satisfaction with the Graduate Schools and the expertise available in the working environment were found. Based on the 2011 PhD survey, the Dean of Graduate Schools and the individual Graduate Schools themselves have decided to focus on five themes in the upcoming years. They are:

1. to decrease the time that PhD students need to finish their PhD
2. to improve information provision
3. to improve familiarity with the Graduate Schools and enlarge their role in the PhD projects
4. to have all PhD students using a Training and Supervision Plan
5. to broaden career-orientation opportunities

The current status of these issues, and some other important findings from the 2015 survey, will be addressed in the following sections.

9.1 Time span of the PhD project

Compared to 2013, a smaller percentage of PhD students indicated that they could finish their project within time (41% in 2015 compared to 45% in 2013). The average additional time expected to be needed has increased from 7.6 to 8.6 months. The main reasons for expecting not to finish by the official end date were 'a too ambitious research plan' and 'delay in the research'.

Timely completion is influenced by many factors. One of these is the belief in one's own ability to finish within the allotted time. The self-fulfilling prophecy of being unable to finish in four years must be avoided as much as possible. PhD students from Economics and Business as well as the Humanities are significantly more confident in their ability to finish on time. In the future, we intend to explore whether these PhD students indeed finish their theses in a shorter time period than others.

In addition, more PhD students considered quitting in 2015 compared to 2013; especially in the final stages of the project. The most often mentioned reasons were: 'uncertainty about own capabilities and the PhD work', 'supervision problems', 'executing the project' or 'discontent with the working environment'. The 2011 survey recommended further investigation of the reasons why PhD students dropped out but no further information has been gathered, so the reasons for drop-out remain unclear.

The average completion rate for a PhD is 61 months. Data from the current and past three PhD student surveys provide an opportunity to examine factors involved in timely completion, delay and drop-out. Knowing what factors play a role in delay and drop-out may result in intervention strategies that have a twofold goal: to increase PhD satisfaction and to shorten completion time. Preliminary analyses suggest that self-confidence, acquired research skills, teaching duties, organization of the project, quality of supervision and satisfaction with the working environment play a role.

Recommendations:

- HR advisors/Graduate Schools should organize exit interviews with all PhD students who discontinue their PhD and collect and store this information centrally (e.g. in *Hora Finita*).
- Stimulate in-depth analysis concerning completion time, delay and drop-out of PhD students in order to develop effective intervention strategies.

9.2 Information provision and language difficulties

Information provision was another point of attention in the previous PhD surveys. The percentage of PhD students who felt well informed about regulations and conditions of employment or the scholarship has increased from 65% to 70%. Just as in previous years, the information package that is handed out at the Graduate School introduction was not often used as a source of information. In the present survey, it remains unclear whether PhD students received such a package or not, or whether they simply did not use it. Although improvements have been made, PhD students still mention that links on the University of Groningen websites do not work properly. Especially non-Dutch PhD students report having experienced problems due to poor information provision about finances, taxation and the vagueness of rights and policies.

Although the satisfaction about information provision is not significantly different between Dutch and non-Dutch PhD students, the latter do experience more difficulties due to language problems. Non-Dutch PhD students report missing out on important information from the University or the Dutch government when it is only provided in Dutch, and that they feel left out when Dutch is the only language spoken on the work floor. Moreover, when asked about satisfaction with activities offered by the Graduate Schools and local PhD organizations, some non-Dutch PhD students mentioned that they would like to receive more information about practical issues related to doing a PhD and living in Groningen/the Netherlands.

Recommendations:

- Ensure that every PhD student receives an information package at the start of their PhD that contains clear and relevant information.
- Make sure that the information provided (on paper and online) is clear and non-contradictory and keep the information up-to-date.
- Make sure relevant information is available in English for non-Dutch PhD students.

