

PhD Survey 2011

Experiences of PhD students at
the University of Groningen

Preface

Teaching and research are closely linked in the Dutch university system. This is particularly true for the third phase of academic study, during which PhD students are trained to become independent, reliable researchers. Within a predetermined period of time, which is usually four years, PhD students conduct research and acquire a variety of generic and research-related skills. After the PhD thesis has been written and successfully defended, the university awards the Doctorate (PhD) and, in addition, the Graduate School issues a certificate. Whereas the Doctorate serves as proof of being an independent researcher, the certificate is proof of the mastery of a number of additional skills acquired during the PhD training period.

Conducting research in a master-apprentice relationship in which an experienced researcher acts as supervisor forms a major part of a PhD student's training. As this 'learning by doing' produces a significant part of the research conducted at the University of Groningen, the University obviously has a keen interest in attracting the best PhD students and offering them an excellent 'research and teaching environment'. To facilitate this in a more structural way, a general Graduate School system was introduced in Groningen in 2009. The PhD programmes of all nine of the University's faculties became part of faculty-based Graduate Schools and a Dean of Graduate Schools was appointed to coordinate the activities of these nine Graduate Schools. The Graduate Schools facilitate both Research Master's and PhD training.

The present survey assesses the state of affairs with regard to PhD student motivation, training and satisfaction. As the previous survey was conducted in 2009, the present survey can be viewed as the first to be carried out after the introduction of the Groningen Graduate School system.

The most striking outcome is that PhD students are very happy with their situation at the University of Groningen and that, although there are many more PhD students at the University of Groningen nowadays compared with 2009, PhD student satisfaction has increased significantly since 2009. This is a very pleasing outcome. In addition, the results provide us with useful input to help further improve the supervision and educational possibilities for our PhD students. To highlight but one example here: the survey shows that almost all PhD students expect to complete their thesis. This is good news, but the downside is they also think this will take about 6.6 months more than the time allotted to them. This is less positive, as it could become a self-fulfilling prophecy resulting in unwanted extensions and/or unnecessary stress at the end of the PhD project. What may help prevent this is if the students acquire better project management skills and write a clear 'Training and Supervision Plan' (TSP). The Graduate School must approve the TSP at the start of the student's PhD training. They are also responsible for the monitoring of the yearly update of the TSP by PhD students and their supervisors.

I have enjoyed reading the outcome of this survey and have learned a lot. I would like to thank all PhD students who completed the lengthy questionnaire and, last but not least, am grateful to Marjon Fokkens-Bruinsma, Carlien Vermue, Wouter Kerdijk and Ineke Ganzeveld for their fantastic input.

Prof. Lou de Leij
Dean of Graduate Schools

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Carlien Vermue
Marjon Fokkens-Bruinsma

Centre for Information Technology
P.O. Box 800, 9700 AV Groningen, the Netherlands
Contact: c.e.vermue@rug.nl

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Management summary

Introduction

The present survey was administered in February 2011, two years after the Centre for Information Technology (CIT, UOCG) published the first 'Groningen PhD student survey'. A total of 860 PhD students filled out the questionnaire, which is a response rate of 42%. Given the length of the questionnaire, this is a rather good response. The average age of the respondents was 29.5, and most (48%) were in the second or third year of their PhD project, whereas 27% were in the first and 22% in the fourth year or further. This is a good reflection of the PhD students currently in the various stages of the PhD process. A total of 58% of the respondents had employee status at the University of Groningen, 24% had scholarship ('bursaal') status and 18% had other affiliations. This is also a good reflection of the status of the PhD student population at the University of Groningen in 2011. We can conclude that this response rate and these respondent characteristics can be taken as an indication that the outcome is a fair reflection of the opinion of the Groningen PhD community as a whole.

Current state of affairs and progress

The most important outcome is that almost all PhD students are satisfied with their work, their research project, their education, the organization of their supervision, the quality of their supervision, the expertise and support in their department, their general working conditions and their career prospects. If they had to choose again, 92% indicated that they would opt for a PhD position again. Intrinsic motives were reported most frequently as a reason for becoming a PhD student. These include a sense of intrinsic career value, passion for the subject and personal development. The PhD students' satisfaction has increased on almost all themes since 2009.

Almost all (98%) respondents believe they will be able to finish their project. However, more PhD students are not sure if they will be able to finish their project in time (70% in 2011 versus 62% in 2009), but, interestingly, they expect to need shorter extensions (6.6 months in 2011 versus 8 months in 2009). These findings may reflect the current more restricted possibilities for formal PhD project extensions.

The same number of PhD students in 2011 as in 2009 thought about leaving their project at least once (27% in 2011 and 28% in 2009), which is not a bad figure in view of the many challenges PhD students face during their project.

A significant minority of the respondents (22%) have experienced problems with information provision, and students with scholarship status have experienced more problems with information provision than students with employee status. This could possibly be improved if the Graduate Schools were to assume a more active role in the PhD students' activities by offering better information packages at the start, holding introductory events and providing regular information updates via newsletters, the web or during PhD courses/events.

Although PhD students are more familiar with their Graduate School than they were in 2009, there is clearly room for improvement here. Twenty-five percent of the PhD students still say they are unaware of the role their faculty-based Graduate School and the activities it offers. Furthermore, the PhD students are only moderately satisfied with the Graduate Schools' activities (scoring 2.67 on a 4-point scale, which is a rather low score). It is interesting to note that those respondents who were only moderately satisfied with their Graduate School were satisfied with their research school. The Graduate Schools' low score might be partly due to the students' unfamiliarity with the faculty-based Graduate School system as such and not with

the educational activities provided by the Graduate Schools. Another point of attention is the 'Training and Supervision Plan' (TSP). Although more PhD students had a TSP compared with 2009 (63% versus 57%), and although these TSPs were more complete, the PhD students were less satisfied than in 2009. As TSPs are only filled in at the start of the project, a regular, yearly update of the plan may improve the PhD students' satisfaction with this plan. Last but not least, a substantial number of PhD students indicated that they would welcome the presence of PhD organizations at the Graduate Schools, or if they are already present that they become more visible.

Conclusion

PhD students in Groningen are satisfied with almost all aspects of their activities and, despite the fact that the number of PhD students has increased since 2009, this satisfaction has increased during the last two years. However, there is still room for improvement with regard to the provision of information and educational facilities and, in particular, the reduction of time allotted to writing the thesis. The University of Groningen expects the recently established Graduate Schools to play a more significant role in realizing these improvements.

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1. Introduction

This first chapter discusses the background to the PhD survey and the research questions. The chapter then examines the survey instrument and response, before moving on to an explanation of the analyses. It concludes with an overview of the rest of the document.

1.1. 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 500 per year by the year 2015, 75% of all PhD students should graduate within five years and 85% should graduate within six years, and no more than 12% of the PhD students should drop out in the first year. A PhD survey was conducted in 2009 to determine the state of affairs at that time. This questionnaire investigated which factors were related to the PhD students' expectations of finishing their project within the specified time frame. The 'PhD Student Survey 2009' reported on the state of affairs in 2009 (see www.rug.nl/corporate/onderzoek/graduateschools/promovendienqueteEN.pdf).

The PhD survey was administered again in 2011. The following categories of factors that influence PhD students' progress were included: personal characteristics, the PhD programme, PhD supervision and working environment. Personal characteristics included characteristics such as sex, type of affiliation with the University of Groningen (employee or scholarship status), motivation, skills and competences. The PhD programme category consisted of factors such as characteristics of the programme (e.g. research proposal), education, teaching activities and information provision. PhD supervision included matters such as the demands and requirements of the PhD project, the presence of and satisfaction with a TSP, supervision by Graduate Schools, support from research schools and relationship with supervisors. Work environment included factors such as expertise and support within the department and working conditions. We also added some questions to the questionnaire about PhD students' career development and PhD organizations.

The outcome of this survey should help answer the following questions:

1. What is the current state of affairs with regard to the personal factors, the PhD programme, supervision and working conditions?
2. How satisfied are PhD students with these factors?
3. What are the changes in PhD students' background characteristics and satisfaction in comparison with 2009?

1.2. Instrument and response

Instrument

A 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 example.

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. In the section on supervision, the PhD students were asked in more detail about the kind of supervision provided by the Graduate Schools and/or the research schools and how they would rate this. The results from the 2011 survey can be compared with the 2009 survey because many of the items are the same.

Several items were combined into scales that measure one underlying concept. The degree to which several items measure the same concept is represented in the reliability of the scale. The reliability was measured with Cronbach's alpha and varies between 0 and 1. A reliability between alpha = .60 and alpha = .90 can be regarded as reasonable to high. The PhD Student Survey 2011 consisted of nine scales, which are shown in Table 1; all of these scales have a high reliability.

Table 1: Scale characteristics: reliability (alpha) and number of items

Scale	Alpha	N of Items
Satisfaction with educational activities	.86	6
Satisfaction with training and supervision plan	.88	5
Satisfaction with the Graduate School	.93	7
Satisfaction with the research school	.92	5
Organization of supervision	.87	5
Quality of supervision	.89	7
Expertise and support	.76	6
Working conditions	.83	11
General work satisfaction	.76	3

Response

A total of 2027 PhD students received a digital invitation to participate in this survey. The UOCG sent out this invitation for all but one of the Graduate Schools; the Graduate School of Science chose to send out the invitation e-mail to its PhD students itself. The e-mail contained a link to the questionnaire. Two reminders were sent to the PhD students who had not yet completed the questionnaire. In addition, the Graduate School directors were asked to encourage their PhD students to fill in the questionnaire. A total of 860 PhD students filled in at least 67% of the questionnaire. This translates into a response percentage of 42, which is somewhat lower than the response percentage of the 2009 survey. The response of the Graduate School of Science in particular was low, which might be due to the different way its PhD students were approached.

Table 2: Response per Graduate School

Graduate School	N respondents
Total	860
Humanities	69
Philosophy	12
Behavioural and Social Sciences	65
Spatial Sciences	33
Theology and Religious Studies	11
Economics and Business (SOM)	71
Law	23
Science	131
Medical Sciences	321
Other/Don't know	123

Almost all respondents indicated the Graduate School to which they were affiliated (see Table 2). However, 97 PhD students answered that they were not affiliated to one of the nine Graduate Schools at the University of Groningen but were affiliated to 'another Graduate School'. In the subsequent open question, these students mostly said that they were affiliated to research schools. This indicates that, as was the case in the 2009 survey, a number of PhD students feel more affiliation to the local or national research schools that still exist and are still active than to the newly established overarching faculty Graduate Schools.

As the Graduate School of Philosophy and the Graduate School of Theology and Religious Studies are relatively small, only a few PhD students from these Graduate Schools filled out the questionnaire. This did not generate any reliable data and we will therefore not draw any conclusions from these figures. We do however report these scores in the data, in order to give an idea of the average scores of these Graduate Schools.

1.3. Analyses

The nine scales listed in Table 1 are used to display the PhD students' satisfaction with the indicated themes. The scale scores were calculated by averaging the scores on the items belonging to a scale. Satisfaction items could be answered on a 4-point Likert Scale, where 1 = 'strongly disagree' and 4 = 'strongly agree'. Furthermore, a 5 was added in some cases to express the option 'does not apply yet'. Therefore, the scale scores can vary between 1 and 4, with higher scores indicating a higher degree of satisfaction. In accordance with the 2009 survey, we consider PhD students who score between 2.68 and 4 to be satisfied. We discuss any items that do not fit into a scale 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 investigated whether there were differences between certain groups of PhD students. We therefore analyzed whether there were differences

between PhD students with employee status and those with scholarship status, whether there were differences between Graduate Schools, and whether there were differences between PhD students in their first year – those who started after 1 January 2010 – (group 1, 27.3% of the respondents), PhD students in their second or third years – those who started between 1 January 2008 and 1 January 2010 – (group 2, 47.8%) and those in their fourth year or further – those who started before 1 January 2008 – (group 3, 22.3%). This report only discusses the significant differences between the groups that emerged from a Chi-square test or ANOVA.

Since data from the 2009 PhD questionnaire was available, we made a comparison between the 2009 and 2011 data. The differences between the mean scale scores in 2009 and 2011 were examined using ANOVA.

1.4. Notes

This report consists of eight chapters. This chapter discusses the background to the survey, the methods used and the response. Chapters 2 to 7 discuss the themes distinguished in this survey: personal characteristics, PhD project, supervision, working environment, career development and PhD organizations. Chapter 8 provides a summary of the results, together with conclusions and recommendations for further improvement. In Chapter 8 we also examine changes in relation to the results from the PhD Student Survey 2009. The appendix provides an overview of the mean scores on the satisfaction scales together with the scores from 2009 and a breakdown of the 2011 scores for the various Graduate Schools.

2. Personal characteristics

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

2.1. Background characteristics of the PhD students

A total of 58% of the respondents were female. The average age was 29.5, which is higher than the average age of 28 in the sample of 2009. The youngest respondent was 21 and the oldest 63 years old. Nearly 57% of the respondents were Dutch. The second largest group were Chinese PhD students (4.5%), followed by German and Polish PhD students (each 3.5%) and then Indian PhD students (3.4%). The remainder of the group reported 52 different nationalities.

A total of 90% of the respondents started their PhD project with a Master's degree or equivalent (49% Master's degree, 22% Research Master's degree and 19% 'Doctoraal'). Only 10% started with a different type of diploma such as an MD or a German Diplom. Of the respondents, 3.3% started their PhD programme with a Bachelor's degree. More than half (51%) of the PhD students gained their degree at the University of Groningen, whereas 15% gained their degree at another Dutch university, 17% at another European university, 13% at a university outside Europe and 3.5% at a different type of institution.

We also looked at which Graduate Schools the PhD students belong to. Table 3 shows the affiliations of PhD students with the University of Groningen's Graduate Schools and the average age of the respondents per Graduate School.

Table 3: Percentage PhD students per Graduate School and average age

Graduate School	Percentage	Average age
Humanities	8.0	30.3
Philosophy	1.4	29.0
Behavioural and Social Sciences	7.6	29.3
Spatial Sciences	3.8	32.0
Theology and Religious Studies	1.3	32.4
Economics and Business (SOM)	8.3	29.2
Law	2.7	30.0
Science	15.2	27.4
Medical Sciences	37.3	29.6
Other, namely..	11.3*	29.3
Don't know	3.0	32.7

* Most of these students reported research schools affiliated with Medical Sciences

2.2. Affiliation with the University of Groningen

PhD students can have different types of affiliation with the University. Table 4 shows the percentages of the respondents in this survey for each of these different types of affiliations: 58% have employee status and 24% have scholarship status, 8% are MD/PhD students and 10% have another appointment. The type of appointment mentioned in this latter category was, for example, an external PhD student. PhD students with part-time employee status had an average appointment of 26 hours per week. Slightly less than 6% had an additional contract or agreement with the University of Groningen for an average of seven hours per week of teaching or additional research activities.

Table 4: Type of affiliation with the University of Groningen

Type of affiliation	Percentage
Full-time PhD student/PhD fellow (employee status)	49.0
Part-time PhD student/PhD fellow (employee status)	9.2
Scholarship status ('bursaal')	24.0
MD/PhD student	7.6
Other, namely:	10.2

To give a better understanding of the distribution of the PhD students' age according to the different types of affiliation, we have shown the mean ages of these groups in Table 5. The mean age of PhD students with employee status is 28.5 and the mean age of students with scholarship status is 28.9. Those PhD students in particular who report having 'another' kind of affiliation are older than average.

Table 5: Age of PhD students based on type of affiliation

Type of affiliation	Mean age
Full-time PhD student/PhD fellow (employee status)	27.8
Part-time PhD student/PhD fellow (employee status)	32.5
Scholarship status ('bursaal')	28.9
MD/PhD student	29.3
Other, namely:	36.1

Two thirds of the PhD students with employee status are Dutch and one third are from abroad. For scholarship PhD students the opposite is true: two thirds are from abroad and one third are Dutch.

Satisfaction

The extent to which PhD students are satisfied with the information concerning their appointment at the University was measured with one question, which is shown in Table 6. A total of 69% of the respondents were satisfied with the information they received about regulations and conditions relating to their employment/scholarship. In addition, the PhD

students were asked a question about their general satisfaction with their working conditions and 79% of the respondents said they were satisfied with their working conditions.

Table 6: Satisfaction with regulations and working conditions

Statement	% Agree/strongly agree
I feel well informed about the regulations and/or conditions relating to my employment/scholarship contract with the University of Groningen	69.1
Overall, I am satisfied with my working conditions (contract, income, etc.).	79.2

With regard to the students' satisfaction with the information provided about regulations and conditions and their overall satisfaction with working conditions, some differences could be found between the larger Graduate Schools. PhD students from the Humanities are less satisfied than PhD students from Behavioural and Social Sciences, Economics and Business, and Law (see Figure 1).

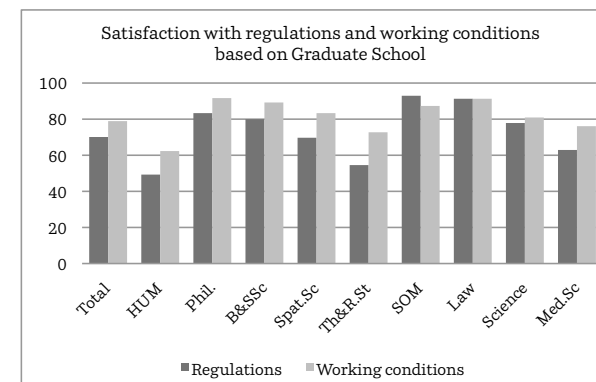


Figure 1: Percentage satisfied with regulations and working conditions according to Graduate School

Differences were also found between respondents with employee status and respondents with scholarship status. Respondents with employee status are more satisfied with the information provided about regulations (77.9%) than PhD students with scholarship status (51.9%). PhD students with employee status were also more satisfied with their working conditions (88.8%) than respondents with scholarship status (60.7%).

When comparing PhD students who have been working on their thesis for only one year (group 1) with PhD students who have been working on their project for longer (groups 2 and 3), we see that PhD students who have just started are more satisfied with the information provision and their overall working conditions (see Figure 2).

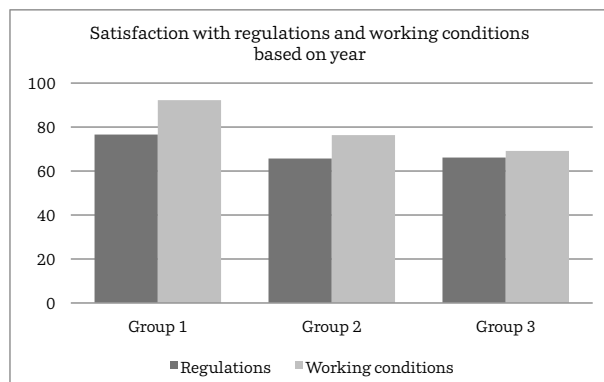


Figure 2: Percentage satisfied with regulations and working conditions based on year

2.3. Motivation, skills and competences

Motivation

The respondents were asked about what motivated them to become a PhD student. We only categorized the motive listed first. Table 7 shows the four categories into which these motives were placed. Almost two thirds of the PhD students reported intrinsic motives for wanting to carry out a PhD project. Examples of the motives listed in this category included: like doing research, personal development and passion for the subject. Sixteen percent of the PhD students listed extrinsic motives first. Motives that were mentioned in this category included: needed for an academic career, social influences and a fall-back career. Two percent reported altruistic motivation as the main reason for starting the project; these PhD students wanted to make a contribution. Of the answers to this open question, 16.4% could not be categorized.

Table 7: Motives for becoming PhD student

Type of motivation	Percentage
Intrinsic motivation	65.6
Extrinsic motivation	16.1
Altruistic motivation	1.9
Not codable	16.4

Self-efficacy

The PhD students were then asked whether they believed they would be able to finish their PhD project and whether they would be able to complete the project before the official end date. A total of 98% of the respondents believed they would be able to finish their project successfully, and 30% of the respondents thought this would be before the official end date. A third of the respondents thought they would not be able to finish the project in time and 38% did not know yet. Figure 3 shows that most of the first-year PhD students are not yet sure whether they will

be able to finish the project in time. PhD students who have been working on the project for more than three years state most often that they will not be able to finish the project in time. In 2009, 38% of the respondents were confident that they would be able to finish the thesis before the official end date.

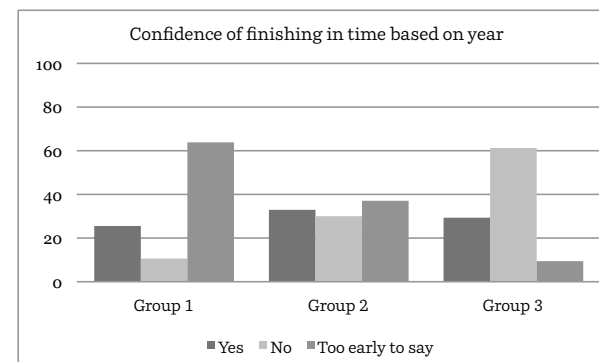


Figure 3: Confidence of finishing in time based on year (percentages)

The PhD students were also asked about their ability to write a good thesis and their time-management skills. Over 96% were confident that they would be able to write their thesis and 83.5% was satisfied with their time-management skills (see Table 8). Those PhD students who had been working for a year on their project were significantly more positive about their time-management skills (90.3%) than those who were in their middle of their project (82.8%) and those who had been working on their project for more than three years (76.6%).

Table 8: PhD students' self-efficacy

Statement	% Agree/ Strongly agree
I believe I can successfully write my thesis.	96.4
I can usually finish my tasks within the time planned for them.	83.5

Skills and competences

The abilities and skills corresponding to the job of a researcher were measured with the 10 items listed in Table 9. A total of more than 80% of the PhD students indicated they had developed these skills and abilities for seven of the items. The items 'the ability to prepare for teaching activities and the ability to perform them adequately' and 'the ability to supervise students in writing a Bachelor's/Master's thesis' leave room for improvement. Only 60% of the PhD students claimed to have developed skills related to estimating financial expenses. When taking a closer look at this percentage, we see that 53% of PhD students in their first year had this ability, 59% of PhD students in their second or third year and 65% of PhD students in their last year.