9.3 Training and Supervision Plan

After the 2011 PhD survey, the Graduate Schools were tasked with ensuring that all of their PhD students started their PhD with a Training and Supervision Plan. The Graduate Schools endorsed the importance and usefulness of this document and were therefore motivated to implement it. Although the proportion of PhD students with a TSP has increased from 57% to almost 70% in 2015, the goal has not yet been reached. Almost 40% of PhD students did not know when their TSP was formalized, while two-thirds of those who did, said it was within three months after the start. Almost three-quarters of the PhD students with an employment or scholarship affiliation have a TSP. PhD students from the Graduate School of Medical Sciences are least likely to have a TSP. Around 60% of the PhD students thought that the TSP is a good guideline that can help them plan their project.

TSPs are becoming increasingly detailed. Time planning and management are important and influential factors in reducing the time PhD students require to finish their PhD. However, regular updating of the TSP is still not standard: only one-third of the PhD students in their second or third years have updated their TSP to date. In addition, teaching activities can delay PhD completion time, so agreements about teaching should be formalized in a TSP. Only 30% of the TSPs of employed PhD students contain such agreements. In addition, agreements about quantity and quality requirements for the thesis are often also not present in the TSPs (33% and 13%, respectively). In fact, PhD students have become less aware of quantity and quality requirements, with PhD students in the first phase of their project being the least informed.

Satisfaction with the TSP has not change much compared to 2013, except for PhD students from the Graduate School of Behavioural and Social Sciences, who are a little more satisfied, while PhD students from Medical Sciences have become less satisfied. When PhD students are further into their project they are also less satisfied with their TSP.

Recommendations:

- Ensure that all PhD students have a TSP containing all the required elements to assist them to plan and manage their project.
- More attention should be given to the formalization of thesis quantity and quality requirements in the TSP.
- The Graduate Schools should assume a monitoring role in the annual update of TSPs.

9.4 Result and Development interview and first-year performance evaluation

Almost 70% of the respondents in their second or subsequent year reported that their performance had been evaluated in a Results and Development (R&D) interview, which is comparable to the prevalence in 2013. The performance of PhD students should be evaluated after the first year in a go/no-go interview and almost 70% of the PhD students in their second or subsequent year report that they had this interview. The go/no-go interview is least common at the Graduate School of Medical Sciences. Also, the main supervisor was not present at 10% of these interviews. In addition, attendance of a Graduate School delegate or an HR representative is low (less than 16%). The presence of an HR representative is important particularly in the case of a no-go decision to inform the PhD student about work-related consequences of the no-go. A Graduate School representative is important to support the supervisor in the process of formalizing the agreements, provide aftercare in the case of a no-go and update information in Hora Finita.

Recommendation:

- Stimulate the attendance of both an HR and a Graduate School representative at the R&D and go/no-go interviews.

9.5 Training for PhD students with teaching duties

Three-quarters of the employed respondents are engaged in teaching activities, usually performing supervisory duties or giving small-scale lectures, at a time cost on average of 14 hours per month. About 72% of the PhD students are satisfied with the amount of teaching; the others would either like to teach less (14%) or more. The majority think that teaching and supervisory activities contribute to their PhD project, which is an increase of about 20% compared to 2013.

About one-third of the PhD students report not being very confident about their teaching abilities. Two-thirds of PhD students with teaching duties report not having sufficient training. Less than half of the PhD students with teaching duties have attended the obligatory course, 'Training for Teaching Assistants', organized by the University of Groningen.

Preliminary analyses show that PhD students involved in teaching activities are more likely to be delayed compared to those without these duties. Of course, there are other factors that play a role in PhD completion time, but learning how to prepare and perform teaching duties in an effective way might pay-off for both the PhD student and the University.

Recommendations:

- PhD students should only be allowed to teach after completing the obligatory course 'Training for Teaching Assistants'. The Graduate School could have a monitoring role in this.
- If applicable, agreements about teaching activities should be formalized in the TSP.