Table 9: Self-reported abilities and skills of PhD students

Statement	% Agree/ Strongly agree
I have developed the ability:	
to familiarize myself with the subject and theoretical framework of a research project	97.4
to define the subject and theoretical framework of a research project	97.0
to identify, pose and resolve problems by formulating working hypotheses and performing satisfactory studies	94.8
to estimate the expected financial expenses of the study	58.9
to collect, analyse and interpret data both empirically and theoretically	94.3
to instruct support staff	82.2
to publish research results in journals of standing	84.4
to write a thesis in consultation with my supervisor(s)	92.9
to prepare for teaching activities and perform them satisfactorily	78.4
to supervise students writing a Bachelor/Master thesis	75.8

Figure 4 shows a number of items on which the PhD students in different larger Graduate Schools differed. It is interesting to note that a small percentage of Humanities PhD students claim to have developed the ability to supervise students writing a thesis. Furthermore, these four items show that PhD students from the Graduate School of Spatial Sciences have developed most abilities and skills.

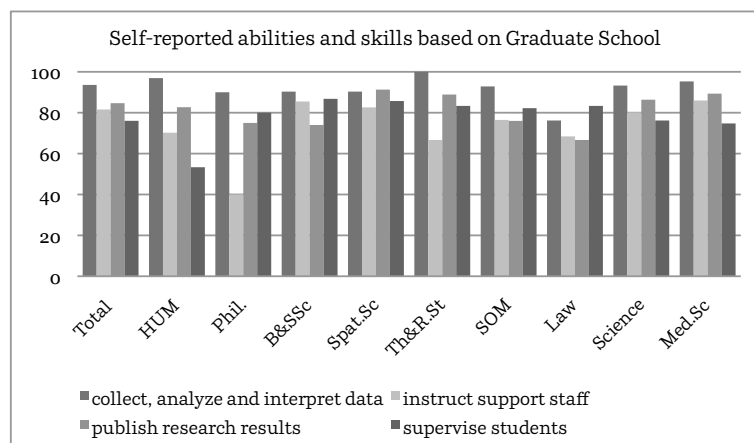


Figure 4: Self-reported abilities and skills based on Graduate School (percentages)

We found differences between PhD students with employee status and those with scholarship status on four items. These differences are displayed in Figure 5. PhD students with scholarship status are more often able to estimate the expected financial expenses of the project than PhD students with employee status. The other three items were answered more positively by PhD students with employee status than those with scholarship status: those with employee status reported more often that they had developed the ability to instruct support staff, to prepare teaching activities and to supervise students writing a Bachelor's or Master's thesis. An explanation of this difference between employee and scholarship status can be sought in the fact that two thirds of the PhD students with scholarship status are foreign. PhD students from abroad may have less confidence in their own abilities as more is new for them.

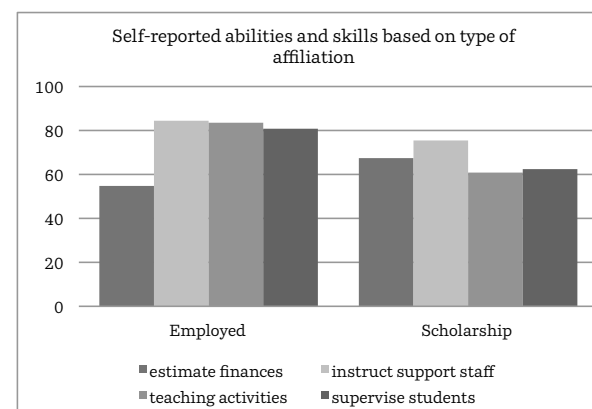


Figure 5: Self-reported abilities and skills based on type of affiliation (percentages)

3. PhD Project

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

3.1. Characteristics of the PhD project

Time span of the project

A total of 235 PhD students (27.3%) started their project after 1 January 2010 and are in the first year of their project. We call them 'group 1'. Four hundred and eleven PhD students (47.8%) started before 1 January 2010 but after 1 January 2008. This group is in the second or third year and is referred to as 'group 2'. The final group started their PhD project before 1 January 2008, consists of 192 PhD students (22.3%) and is called 'group 3'. Table 10 shows the distribution of the PhD students in the different groups according to the Graduate School to which they are affiliated.

Table 10: Percentage in groups based on Graduate Schools

Graduate School	% Group 1	% Group 2	% Group 3
Humanities	25.4	44.8	29.9
Philosophy	50.0	25.0	25.0
Behavioural and Social Sciences	26.6	54.7	18.8
Spatial Sciences	32.3	45.2	22.6
Theology and Religious Studies	36.4	27.3	36.4
Economics and Business (SOM)	31.9	37.7	30.4
Law	26.1	43.5	30.4
Science	40.6	43.8	15.6
Medical Sciences	25.9	55.1	19.0

The PhD students expect to need an average of 6.6 additional months to finish their project after the official end date has passed. This is less than in 2009 when the PhD students estimated they would need an additional eight months to finish the project. The expected reasons for not finishing the project by the official finishing date are summarized in Table 11. Most of the PhD students mentioned reasons relating to the scheduling of the research. These are factors that are inherent to conducting research or working on such a project, but that take more time than initially planned. Unforeseen and personal circumstances amounted for about 13% of the reasons stated. Illness and pregnancy leave were mentioned most often in this category. In the category of additional work-related activities, several PhD students mentioned that teaching duties led to a delay in their research. Only a small number of PhD students mentioned difficulties with supervision as of relevance to their delay. The final category consisted of statements that could not be classified or did not have sufficient content.

Table 11: Expected reasons for not finishing the thesis by the official end date

Category	Percentage
Time schedule of the research	54.7
Unforeseen/personal circumstances	13.6
Additional work-related activities	5.1
Problems concerning supervision	4.2
Other	22.4

Activities in the project

The respondents were asked which activities they were or would be engaging in during their PhD project. The results are shown in Table 12. Almost all of the PhD students performed research relating to their own project. About half of the PhD students took part in educational activities organized by their Graduate School and 19% took part in educational activities organized by their research school. This means that 71% has or will engage in educational activities organized by either their Graduate School or research school. However, not all educational activities are organized by Graduate Schools or research schools, and this will be covered in section 3.2., which looks at all educational activities. Of the PhD students, 45.6% had teaching duties and 44% assisted on other research projects. In the category of 'other', tasks such as supervising students and organizing a conference were mentioned.

Table 12: Activities engaged in during the PhD Project

Activities	Percentage
Research relating to your own project	97.1
Educational activities organized by your Faculty Graduate School or	52.1
Educational activities organized by your research school	18.8
Teaching	45.6
Assisting in other research projects	44.1
Other, namely:	13.4

Research proposal

PhD students can start their project with different kinds of research proposals. These are presented in Table 13, along with the percentages for each. Almost 43% of the respondents had a predetermined research proposal, 23% were able to develop their own research proposal and an additional 14% applied with their own research proposal. A further 12.6% started with a predetermined research proposal funded by NWO and 7% had another type of research proposal. Some PhD students reported that they did not have a research proposal at all.

Table 13: Kind of research proposal

Research proposal	Percentage
It was a predetermined NWO-funded research proposal	12.6
It was a predetermined research proposal	42.7
I was free to develop my own research proposal	23.1
I applied with my own research proposal	14.3
Other, namely:	7.3

Leaving the project

The PhD students could also indicate whether, and if so when, they had thought about leaving their research project, along with their reasons for doing so. Twenty-seven percent of the respondents had considered leaving their PhD project. This percentage is almost equal to the percentage that thought about leaving in the 2009 questionnaire. Of the PhD students who considered leaving, 48% did so in the first year, almost 52% in the second year, 32% in the third year, 10% in the fourth and 5.4% after the fourth year. According to these results, a substantial number of PhD students who considered leaving thought about this at several points during the project. Most PhD students consider leaving in the first stage of their project.

Table 14 shows the reasons why PhD students thought about leaving the project. These related to problems with the execution of the project itself (20.3%), uncertainty about whether they would be capable of successfully finishing the project and whether they were suited to research (also 20.3%). Of the respondents, 18.3% reported problems with supervision as the main reason for having considered leaving and about 15% mentioned working conditions such as too much work pressure and loneliness. In addition, the working environment or salary was mentioned several times as a reason for considering leaving with almost 14% listing such factors. The category of 'other' contains reasons that could not be placed in one of the aforementioned categories or that had no substantial content.

Table 14: Reasons to consider leaving PhD project

Category	Percentage
Supervision	18.3
Working environment/salary	13.9
Working circumstances	15.3
Uncertainty	20.3
Project matters	20.3
Interest in the subject	2.5
Other	9.4

Nevertheless, if they were given the choice again, almost all of the PhD students (92%) said they would consider a PhD position again. Of these 92%, most said they would prefer a position with employee status whereas 9.6% would prefer scholarship status. Eight percent of all respondents would not consider a PhD position again if they were given the choice. This is an increase in relation to 2009, when 4% of the respondents reported that they would not consider a PhD position again.

3.2. Education

Following educational course units

On average, the PhD students followed four educational course units as part of their PhD project, which took an average of 19 days. The educational activities of the students are listed in Table 15. A total of 92.4% of the respondents attended at least one educational activity with three-quarters of the respondents taking part in content-related course units, over 60% attending general skills courses and a third attending language classes. Of the PhD students who were in the last phase of their project (group 3), 19.8% attended educational activities aimed at a future career inside academia and 15.6% attended educational activities aimed at a future career outside academia.

Table 15: Educational activities attended

Educational activities	Percentage
Content-related course units, including statistics and methodology, etc.	75.3
General skills courses such as time-management and presentation, etc.	61.5
Future career inside academia	8.5
IT	12.4
Languages	35.6
Teaching skills	13.5
Future career outside academia	7.2
Other, namely:	9.3

Satisfaction

We then examined the students' satisfaction with these educational activities. Together, six items form a scale to measure this concept. These items are shown in Figure 6.

Items in the scale 'Satisfaction with educational activities'

- 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.
- I am free to select the educational activities in which I want to take part.
- Overall, I am satisfied with the educational activities in which I have taken part.

Figure 6: Items in the scale 'Satisfaction with educational activities'

Since 2009, the PhD students have become significantly more satisfied with the educational activities offered. There were differences between Graduate Schools in the PhD students' rating of the educational activities in 2011. Figure 7 shows that of the PhD students at the larger Graduate Schools, those from Behavioural and Social Sciences were most satisfied with the educational activities offered and those from the Humanities Graduate School were least satisfied.

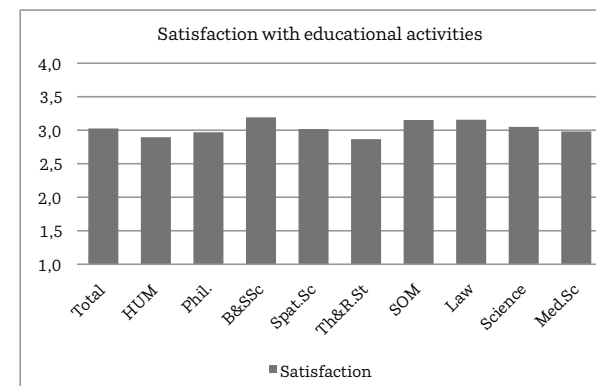


Figure 7: Satisfaction with educational activities based on Graduate School (mean scores)

The final item in this section was about whether PhD students were unable to participate in educational activities because they were not proficient in Dutch. Of the respondents, 17.6% mentioned that this was the case for them. Further investigation of this issue resulted in the explanation that the PhD students were probably referring to course units from standard Master's programmes or other courses that are not specifically meant for PhD students.

3.3. Teaching

Teaching activities

Teaching duties are a common part of the PhD project. A total of 63% of the respondents stated that they had teaching duties during their PhD project. A very small number of these duties consisted of giving lectures (see Table 16). The teaching duties most often consisted of supervising Bachelor's or Master's students. Furthermore, 28% of the PhD students taught tutorials and 20% coached students and taught practicals. PhD students who had been working for a longer period on their project taught more often than PhD students who had just begun, with 48.9% of the PhD students in their first year saying that they were teaching, 65.2% in their second or third years and 78.1% in their fourth or final years. The PhD students who taught spent an average of 12 hours per month on these duties.

Table 16: Teaching duties

Teaching duties	Percentage
No, I do not teach any course units or supervise students	36.7
Yes, lectures	8.4
Yes, small groups (seminars/tutorials)	28.1
Yes, coaching students	19.7
Yes, practicals	20.3
Yes, supervising students	40.0
Yes, other, namely:	6.4

Basis of the teaching: voluntary or compulsory

A total of 58% of the PhD students taught and/or supervised on a voluntary basis, whereas 42% were required to teach. There were significant differences between the larger Graduate Schools. Figure 8 shows that PhD students from Humanities and Medical Sciences often taught on a voluntary basis, whereas at the Graduate Schools of Behavioural and Social Sciences, Economics and Business (SOM), and Law PhD students mostly taught on an obligatory basis.

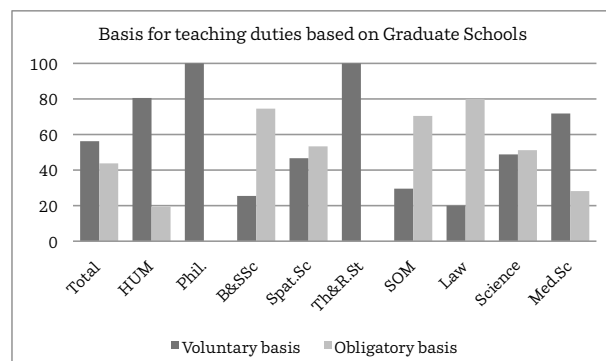


Figure 8: Foundation for teaching duties based on Graduate School (percentages)

PhD students in their first year taught on an obligatory basis more often (58.9%) than PhD students who had been studying for a longer period. A total of 64.6% of the PhD students in their second or third years and 59.2% in their fourth or final years taught voluntarily.

Added value of teaching

Sixty-six percent of the respondents who indicated that they were teaching did not receive training to teach or supervise. The respondents who did receive such training reported various sorts of training: for example, several PhD students had gained the University Teaching Qualification (Basiskwalificatie Onderwijs; BKO) and others followed courses that specifically impart teaching skills. The majority of the PhD students were satisfied with the support

they received for their teaching and supervising (80%). The PhD students who did not feel sufficiently supported stated, for example, that they felt they were not well informed or that there was not enough time. Sixty-one percent of the respondents felt that the teaching units contributed to their own PhD projects, 29% disagreed with this and almost 10% did not answer this question. Table 17 shows the ways in which the PhD students thought teaching contributed to their projects. Most of the PhD students thought it contributed to generating and formulating ideas.

Table 17: Contribution of teaching units to PhD Project

Contribution of teaching units to PhD Project	Percentage
Presenting in public	48.4
Preparing for a career in academia	47.8
Structuring my PhD project	29.6
Achieving my research goals	44.3
Generating and formulating ideas	52.8
Other, namely:	15.7

Sixty-seven percent of the respondents were satisfied with the amount of teaching during their PhD project. More PhD students would like to teach more (19%) than those who would like to teach less (14%).

3.4. Information provision

The PhD students were asked to whom they turn when they need information. The results are shown in Table 18. For information about practical matters such as housing, medical care and tax issues the PhD students mainly turned to fellow PhD students. The PhD students thought supervisors were the best help for information on practical matters such as their contract or scholarship. They also mainly consulted their supervisors for information about project matters such as funding and research or travel budget.

Table 18: Sources of information for PhD students in percentages

Sources	Practical matters: housing, medical care, tax issues	Practical matters: contract or scholarship	Project matters: funding, budget
Supervisors	9.0	50.5	72.3
Fellow PhD candidates	38.4	25.9	21.4
PhD coordinator	5.7	18.0	20.2
Graduate School	5.8	19.3	23.7
International Service Desk	17.3	6.3	1.5
Research Institute	3.3	13.0	14.4
Others, namely	52.4	16.6	10.8

Seventy-eight percent of the respondents reported that they had had no difficulties with the information provision. The PhD students who did experience difficulties mentioned Dutch tax issues most frequently saying they found these very unclear. A considerable number of PhD students were not satisfied with the information provided about their scholarship status and several said that they had been incorrectly informed. Other issues that were mentioned frequently were: vagueness about funding/budget, no clear information at the start of the project, vagueness about who to contact for what, information only provided in Dutch, problems with contract or insurance policies and the website of the RUG not being transparent.

When a distinction is made between PhD students with scholarship status and those with employee status, we see that PhD students with scholarship status experienced more problems relating to information provision (33.2%) than PhD students with employee status (17.3%). Furthermore, as Figure 9 shows, PhD students from the Humanities Graduate School experienced the most difficulties relating to information provision (not taking into account the smaller Graduate School of Theology and Religious Studies).

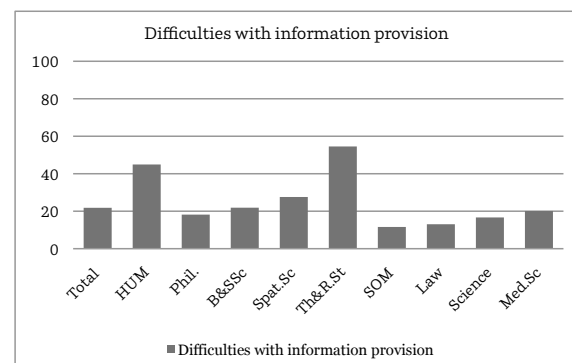


Figure 9: Difficulties with information provision based on Graduate School (percentages)

4. Supervision

Supervision is an essential part of a successful PhD project. This chapter first discusses the demands and requirements of a PhD project. It then considers the Training and Supervision Plan (TSP) before moving on to the supervision provided by the Graduate School and the support provided by the national research school. It concludes by discussing the supervisor and daily supervisor.

4.1. Demands and requirements of the PhD project

Formal evaluation

The PhD students' performance should be formally evaluated at least once a year. As most PhD students in their first year had not completed a whole year, they were not included in the subsequent analyses. Almost 63% of the respondents who were in their second year or further indicated that their performance was evaluated once a year in performance appraisal and career/project development interviews. Of the respondents, 24.5% stated that their performance was evaluated very irregularly and 12.3% that their performance had not yet been evaluated. There were differences between the Graduate Schools. Of the PhD students from larger Graduate Schools, those from the Graduate School of Economics and Business (SOM) reported most often that their performance was evaluated regularly (see Figure 10).

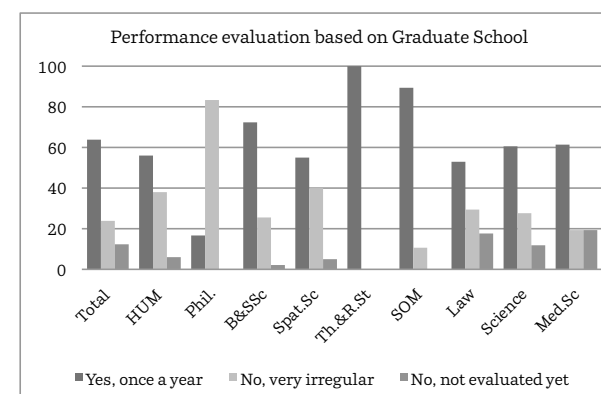


Figure 10: Performance evaluation based on Graduate School (percentages)

Table 19 shows the people present at go/no go (appraisal) interviews for PhD students (70%). Eighty-five percent of the respondents indicated that a supervisor such as the main supervisor was present at the first-year evaluation. In over 45% of the cases the daily supervisor was also present. In only 21% of the cases was a member of the Human Resources department present. This is a smaller percentage than the one measured in 2009. If we distinguish between PhD students with employee status and those with scholarship status, we see that in the case of PhD students with employee status a member of the Human Resources department was present in only 34.7% of the cases; this is a smaller percentage than in 2009. Thirty percent

of the respondents had not yet had a go/no go interview and 58% of these were first-year PhD students.

Table 19: Attendants at go/no go interview

Attendants at go/no go interview	Percentage
Supervisor(s), e.g. main supervisor	84.6
Daily supervisor	45.2
Graduate school delegate	13.5
Member of Human Resources department (P&O)	21.3
Other, namely:	6.8

Thesis requirements

We asked the PhD students if they were aware of formal quantity (e.g. how many pages, chapters, or articles) and quality (e.g. publishing in high-ranking journals) requirements for their thesis. Of the respondents, 45.7% said that they were aware of quantity requirements, and 90% of these respondents were satisfied with these requirements, 8% found the requirements too demanding and 1.6% thought they could be more stringent. Only 37% of the respondents had formal quality requirements for their PhD thesis (e.g. type of journals or publishers) and 87.7% were satisfied with these quality requirements whereas 12% thought these requirements were too demanding.

Figure 11 shows the differences between Graduate Schools in terms of quantity and quality requirements for PhD theses. PhD students in Medical Sciences and Spatial Sciences stated more often that they had quantity requirements and quality requirements. PhD students from the Humanities and Law in particular had few requirements (not taking the smaller Graduate Schools into account).

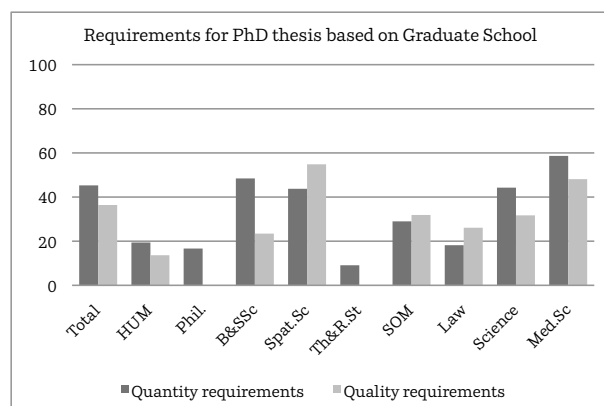


Figure 11: Requirements for PhD thesis based on Graduate School (percentages)

There was a relationship between the period in which the PhD students started their project and whether the PhD students had quantity requirements for their thesis. One-third of the PhD students in the fourth or subsequent years of their project had quantity requirements, compared with half of the PhD students who had been working on their project for one, two or three years. The increase in quantity requirements was not significant.

4.2. Training and Supervision Plan (TSP)

In 2009, 57% of the PhD students reported that they had a TSP. This had increased to 63% in 2011, with 18% saying they did not have such a plan and an additional 18% not knowing whether they had a TSP at all. PhD students affiliated to the Graduate School of Law indicated most often that they had a TSP, whereas only 40% of the PhD students affiliated to SOM had a TSP (see figure 12). It should be added here that SOM deliberately chooses to let PhD students draw up a TSP later in the project. The data also revealed a difference in the number of PhD students with a TSP according to when they started their project: just over 50% of PhD students who had been working for more than three years on their project had a TSP, compared with 73% of PhD students in their first year.