9.6 Familiarity with Hora Finita

In 2015, familiarity with the Hora Finita registration system was assessed. Almost three-quarters of the respondents said they were familiar with the system and know that they can enter details about training activities and access information about their thesis defence. A slightly smaller number of PhD students knew they could access a summary of their Results & Development interview. This might be explained partly by the finding that not all PhD students have had such an interview.

Recommendation:

- The Graduate Schools should support both PhD students and supervisors in adding the relevant information in a correct way into the Hora Finita registration system.

9.7 Supervision

Supervision is an essential part of a successful PhD project. The majority of the PhD students have an appointment with their primary supervisor at least once a month and almost 70% meet with their daily supervisor(s) at least once a week. In general, PhD students are satisfied with the organization and quality of their supervision. PhD students are least satisfied with the number of appointments with their daily supervisors and with their supervisor's support with educational activities and network expansion. Similar to 2013, the further into the project, the more critical PhD students are about the quality of the supervision they received. There are no significant differences between different affiliations or Graduate Schools.

Feedback, expertise and support offered by the supervisors are, just as in previous years, the most appreciated aspects. More than half of the respondents have not encountered challenges or frustrations regarding their supervision. PhD students from Science and Economics and Business and Science, in particular, report the absence of problems related to supervision. PhD students who had experienced challenges or frustrations most often indicate the frequency of supervision as the cause, which is apparently due to the relative low frequency of meetings with their daily supervisor. After supervision frequency, problems related to the quality of supervision are most often mentioned. Several studies have indicated the important role of the supervisor as coach (e.g. Berger & de Jonge, 2005; Wadee et al., 2010) and some supervisors would benefit from a course on effective PhD coaching.

Recommendations:

- Inform PhD students where they can anonymously report problems with supervisors, colleagues or management (e.g. Graduate School, confidential advisor).
- Inform supervisors about the courses 'Coaching PhD students' or 'Working with international students', organized by the University of Groningen.
- Performance of supervision tasks should be discussed at all supervisor's R&D interviews.

9.8 Familiarity and satisfaction with the Graduate Schools

Although the number of PhD students who do not know about their Graduate School has dropped to 1.3%, familiarity with the role of the Graduate Schools has decreased from 75% to 67%. There are no differences according to Graduate School or phase of the PhD project, but PhD students who attended the introductory module are more likely to be familiar with the role of their Graduate School. Although familiarity has decreased, the overall satisfaction with the Graduate Schools has increased significantly. However, about one-quarter of the PhD students are not satisfied with the way the Graduate School monitors their progress. Similar to 2013, PhD students from Economics and Business value their Graduate School most, while PhD students from the Behavioural and Social Sciences are again most critical. More advanced PhD students are also more critical and PhD students with a scholarship are most positive.

Recommendations:

- The Graduate Schools' role and responsibilities should be made more explicit in the PhD Guide and at the University Graduate School website.
- Information about the role of the Graduate Schools needs to reach all PhD students.
- Stimulate participation in the Graduate School introductory module.

- The Graduate School should inform senior PhD students more directly, for example by email or telephone.
- The Graduate Schools should be more active in monitoring the progress of the PhD project.

9.9 Career orientation

At the time of data collection, 61% of the respondents said they were exploring options for their future career, which is a large increase compared to 2013 (45%). An interesting finding is that, although 60% of the PhD students believed the University supports them with their future career planning, familiarity with the University's training opportunities is very low. Only 30% of the respondents were familiar with the activities organized by the HR Experts department and only 18% with those organized by NEXT career services. Activities are best known among PhD students from Humanities, Economics and Business, and the Behavioural and Social Sciences. Interestingly, PhD students in the final stages of their project are more familiar with the activities organized by HR, while activities organized by NEXT are better known among PhD students who have just started. Moreover, only 25% of the senior PhD students had attended a career development activity (inside or outside the University of Groningen). Since job opportunities at the University are not sufficient for all PhD students who would like to work here, PhD students should start looking for alternative opportunities at the appropriate time.

Recommendations:

- Actively inform PhD students, especially those in their third and fourth years, about the activities organized by HR and NEXT career development.
- Actively inform PhD students about the importance of a timely start to exploring future career opportunities.
- Organize more activities in which PhD students can explore future career opportunities, within and outside academia.

9.10 Working environment

Satisfaction with the expertise and support available in the PhD students' departments has significantly increased compared to 2015, but improvements are still needed. PhD students are most satisfied with the access to books and journals. However, less than 70% reported being a member of a research group that meets at least once every two weeks, and less than 75% were satisfied with the support available from experts and fellow PhD students in general, and specifically during the collection of data.

Regarding contacts, PhD students are most satisfied with their contacts with other PhD students in their department and with other staff members in the research group. The satisfaction with contacts at their Graduate School, the University of Groningen or in their field (national and international) is much lower.

Overall satisfaction with the work environment has slightly increased, although not significantly. First-year PhD students in particular are more satisfied with the overall work conditions compared to PhD students in their second or later years.

For the first time, the presence of work-related stress was assessed in the PhD student survey and the majority of the PhD students report to have experienced, or to currently experience, stress. One-third reported stress related to the pressure to publish and deadlines, and about one-quarter reported stress due to the complexity of the work and/or the overall workload. Finally, one-fifth of the PhD students experienced stress due to contact with management and supervisors.

Recommendations:

- Supervisors should support their PhD students with expanding their national and international network.
- Ask confidential advisors about the prevalence of work-related stress to assess the scale of the problem from a different perspective.

10 Research accountability

This chapter examines the survey instrument, the reliability of the scales, the response group, and ends with an explanation of the analyses.

10.1 Instrument

The first PhD Student Survey was administered by the UOCG in 2009. The goal was to obtain information about the circumstances in which PhD students conduct their research and the degree of satisfaction with these circumstances. The PhD Thesis Supervision Questionnaire used at the University of Manchester was taken as an exemplar. A few items were added to the 2011 survey relating to the PhD students' motivation, skills and competences, as well as items relating to abilities and skills that correspond to the position of researcher, as defined by the University of Groningen. In 2013, several items about the cum laude distinction were added and questions about research schools were removed. In 2015, new questions were added, concerning familiarity with the Hora Finita registration system and NEXT Career Services and questions about the experience of work-related stress. Changes have been made to two scales with some items removed and/or added (see Chapter 5 about Supervision).

Reliability of the satisfaction scales

Several items were combined into satisfaction scale categories that measure one underlying concept. The degree to which several items measure the same concept is represented in the reliability of the scale, indicated by Cronbach's alpha, which varies between 0 and 1. Reliability between .60 and .90 can be regarded as reasonable to high. Table 35 shows the reliability of items in the scales used in 2009, 2011, 2013 and 2015. The reliability of the two altered scales improved from .86 to .88 (organization of supervision) and from .85 to .88 (quality of supervision). Because most items and scales remained the same, the results of the 2015 PhD Survey can be compared with the previous three surveys.

Table 35. Reliability of original and adapted scales

| Scale | 2009 | 2011 | 2013 | 2015 |
|---|------|------|------|------|
| Satisfaction with educational activities | .81 | .88 | .87 | .85 |
| Satisfaction with training and supervision plan | .79 | .88 | .86 | .86 |
| Satisfaction with the Graduate School | * | .92 | .90 | .87 |
| Organization of supervision** | .83 | .87 | .88 | .88 |
| Quality of supervision*** | .84 | .89 | .87 | .87 |
| Satisfaction with expertise | .65 | .73 | .73 | .75 |
| Satisfaction with contacts | .78 | .83 | .81 | .86 |
| General work satisfaction | .68 | .76 | .82 | .79 |

Notes: * Not measured in that specific year; **One new item was added in 2015; ***One item was removed and three new items were added in 2015.