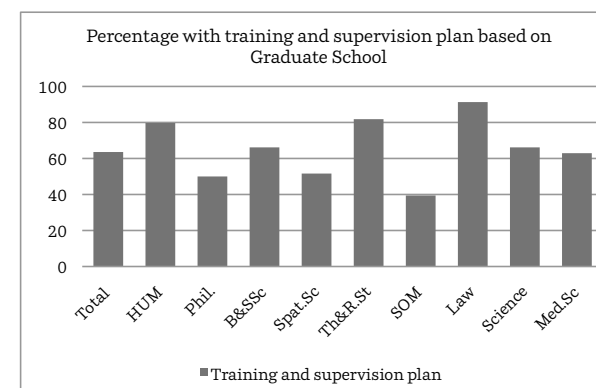


Figure 12: Percentage with Training and Supervision Plan based on Graduate School

The PhD students who reported having a TSP were then asked about the content of this plan. Table 20 shows the elements of the plan and in which percentages they were present. The majority of the TSPs contain an explanation of research content and design. In comparison with the 2009 results, we can conclude that the TSP has become a more complete document.

Table 20: Elements of the Training and Supervision Plan

Elements of Training and Supervision Plan	Percentage
Research content and design	79.9
Time management	54.0
Content-related course units, including statistics and methodology, etc.	50.0
General skills courses such as time-management and presentation, etc.	40.3
Supervision	55.5
Teaching	26.3
Evaluation and appraisal moments	36.0
Requirements concerning the PhD thesis	26.5

Satisfaction

The PhD students were asked to what degree they were satisfied with their TSP. Figure 13 shows the questions in this scale.

Items in the scale 'Satisfaction with Training and Supervision Plan'

- My Training and Supervision Plan serves as a good guideline for my time as a PhD candidate.
- Drawing up a Training and Supervision Plan helps me plan my PhD project.
- I have sufficient opportunities to revise my Training and Supervision Plan where necessary.
- My Training and Supervision Plan is regularly evaluated in a formal evaluation.
- Overall, I am satisfied with my Training and Supervision Plan.

Figure 13: Items in the scale 'Satisfaction with Training and Supervision Plan'

Overall, the PhD students were moderately satisfied with their TSP. Furthermore, the 2011 score was lower than the mean score of 2009. This means that although more PhD students had a TSP in 2011, they were less satisfied with it. Figure 14 shows the satisfaction with the TSP broken down into Graduate Schools. The high score given by students at SOM is interesting because these PhD students draw up their TSPs at a later stage but are more satisfied with it.

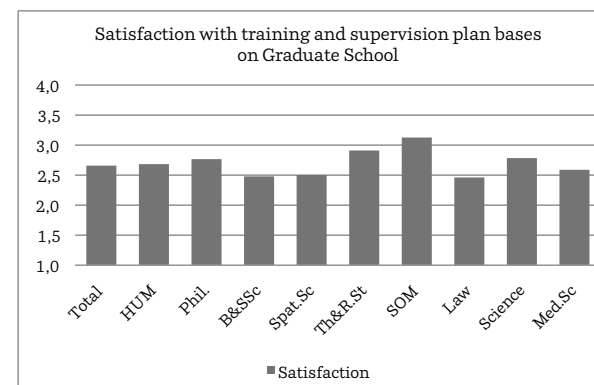


Figure 14: Satisfaction with training and supervision plan based on Graduate School (mean scores)

As was the case in 2009, PhD students in 2011 with scholarship status were more satisfied with their TSP ($M = 2.76$) than PhD students with employee status ($M = 2.61$). Differences were also found between PhD students in their first, second or third, and fourth or final years. The PhD students who started their PhD project earlier were less satisfied with the plan than the PhD students who had started more recently. PhD students who had been working on their thesis for three years or longer rated the TSP lowest, followed by the PhD students who were in their second or third years. The PhD students who were in their first year were most satisfied with the plan. As the TSP is written at the start of the project, PhD students may feel it is no longer sufficient after a few years. Yearly revisions of the training and supervision plan could overcome this problem.

4.3. Graduate School

Each faculty of the University of Groningen has its own Graduate School. The 2009 survey indicated that two-thirds of the respondents were familiar with the activities of their Graduate School. In 2011 this number had increased to three-quarters of the respondents, whereas 14% of the 2011 respondents were unfamiliar with the activities of their Graduate School. If we compare the larger Graduate Schools (see Figure 15), we can see that the PhD students of the Graduate School of Law are most familiar with their Graduate School whereas the students of the Graduate School of Behavioural and Social Sciences and Science are least familiar with their Graduate School.

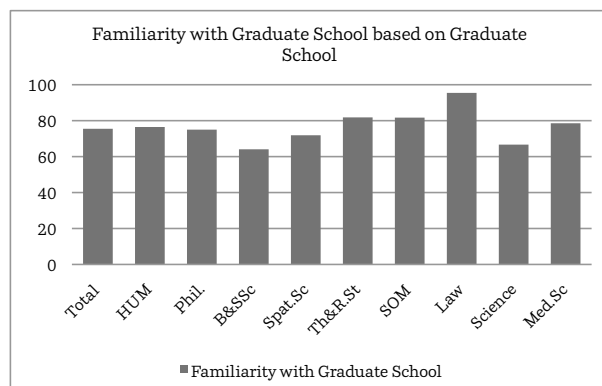


Figure 15: Familiarity with Graduate School based on Graduate School (percentages)

Of the respondents, 43% had enrolled in a practical introductory course at the Graduate School. This is more than in 2009, where about a third had attended an introductory course at the Graduate School. The highest percentage of PhD students from the larger Graduate Schools to enrol in the introductory course was again from the Graduate School of Medical Sciences with 57.5% taking part in this course (see Figure 16). Only 10% of the PhD students affiliated to the Spatial Sciences Graduate School enrolled in an introductory course.

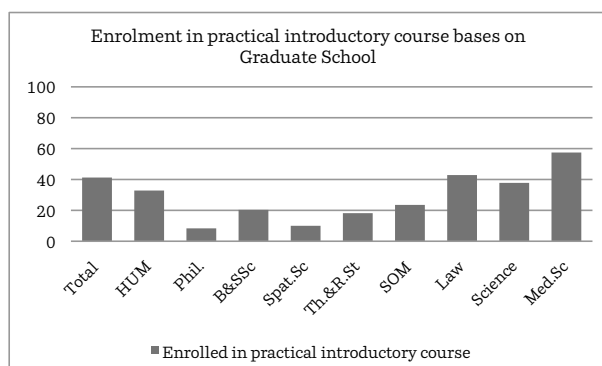


Figure 16: Enrolment in practical introductory course based on Graduate School

Satisfaction

Satisfaction with the Graduate School was measured using the items shown in Figure 17.

Items in the scale 'Satisfaction with the Graduate School'

- I am satisfied with the education provided by my graduate school.
- I am satisfied with the way in which 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 a stimulating environment that fosters interaction and efficiency.
- My graduate school provides me with adequate information through the website.
- My graduate school provides me with adequate information through the PhD guide.
- Overall, I am satisfied with how my graduate school functions.

Figure 17: Items in the scale 'Satisfaction with the Graduate School'

Overall, the PhD students were moderately satisfied with their Graduate School. There were also differences in how PhD students rated their Graduate School, which is partly shown in Figure 18. If we compare Figures 15 and 18, we can conclude that the more familiar PhD students were with their Graduate School the more positively they rated it with a difference between PhD students who did not know their Graduate School and PhD students who did of 2.3 versus 2.75 on a scale of 4.

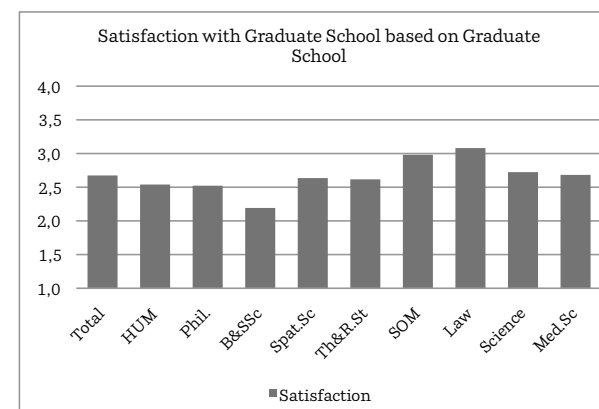


Figure 18: Satisfaction with Graduate School based on Graduate School (mean scores)

Differences were also found between PhD students with scholarship status and those with employee status. Again PhD students with scholarship status were more satisfied ($M = 2.75$) than PhD students with employee status ($M = 2.62$). In addition, the PhD students in their first year were more positive ($M = 2.76$) than those in their second or third years ($M = 2.67$) and those who had been working on their project for four years or longer ($M = 2.50$).

One item explored the degree to which PhD students know to whom they can turn in general at the Graduate School if they are facing problems. Two-thirds of the respondents knew whom they could contact at the Graduate School if they were having problems, which is comparable with the 2009 survey. All respondents from the Graduate School of Law stated that they knew to whom they could turn. The respondents from the Behavioural and Social Sciences Graduate School were the least familiar with whom they could contact in case of problems; only 44% knew to whom they could turn at their Graduate School.

4.4. Research School

PhD students can become a member of a research school either as part of a Graduate School's activities or independently of the Graduate School. Research schools are not necessarily affiliated to one university and are often subject specific. Some Graduate Schools delegate most of the educational and supervision activities related to PhD studies to research schools.

Of the respondents 21.5% said they were affiliated to a research school. GUIDE, LOT and Nethur are some of the research schools mentioned by the PhD students. Of these PhD students, 55.5% had enrolled in a practical introductory course offered by the corresponding research school.

Satisfaction

We measured how the PhD students rate the research schools (see Figure 19). Overall, the PhD students were satisfied with the research schools, giving them an average score of 3.08. No significant differences in satisfaction were found according to Graduate School affiliation, type of affiliation with the University or year in which PhD students started.

Items in the scale 'Satisfaction with the (national) research school'

- I am satisfied with the education provided by the research school.
- I am satisfied with the way my research school monitors and supports the supervision of my PhD project.
- I am satisfied with the way in which my research school monitors the progress of my PhD project.
- My research school provides a stimulating environment which fosters interaction and efficiency.
- Overall, I am satisfied with how my research school functions.

Figure 19: Items in the scale 'Satisfaction with the (national) research school'

4.5. Supervisor and daily supervisor

PhD students were asked to indicate how many supervisors they had. The average number of supervisors is 2.5. The PhD students with the fewest supervisors had only one and the PhD students with the most had seven. The respondents were also asked to distinguish between supervisors and daily supervisors. On average the respondents have 1.9 supervisors (e.g. main

supervisor, second supervisor) and 1.2 daily supervisors (e.g. postdocs, assistant professors). Around 40% of the respondents said they did not have any daily supervisors.

The supervisors' place of employment was then examined, and Table 21 shows where they were employed. The supervisors of the majority of the PhD students (59%) are employed at the same institute as themselves. A small number of PhD students only have supervisors outside the University of Groningen.

Table 21: Place of employment of supervisors

Supervisors employed at University of Groningen	Percentage
Yes, all at the same institute	59.1
Yes, but not all in the same department	20.4
No, some are employed elsewhere in the Netherlands	11.9
No, some are employed outside the Netherlands	7.9
No, all my supervisors are employed elsewhere	0.7

Satisfaction

Satisfaction with supervision was measured using two scales, one relating to the organization of the supervision and one relating to the quality of the supervision. Items belonging to these scales are shown in Figure 20.

Items in the scale 'Organization of supervision'

- I am satisfied with the way my supervision is organized.
- I am satisfied with the number of appointments I have with my supervisor(s).
- I am satisfied with the number of appointments I have with my daily supervisor.
- If 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.