10.2 Response

Active PhD students were traced in Hora Finita, with a total of 3,633 being sent a digital invitation to participate in this survey. The email contained a link to the questionnaire. Three reminders were sent to those who had not yet completed the questionnaire. Of the total, 472 could not be reached at the email address given, two indicated they were not PhD students anymore, four respondents indicated that they were external PhD students and that the questions were not applicable to their situation, and 316 started the survey but completed less than two-thirds of the obligatory questions. A total of 1,161 PhD students completed the questionnaire, which translates into a response rate of 35%, which is a little lower than in 2013 (39%).

Figure 46 shows the response rate per Graduate School and for the University (in purple). PhD students from the Graduate Schools of Humanities, Spatial Sciences, Economics and Business (SOM) and Science (all in green) make up a relatively larger proportion of the response sample than PhD students from the other Graduate Schools (in red).

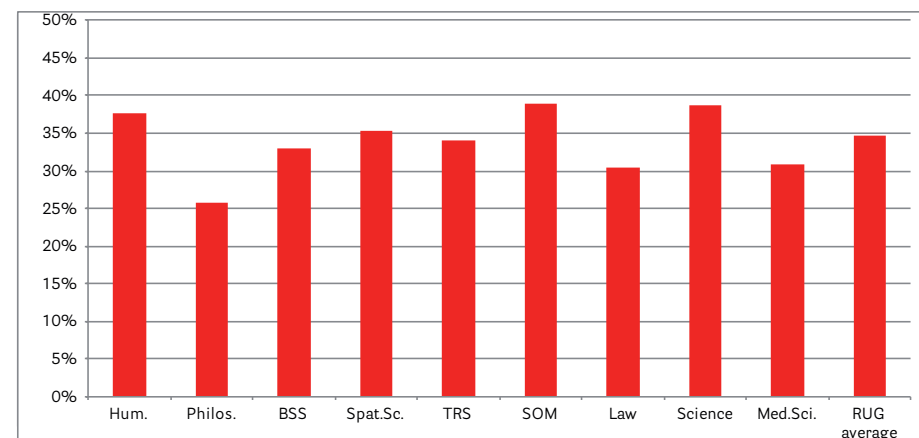


Figure 46. Response rate per Graduate School and deviation from the University response rate
Note: red: lower response than University average, green: similar or higher response than University average.

A relatively large number of PhD students born outside the Netherlands filled in the questionnaire (see Figure 47), while the distribution of males and females was roughly the same as in the total population. In addition to this, a relatively large share of first-year PhD students and a relatively low share of senior PhD students participated in this year's survey (see Figure 48). However, the latter has no consequences for the year-to-year comparison because the response rate per phase is comparable between 2015 and the previous years (see Table 36).

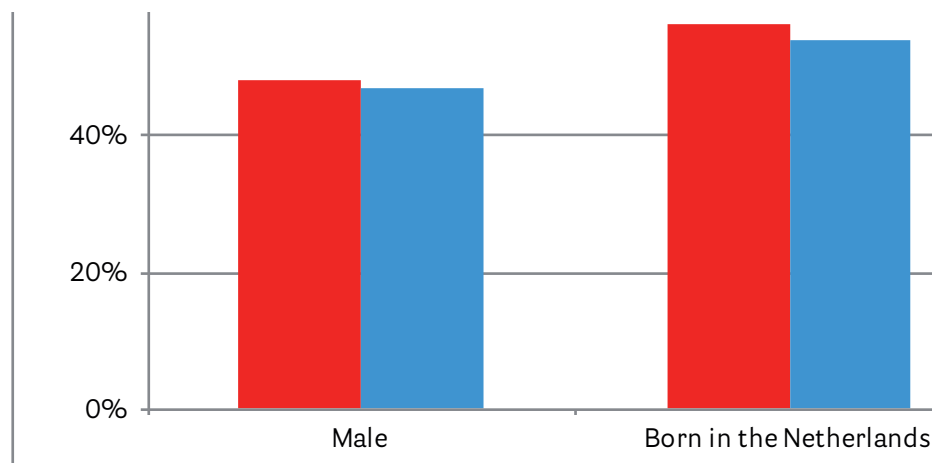


Figure 47. Percentage male and percentage born in the Netherlands, comparison between PhD population and survey respondents