Items in the scale 'Quality of supervision'

- At our meetings my supervisors are usually well prepared.
- My supervisors provide me with adequate feedback.
- My supervisors show commitment to my project.
- My supervisors support me in choosing educational activities which I find interesting.
- I am 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.
- Overall, I am satisfied with the supervision.

Figure 20: Items in the scales 'organization of supervision' and 'quality of supervision'

If we look at the whole group, we can see the level of satisfaction with the supervision is high. The scores on both the organization and the quality of supervision have increased significantly since 2009 (organization 3.23 versus 3.35 and quality 3.18 versus 3.28).

We were also interested in how different groups of PhD students rated their supervisors on these scales. Just like in the 2009 survey, we only found significant differences according to year of starting with the project. There were no differences between Graduate Schools and the type of affiliation. PhD students in their first year (group 1) were more satisfied with their supervision than PhD students in their second or third (group 2), or in their fourth and final years (group 3) (see Figure 21).

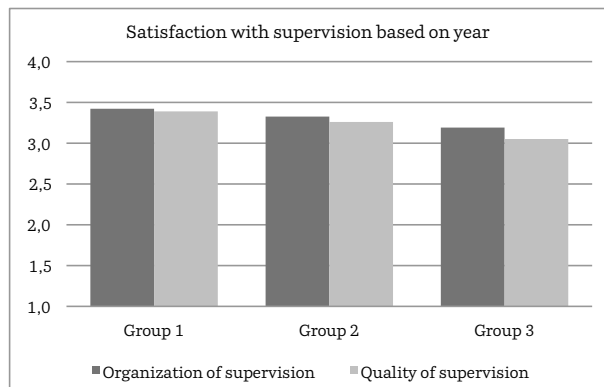


Figure 21: Satisfaction with supervision based on year (mean scores)

Positive and negative aspects of supervision

To gain a better understanding of the positive and negative aspects of the supervision, we asked the PhD students to indicate what they appreciated most and what was the most challenging and/or frustrating aspect of their supervision. Tables 22 and 23 show the categories of answers. The positive answers were grouped into five categories: feedback/expertise/support, freedom, approachability/availability, commitment/enthusiasm and personal characteristics/relationship; the first category was mentioned most by the PhD students.

Table 22: Factors most appreciated in supervision

Category	Percentage
Feedback/expertise/support	41.3
Freedom	13.1
Approachability/availability	21.6
Commitment/enthusiasm	13.4
Personal characteristics/relationship	10.5

The more critical statements about the supervision were grouped into six categories: frequency of supervision, quality and content of supervision, personal fit with supervisor, too many supervisors, lack of interest/lack of commitment and lack of expertise. Dissatisfaction with the frequency of the supervision was mentioned in almost half of the cases as the main point needing improvement.

Table 23: Most challenging/frustrating aspects of supervision

Category	Percentage
Frequency of supervision	45.5
Quality and content of supervision	20.4
Personal fit with supervisor	14.0
Too many supervisors	11.8
Lack of interest/ lack of commitment	3.3
Lack of expertise	5.0

5. Working environment

In this fifth chapter we focus on the working environment of the PhD students. We will discuss their satisfaction with the expertise and support within the department, their satisfaction with their working conditions and their overall satisfaction with their work.

5.1. Expertise and support

Six items make up the scale relating to the students' experience of expertise and support in the department (see Figure 22).

Items in the scale 'Expertise and support'

- 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 journals that are relevant to my research topic.
- I have good access to the books I need.
- I received good support during the collection of my data.

Figure 22: Items on the scale 'Expertise and support'

The respondents were positive about the expertise and support in their department. This score was significantly higher in 2011 than in 2009. PhD students from different Graduate Schools thought differently about this topic (Figure 23). Of the PhD students at the larger Graduate Schools, those from Behavioural and Social Sciences were most satisfied with the expertise and support in their department, whereas PhD students from Economics & Business (SOM) were least satisfied.

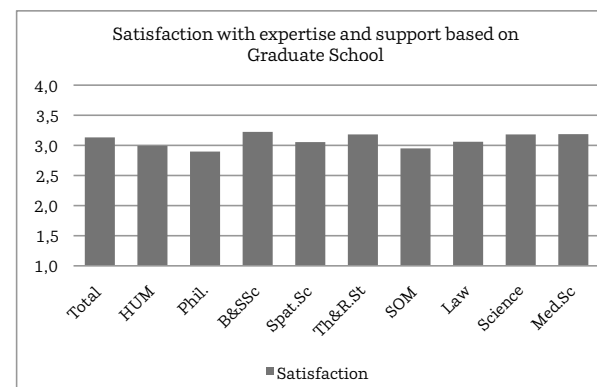


Figure 23: Satisfaction with expertise and support based on Graduate School (mean scores)

The year in which PhD students started their project also had a bearing upon their degree of satisfaction with the expertise and support. These differences are shown in Figure 26.

5.2. Working conditions

The PhD students' opinions about their working conditions were measured with a scale consisting of 11 items. Figure 24 shows these items.

Items on the scale 'Working conditions'

I am satisfied with...

- my contact with other PhD students.
- my contact with other staff members of the research group.
- my research budget.
- my travel and conference budget.
- my current income.
- my office.
- the IT facilities.
- the library facilities.
- my lab facilities.
- the repetitive strain injury (RSI) policy at the University.
- the Health, Safety and Environment service (ARBO- en Milieudienst; AMD) at the University.

Figure 24: Items in the scale: 'Working conditions'

The PhD students were generally satisfied with their working conditions. The scores were significantly higher in 2011 than in 2009. We also investigated whether there were differences between Graduate Schools, type of affiliation and year of starting the PhD project. The year in which PhD students started their project was related to how the PhD students rated their working conditions (see Figure 26). The respondents who had been working as a PhD student for a longer time were less satisfied than those who had just started.

5.3. Overall satisfaction and suggestions for improvement of working

The last scale in this chapter deals with the PhD students' overall satisfaction with their work. The three questions on this scale are displayed in Figure 25.

Items in the scale 'General work satisfaction'

- 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.

Figure 25: Items on the scale 'General work satisfaction'

Overall, the PhD students were satisfied with their work and were significantly more satisfied in 2011 than in 2009. As with the other two scales in this chapter, PhD students in their first year

were more satisfied with their work than PhD students who were further on in their project. Figure 26 shows the scale scores for the three scales in this chapter broken down into phase of the PhD students' project.

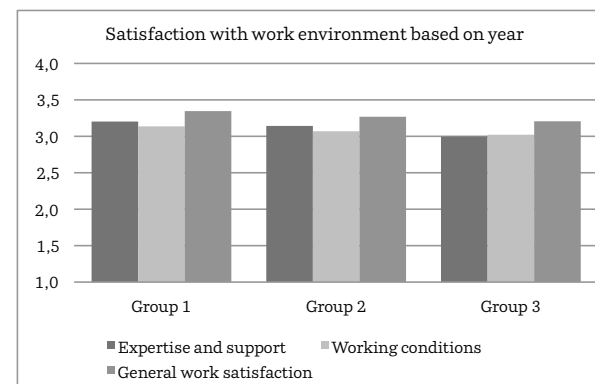


Figure 26: Satisfaction with working environment based on year (mean scores)

We asked the PhD students which aspects of their working environment (e.g. office, furniture) and working conditions (e.g. contract, salary) needed improvement. The aspects mentioned by the PhD students are summarized in Table 24. The point for improvement mentioned most often was sharing work space with too many other colleagues. Problems with IT facilities were also mentioned frequently and a substantial number of PhD students reported salary as the main aspect which needed improvement.

Table 24: Suggestions for improvement in working environment

Category	Percentage
Position of PhD students with scholarship status opposed to PhD students with employee status	9.0
Computer/network/IT	17.1
Climate	8.2
Furniture	6.5
Project budgets	6.5
Clarity about rights and obligations	4.1
Sharing work space	22.0
Additional facilities	10.2
Salary	16.3

6. Career development

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

6.1. Career orientation

We asked the PhD students whether they were exploring future career options. Fifty-five percent of the respondents said that they were. It is not surprising that more PhD students in their final years were exploring their future career options (87.2%) than those in their second or third years (56.6%) or those in their first year (24.7%).

The PhD students who were not yet exploring their future career options were asked when they thought they would start exploring these options. Almost 48% indicated that they would start considering these in the final year of their PhD project, 41% indicated that they would start in the third year, 8% in the second year and 2.7% in the first year. Of the PhD students who were in their fourth year or further and were not yet exploring their future career options, 95% stated they would begin in the final year of their project.

Only 27% of the respondents were familiar with career training opportunities (e.g. via the University's HR Experts department). The students' familiarity with this career training was not equal in the larger Graduate Schools. PhD students affiliated to the Graduate School of Behavioural and Social Sciences were more familiar with such training than PhD students affiliated to the Graduate School of Science and the Graduate School of Medical Sciences (see Figure 27).

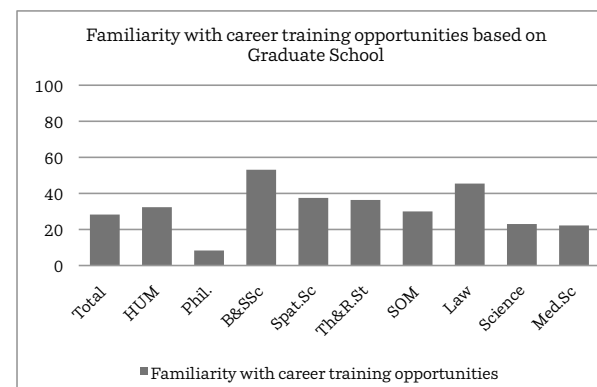


Figure 27: Familiarity with career training opportunities based on Graduate School (percentages)

PhD students with employee status were more familiar with the career training opportunities (34.4%) than PhD students with scholarship status (16.1%). This is probably due to the fact that these training opportunities are technically not available to scholarship students. PhD students in their fourth or further years were more familiar with the career training opportunities than PhD students in earlier years, so 40.2% of the PhD students in the final stage of their project, 22.5% of the PhD students in their second or third years and 25.1% of the PhD students in their first year were familiar with such training.

Only 8.7% of the respondents had attended career-development activities. A quarter of the PhD students in the last phase of their project had attended a career-development activity. Activities mentioned here included career development activities for PhD students, the 'NWO talent day' and the 'Postdoc Career Development Initiative' (PCDI).

The last question in this section was an open question about how the University of Groningen could support career planning. Most of the PhD students asked for workshops and courses together with more information about career opportunities. A substantial number of the PhD students said they would like to receive regular e-mails about upcoming career training opportunities. This means that it is hard for them to find out which courses and workshops are being held. PhD students with scholarship status would like to be allowed to attend the courses organized by the Mobility & Training Office. Furthermore, many PhD students would like the opportunity of a personal session with a career consultant, for instance in the form of a walk-in consultation. Other PhD students suggested an e-mail newsletter containing a summary of all vacant academic posts. Several PhD students also said they would like to see the creation of more postdoc posts. Some said they would like more contact with other possible employers, for instance, at employment fairs or on company visits. Information about funds and grants was also mentioned several times as something that would help the PhD students with their career planning.

6.2. Future career

The PhD students were asked the kind of work they would prefer once they had graduated. Table 25 shows the results of this question: over half of the respondents were interested in a postdoctoral fellowship in the Netherlands and slightly less than half in a postdoctoral fellowship abroad. The respondents were not particularly interested in setting up their own business. Almost 80% of the respondents thought that their preferred work was an attainable goal, 1.5% thought it was not attainable and 19% did not yet know. In 2011 the PhD students were slightly more positive about the feasibility of finding their preferred job; in 2009 69% indicated that their preferred work was an attainable goal.