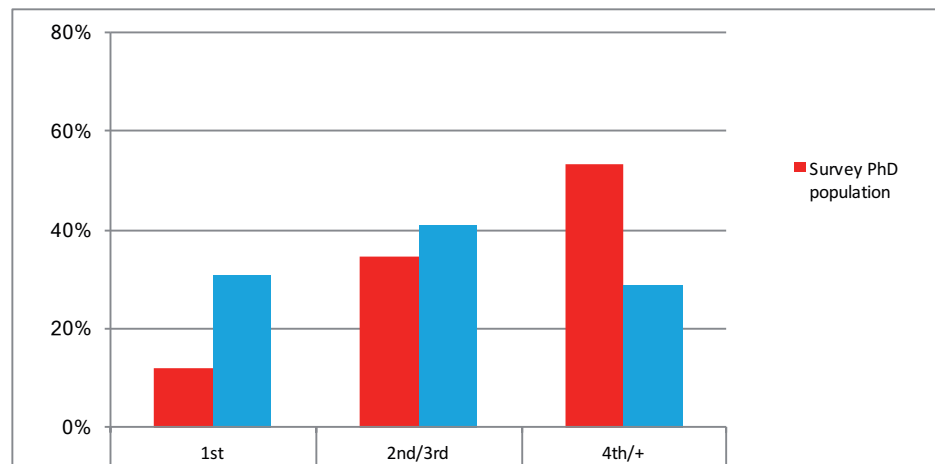


Figure 48. Percentage PhD students by phase, comparison between PhD population and survey respondents

Table 36. Response rate by phase and survey year

| Response | % 2011 | % 2013 | % 2015 |
|----------------|--------|--------|--------|
| First | 30 | 26 | 31 |
| Second/third | 48 | 45 | 41 |
| Fourth or more | 22 | 28 | 28 |
| Total | 42 | 39 | 35 |

10.3 Graduate School corrections

Almost all respondents indicated a Graduate School to which they thought they belonged (see Table 37). The Graduate School of the 15 respondents who did not know was traced in Hora Finita. We noticed that 60 respondents (5%) indicated a different Graduate School in the survey than the one registered in Hora Finita. One-third of this group was affiliated with the Graduate School of Science but thought they were affiliated with the Graduate School of Medical Sciences. In 89% of the mismatches we assigned the PhD student to the Graduate School indicated in the Hora Finita system. The corrected Graduate School respondent numbers are presented in Table 38 and Graduate School differences were examined according to these numbers. As the minimum number of respondents per Graduate School is 15, no conclusions can be drawn for the Graduate School of Philosophy, so the results are not presented here. Nevertheless, data from these PhD students are included in the general discussion.

Table 37. Graduate School numbers indicated by respondents in the survey

| Graduate School | n | % |
|---------------------------------|-------|------|
| Science | 410 | 35.3 |
| Medical Sciences | 372 | 32.0 |
| Behavioural and Social Sciences | 107 | 9.2 |
| Humanities | 101 | 8.7 |
| Economics and Business | 57 | 4.9 |
| Spatial Sciences | 37 | 3.2 |
| Law | 37 | 3.2 |
| Theology & Religious Studies | 16 | 1.4 |
| Philosophy | 9 | 0.8 |
| Not indicated | 15 | 1.3 |
| Total | 1,161 | 100 |

Table 38. Corrected Graduate School numbers

| Graduate School | n | % |
|---------------------------------|-------|------|
| Science | 404 | 34.8 |
| Medical Sciences | 395 | 34.0 |
| Behavioural and Social Sciences | 105 | 9.0 |
| Humanities | 104 | 9.0 |
| Economics and Business | 56 | 4.8 |
| Spatial Sciences | 37 | 3.2 |
| Law | 36 | 3.1 |
| Theology & Religious Studies | 16 | 1.4 |
| Philosophy | 8 | 0.7 |
| Total | 1,161 | 100 |