Table 25: Preferred work after receiving PhD

Preferred work after PhD	Percentage
Postdoctoral fellowship in the Netherlands	50.8
Postdoctoral fellowship abroad	47.9
Teaching/lecturing position at a university	36.0
Other position at a university	20.4
Teaching/lecturing position at a University of Applied Sciences (HBO)	14.4
Commercial research position	28.2
Research position at a government institute (e.g. CBS, CPB, etc.)	30.4
Policy advisor for the government	15.0
Consultancy	17.4
Management position	13.2
Setting up my own business	10.6
Other, namely:	20.8

Twenty-four percent of the respondents stated that they planned to write a proposal for a postdoctoral fellowship, 53.5% were unsure whether they would do this and 22% were not planning to do so. Of all the respondents, 86% were satisfied with their career prospects. However, as Figure 28 shows, PhD students in the Humanities Graduate School were less satisfied with their prospects than the PhD students in the Spatial Sciences Graduate School (not taking smaller Graduate Schools into account).

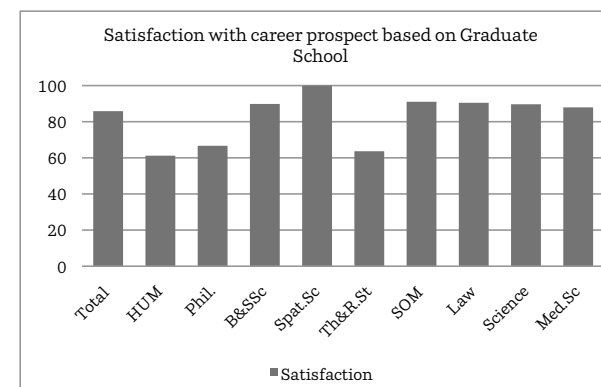


Figure 28: Satisfaction with career prospects based on Graduate School (percentages)

PhD students who had just begun their PhD project were more satisfied with their prospects than PhD students who had nearly finished. A total of 92% of the PhD students in their first year was satisfied compared with 79.4% of PhD students in the fourth or final years of the project.

We subsequently presented the respondents with a number of items about their future prospects (Table 26). We should mention here that with these items the PhD students could answer 'do not know yet' alongside 'agree' and 'disagree'. The majority of respondents were determined to finish their thesis before accepting a full-time job, thought that obtaining a PhD degree would help them find a job and thought that the content of the PhD project would be useful in a future career. A third of the respondents were satisfied with the career support they received from the University, and 22.4% of the respondents agreed with the statement that there would be enough opportunities at the University of Groningen once they had completed their PhD. This is broadly speaking in line with the results from 2009. However, it is University of Groningen policy to expect PhD students who have finished their project to look for a postdoc position abroad before they continue their career at the University of Groningen.

Table 26: Future prospects

Statement	% Agree/ Strongly agree
I am determined to finish my thesis before accepting a full-time job.	68.7
Obtaining my PhD degree will help me find a job.	79.8
The content of my PhD project will be useful in my future career.	79.0
The University supports me in my future career planning.	31.9
There will be enough job opportunities at this University once I have completed my PhD.	22.4

Figure 29 shows the scores on two items from this theme. The scores on these two items differed significantly between Graduate Schools. Of the PhD students at larger Graduate Schools, those from the Spatial Sciences were least confident that obtaining a PhD degree would help them find a job. Ninety percent of the PhD students from the Law Graduate School thought that the degree would help them find a job. The PhD students from the different Graduate Schools also assessed their job opportunities at the University differently: PhD students from the Humanities were least satisfied with the job opportunities at the University and PhD students from SOM were most satisfied.

We then looked at the type of affiliation and found one difference between groups: 23.5% of the PhD students with employee status were satisfied with the job opportunities at the University in contrast with 15.3% of the PhD students with scholarship status. We also found several differences on these items according to year. However, most of the differences were related to the fact that most of the first year PhD students answered that they do not know yet.

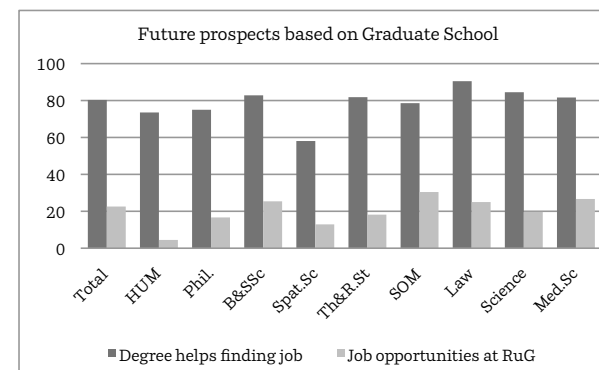


Figure 29: Future prospects based on Graduate School (percentages)

7. PhD Organizations

This chapter focuses on PhD organizations at the Graduate Schools and the recently established Gopher organization.

7.1. PhD organizations at the Graduate Schools

The PhD students were asked whether there was a PhD organization, such as a council or committee, at their Graduate School. Of the respondents, 53.5% answered that they were aware of such an organization in their Graduate School, 43.2% were unsure and 3.3% stated that there was not a PhD organization at their Graduate School. Of the PhD students who were not sure or claimed there was no PhD organization at their Graduate School, 66.7% would like to have a PhD organization at their Graduate School. Table 27 shows the expected focus of this organization within the Graduate School. Over half of the respondents would like the PhD organization to focus on representing the interests of the PhD students in the Graduate School. The PhD students were least interested in excursions offered by such an organization. Since respondents had to choose one aspect to focus on, several answered in the category 'Other, namely' that it should focus on all or several of the points mentioned.

Table 27: Expected focus of PhD organization in Graduate School

Focus of PhD organization	Percentage
Organize social activities	18.6
Represent the interests of PhD students in the Graduate School	56.8
Organize excursions	3.9
Organize thematic sessions (themamiddagen)	14.3
Other, namely:	6.4

Of the respondents 43.2% were satisfied with their PhD organization. This was not applicable for 49.2% and 7.6% were not satisfied. There were no differences between Graduate Schools in the assessment of the PhD organizations. The final question in this theme gave the PhD students the opportunity to make suggestions for improving the PhD organizations. Most PhD students said the organization should become more visible because many PhD students do not know what the organizations actually do. Furthermore, several PhD students requested more social activities, while others asked for less focus on social activities and more focus on academic activities. Some PhD students also said they would like the organizations to focus more on the position of PhD students with scholarship status and others said they would like more support when starting their project and settling down in the Netherlands.

7.2. Gopher

Gopher (Groningen Organization for PhD Education and Recreation) is an overarching PhD organization that has recently been set up. The main goal of Gopher is to create and support a PhD community at the University of Groningen. Gopher focuses on two things: promoting social interaction and networking between PhD students from different faculties and groups, and providing PhD students with information relevant to their PhD research and future career. About a third of the respondents had heard of Gopher and half of the respondents thought they would attend activities organized by Gopher. When the PhD students were asked what they thought Gopher should focus on, they answered that its main focus should be informing PhD students about practical issues concerning their PhD project and living in Groningen (see Table 28). The second most frequently mentioned aspect was organizing social activities.

Table 28: Expected focus of Gopher

Focus of Gopher	Percentage
Organizing social activities	46.2
Organizing general courses	37.0
Organizing excursions	27.1
Organizing thematic sessions (themamiddagen)	36.2
Informing PhD students about practical issues concerning their PhD project and living in Groningen	51.4
Other, namely:	2.8

The final question concerned additional suggestions for Gopher. About 30 people answered this question making diverse suggestions. A few people would like Gopher to focus more on international PhD students, some would like thematic sessions focusing on career planning, some would like more general activities with a more general public, and some would like to receive more practical information from Gopher. In addition, a sports team, a networking site to keep track of each other and links with other Dutch or international Graduate Schools were mentioned.

8. Summary, conclusions and recommendations

In this chapter we will first provide a short overview of the results of the 2011 PhD survey (8.1) and compare these with the 2009 survey. We will subsequently use these results to draw conclusions before presenting suggestions for improvement (8.2).

8.1. Summary

The results of the PhD questionnaire 2011 are based on the answers of 42% of the PhD population (860 PhD students). This is slightly lower than the 2009 response rate, which was 46% (577 PhD students). The response group had the following composition:

Table 29: Characteristics of the response group

Characteristics of response group	
Sex	58% female
Average age	29.5
Contract	58% employee 24% scholarship 18% other
Phase of PhD project	27.3% first year 47.8% second or third year 22.3% fourth year or longer
Affiliation Graduate School	
Humanities	8.0%
Philosophy	1.4%
Behavioural and Social Sciences	7.6%
Spatial Sciences	3.8%
Theology and Religious Studies	1.3%
Economics and Business (SOM)	8.3%
Law	2.7%
Science	15.2%
Medical Sciences	37.3%
Other/Don't know	14.3%

Personal characteristics

Intrinsic career values were mentioned most often as the motive for becoming a PhD student (65.6%). Intrinsic motives that were frequently reported were passion for the subject and personal development/acquiring knowledge. The extrinsic motive that was mentioned most was the necessity of a PhD degree for one's future career.

As regards the abilities and skills corresponding to the profession of researcher, the PhD students in the various Graduate Schools felt differently about whether they would be able to master these. For instance, only a few PhD students from the Humanities said they had the ability to supervise students writing a Bachelor's/Master's thesis whereas PhD students from other Graduate Schools were generally confident about this skill. There were also clear differences between PhD students with scholarship status and PhD students with employee status. PhD students with scholarship status considered themselves more capable of estimating the budget than PhD students with employee status. However, these students were less confident of their ability to instruct support staff, and teach and supervise students.

As regards time-management skills, the main difference was between PhD students who had just started and PhD students who had been working for a longer period on their project. At the start of their project PhD students are significantly more confident about these skills (90.3% versus 76.6% at the end).

In general, the respondents were as satisfied with their working conditions (79%) and the information provided on their employment/scholarship contract (69%) as they were in 2009. However, PhD students with employee status were more satisfied with these items than PhD students with scholarship status. This may reflect the much more complex circumstances of scholarship students (housing, visa, etc.). PhD students from the Humanities Graduate School were least satisfied with these aspects.

PhD Project

Fifty-five percent of the PhD students started their project with a predetermined research proposal, while 37% either applied with a research proposal or were free to develop their own.

Almost all respondents thought they would be able to complete their project and write their thesis, but only 30% thought this would be before the official end date of their contract. This percentage was smaller than in 2009: then 38% of the PhD students thought they would be able to finish their PhD project in time. However, the expected delay in finishing the project decreased from eight months in 2009 to 6.6 months in 2011. When asked what the reason would be for not finishing in time, most PhD students mentioned issues relating to the time schedule of the research.

Of the respondents, 27% said they had thought of leaving the project at least once, which is almost equal to the percentage in 2009. The most common reasons for considering leaving were problems with the execution of the project itself. The PhD students also reported insecurity about their own capabilities and the fit with the job, and 18% saw problems with the supervision as a reason to consider leaving the project. Nevertheless, 92% of the respondents would consider a PhD position again if they were given the choice.

During their PhD period PhD students' main activity is conducting research for their own project. Alongside this, they teach (46%), participate in educational activities organized by the Graduate School (52%) or research school (19%) and assist other research projects (44%).