10.4 Analyses

The eight scales listed in Table 35 were used to determine the PhD students' satisfaction with the themes indicated. The total score for each scale was calculated by averaging the scores on the items in each scale. All items were answered on a four-point Likert scale, where 1 = 'strongly disagree' and 4 = 'strongly agree'. Sometimes the option 'does not (yet) apply' was added. The scale scores varied between 1 and 4, with higher scores indicating a higher degree of satisfaction. Items that do not fit into a satisfaction scale are discussed individually, and in such cases we used a criterion of 80% to indicate that the PhD students were satisfied with the situation.

For a number of items and scales we examined whether there were differences between certain groups of PhD students. We analysed whether there were differences between PhD students with an employee status, with a scholarship status and those with another type of affiliation with the University; whether there were differences between Graduate Schools; and whether there were differences between PhD students in their first, second or third, or fourth or higher years.

This report only discusses the significant differences between the groups that emerged from a Chi-square test or Analysis of Variance (ANOVA). As data from the 2009, 2011, 2013 and 2015 PhD surveys was available, comparisons could be made between the four surveys. This was only done for the Graduate Schools that had 15 or more respondents in each survey year. Differences between the years in mean scale scores were examined using ANOVA (see Table 39).

11 Appendix

Table 39 Means scores over the years

| Survey year | 2009 | 2011 | 2013 | 2015 |
|---|------|------|------|------|
| Satisfaction with educational activities | - | 2.98 | 2.98 | 2.99 |
| Satisfaction with training and supervision plan | 2.75 | 2.65 | 2.77 | 2.96 |
| Satisfaction with the Graduate School | - | 2.68 | 2.86 | 2.96 |
| Organization of supervision | 3.23 | 3.32 | 3.29 | 3.31 |
| Quality of supervision | 3.18 | 3.25 | 3.24 | 3.26 |
| Satisfaction with expertise | 3.01 | 3.13 | 3.10 | 3.18 |
| Satisfaction with contacts | - | - | 2.89 | 2.92 |
| General work satisfaction | 3.20 | 3.28 | 3.20 | 3.25 |

Black box: significantly higher in 2015 than in 2013, * = scale constituted of different items between 2013 and 2015, - = not measured in that specific year

Table 40 Means scores per Graduate School in 2015

| Graduate School | Hum. | BSS | Spat. Sci. | TRS | SOM | Law | Sc. | Med. Sci. |
|-------------------|------|------|------------|------|------|------|------|-----------|
| Education | 2.93 | 3.05 | 2.94 | 2.74 | 3.11 | 2.83 | 3.07 | 2.92 |
| TSP | 2.71 | 2.41 | 2.57 | 2.74 | 2.77 | 2.58 | 2.88 | 2.49 |
| Graduate. School | 2.88 | 2.79 | 2.82 | 3.07 | 3.28 | 3.05 | 3.01 | 2.89 |
| Organisation sup. | 3.27 | 3.27 | 3.30 | 3.27 | 3.41 | 3.31 | 3.32 | 3.30 |
| Quality sup. | 3.24 | 3.17 | 3.31 | 3.32 | 3.38 | 3.30 | 3.27 | 3.19 |
| Expertise | 3.05 | 3.12 | 2.99 | 3.13 | 3.23 | 2.96 | 3.26 | 3.19 |
| Contacts | 2.78 | 2.87 | 2.82 | 2.86 | 3.03 | 2.85 | 3.03 | 2.87 |
| General work | 3.15 | 3.26 | 3.28 | 3.33 | 3.30 | 3.26 | 3.28 | 3.22 |

Abbreviations: TSP = training and supervision plan, Hum = Humanities, BSS = Behavioural and Social Sciences, Spat. Sci = Spatial Sciences, TRS = Theology and Religious Studies, SOM = Economics and Business, Sc. = Science, Med. Sci. = Medical Sciences