Around 60% of the respondents said they participated in teaching activities; this was almost the same as in 2009. The PhD students devoted an average of 12 hours per month to these duties, and 58% taught and/or supervised on a voluntary basis. PhD students from

the Humanities and Medical Sciences taught on a voluntary basis most often, whereas PhD students from Behavioural and Social Sciences, SOM and Law taught most often on an obligatory basis. Two-thirds of the respondents who taught did not receive formal training to teach or supervise. However, 80% of the PhD students who taught were satisfied with the support they received for their teaching and supervising. Two-thirds of the respondents were satisfied with the amount of teaching.

With regard to their educational activities, the PhD students attended on average four course units, which took 19 days in total. Overall, the PhD students were satisfied with the educational activities offered to them; the score has increased compared with 2009 from 2.84 to 3.03. PhD students from Behavioural and Social Sciences were the most positive about the educational activities; PhD students from the Humanities were the least satisfied. Of the respondents, 17.6% indicated they could not take part in particular educational activities because they were not proficient in Dutch. However, this seems to relate to activities that are not directly related to the PhD programme (i.e. courses offered in the context of a regular Dutch Master's course) as the Graduate Schools and most Research Master's programmes offer their courses in English.

Supervision

PhD students have on average 2.5 supervisors. In most cases these supervisors were all employed at the same institute as the PhD student. The PhD students were satisfied with the organization and quality of the supervision, both of which were rated higher in 2011 than in 2009.

Table 30: Satisfaction with supervision

Satisfaction with supervision		
	2009 rating	2011 rating
Organization of supervision	3.23	3.35
Quality of supervision	3.18	3.28

Satisfaction does decrease during the project but still remains relatively high (> 3.0). Feedback, expertise and support from their supervisors are considered the most positive elements of supervision, while the frequency of the supervision was considered the least positive element.

The majority of the senior PhD students had regular evaluations during their project, and 63% of the senior respondents indicated that they had evaluations once a year, with the SOM Graduate School as a 'best practice' example. In almost 85% of the cases, a supervisor was present at the go/no go interview, but in only 21% was a member of the Human Resources department present.

Supervision - supporting measures

A total of 63% of the PhD students had a TSP to support the set-up of their project. This is a slight increase since 2009, when 57% had such a plan. Altogether, the TSPs in 2011 contained more elements than the average plan in 2009. However, the PhD students were moderately satisfied with this plan and they rate it less positively than in 2009.

The quantity and quality requirements for the thesis should be laid down in the TSP. However, only 48% of the PhD students reported having quantity requirements, while 37% said they have quality requirements for their thesis. PhD students from the Humanities and Law were least likely to have these requirements, whereas PhD students from Spatial Sciences and Medical Sciences were most likely to have these requirements.

Graduate Schools

In 2009 a third of the PhD students were unfamiliar with their Graduate School, whereas this had decreased to a quarter of the respondents in 2011. PhD students from Behavioural and Social Sciences and Science in particular were not very familiar with the activities of their Graduate School. The Graduate School of Law was the best known by its members. The PhD students were moderately satisfied with their Graduate School and the Graduate Schools that were better known by their PhD students were assessed more positively. A figure of 21.5% of the respondents were also affiliated to a research school. The PhD students who reported having a research school were in general satisfied with it.

Working environment

PhD students have become more positive about the expertise and support in their department since 2009 (3.13 now, 3.03 then). Their rating of their working conditions and general work satisfaction has also improved since 2009. Points mentioned for further improvement were sharing the workspace (most mentioned point), computer/network/IT and salary.

Career development

Fifty-five percent of the respondents were exploring options for their future career. It goes without saying that these were mostly PhD students in their fourth year or further. When asked what kind of post the PhD students would like, over 50% say they are aiming for a postdoctoral fellowship. There is relatively little interest in posts outside academia. Moreover, 80% of the respondents thought that their preferred work would be an attainable goal; this is an increase since 2009.

The PhD students' satisfaction with their career prospects was high (86%). However, there were large differences between the different Graduate Schools. Only 60% of the PhD students from the Humanities were satisfied with their career prospects while Spatial Sciences scored 100%.

As concerns career training, we found the following:

- 40% of the respondents in the last phase of their project were familiar with career training opportunities
- 24% had attended career-development activities
- a third of the respondents were satisfied with the support they received from the University in planning their future career
- most of the PhD students asked for extra workshops and courses as well as regular information about career opportunities.

8.2. Conclusions and recommendations

We can use the results from the 2011 survey to reconsider the recommendations from the 2009 survey and assess which ones have been implemented, which ones are pending and which ones need further attention.

Graduate School

The Graduate School should have a central role in the PhD programme. However, 24% of the PhD students are unfamiliar with the activities and role of their Graduate School. This is a slight improvement since 2009, but the increase that was expected in 2009 has not yet been achieved. In 2009, the assumption was that PhD students who had been working for a longer period on their theses before the introduction of the Graduate Schools would be unfamiliar with their Graduate School. Data from 2011 reveal, however, that PhD students in their first year now are the least familiar with their Graduate School. It is possible that these PhD students have not yet received information about the Graduate School; we therefore emphasize the importance of informing all PhD students right at the start of their project.

Furthermore, only 43% of the PhD students had enrolled in a practical introductory course at their Graduate School, with no major difference between PhD students who had just begun and those who had spent longer on their project. This is partly due to the fact that not all Graduate Schools have an introductory course. As an introductory course is an ideal way to introduce the Graduate School, it is important that such a course be offered to all new PhD students.

Not all Graduate Schools have a PhD organization. However, two-thirds of the PhD students who claim there is no such organization at their Graduate School or do not know if there is such an organization would like to have a PhD organization at the Graduate School.

Overall, PhD students are moderately satisfied with their Graduate School, with a substantial difference between PhD students who did not know their Graduate School and PhD students who did (2.3 versus 2.75 on a scale of 4). It seems that the more familiar PhD students were with the Graduate School the more positive they were about it.

Recommendations:

- Information about Graduate Schools needs to reach as many PhD students as possible. All new PhD students should be provided with an information package right at the start of their project. There must also be a focus on PhD students who have been working on their project for a longer time, and these should be contacted more directly, for instance by regular e-mail.
- The Graduate Schools' responsibilities should be stated more explicitly.
- Set up a PhD organization in every Graduate School.

Information provision

The provision of clear information was one of the main recommendations of the 2009 PhD survey. The 2009 report emphasized the importance of clear objectives, norms and expectations. The report advised providing clear information about the type of appointment at the University (employee, scholarship) as well as more information about Dutch tax issues and

maternity leave. The level of satisfaction with the information provided was the same in 2011 as in 2009, with 70% of the respondents being satisfied with the information provision. In addition, the same number of PhD students experienced problems with information provision: 22%. Tax issues and the differences between PhD students with employee status and those with scholarship status were still frequently mentioned as the cause of such problems. We therefore recommend examining the degree to which the 2009 recommendations have been implemented.

Recommendation:

- Examine whether all PhD students receive a complete package with all relevant information for PhD students and instructions about where they can find additional information (website, service desk). Make sure that all relevant information is accessible through the web portal.

Finishing the project

One of the goals of the Board of the University was that 75% of all PhD students should graduate within five years. In both 2009 and 2011 we asked PhD students whether they thought they would be able to finish their project within the allotted time frame. In 2009, 38% of the PhD students were confident that they would be able to finish the project in time. In 2011, however, this percentage had dropped to 30%. On the upside, the additional time that the PhD students thought they would need to finish the project had decreased from 8 to 6.6 months. This means that PhD students are more likely to expect a small extension of the project. However, the goal of graduation in four to five years has not been achieved. This goal could be achieved by focusing upon the factors that prevent delays: for instance, the problems the PhD students have following the time schedule of the research. To this end, better planning and control or more realistic planning is needed.

Better planning can be learned during dedicated courses, but should also be part of the formulation, evaluation and updating of the TSP, that is, the TSP should act as a guideline for PhD students when they are managing their projects. In 2009, 57% of the PhD students had such a TSP and by 2011 this had increased to 63%. Furthermore, we can conclude that the TSP has become more complete and contains more desired elements. However, the aim should be that all PhD students have a TSP containing a project description, the form of supervision (when and how often), a realistic time schedule, training to be followed, teaching duties, quality and quantity requirements concerning the PhD thesis, evaluation formats and planning.

At the moment, most plans lack elements such as:

- Quality and quantity requirements. Many PhD students do not have these: only 46% of the respondents have quantity requirements and only 37% of the respondents said they had clear quality requirements. The TSP should clearly state, for example, the required number of chapters or accepted papers.
- The evaluation format (see also evaluation).

It is interesting to see that although more PhD students have a TSP, the PhD students have become less satisfied with it. Yearly revisions of the TSP would probably contribute to an increase in their satisfaction with this plan over a longer period.

Although 92% of all PhD students would consider a PhD position again, 27% of the PhD students had thought about leaving their project at least once. This is almost the same percentage as in 2009. No data is available on the actual number of PhD students who did leave their project and for what reasons this was. However, PhD students who thought about leaving did provide reasons why they had considered this. These reasons related to the supervision, uncertainty about their own ability or job fit and matters relating to the project. It would be possible to take measures to tackle the first and second reasons in particular.

General conclusions

A number of factors relate to the progress of a PhD project. These are satisfaction with the TSP, the organization of supervision, the quality of supervision, the degree of expert knowledge available within the department and working conditions. To summarize, PhD students are more satisfied with all but one of these factors in 2011. Only their satisfaction with the TSP has decreased. Further improvement of all of these factors should optimize the PhD students' confidence that they will finish their project in time.

Recommendations:

- A further investigation should be carried out of the PhD students who drop out of their project. This investigation should provide information about their reasons for leaving.
- The time schedule of the research is most common reason for not finishing the project in time. PhD students and their supervisors should therefore ensure that the planning is realistic at the start of the project and that it remains realistic as the project progresses. The PhD students should therefore attend project management courses and the supervisors should provide regular feedback on the project planning.
- All PhD students should have a TSP containing all the required elements to help them plan and manage their project. These plans should be revised each year. The Graduate Schools should assume a monitoring role in this.

Education

A total of 92.6% of the PhD students indicated that they attended some sort of educational activity; three-quarters of the students took courses that were content-related, over 60% attended courses that were aimed at teaching general skills and one-third attended language courses.

In the 2009 survey it was recommended that Graduate Schools should take a coordinating role in providing a variety of courses and that all PhD students should take part in one or more course units. It is not clear if this goal has been achieved, as only 71% of the PhD students answered that they would follow a course unit offered by the Graduate School.

When the PhD students were asked to what extent they possess various skills and abilities, clear differences were found between the Graduate Schools. For instance, PhD students from the Humanities felt less able to supervise students in writing a Bachelor's or Master's thesis than students from other Graduate Schools. One thing all PhD students had in common, though, is that they had limited expectations of their ability to estimate the expected budget of a research proposal (only 40% believed they were capable). Lastly, about 18% of the PhD students indicated they could not take part in some educational activities because they were

not proficient in Dutch. Further inquiries at Graduate Schools showed that these are mainly course units in Master's programmes and that practically all course units for PhD students are already in English.

Recommendations:

- Provide a clear picture of the course units which can be followed at each Graduate School and communicate this regularly to the PhD students, for instance in a newsletter or mail every 4-6 months.
- Offer a range of general courses for training generic skills attuned to the wishes of PhD students.
- Offer all courses in English.

Teaching

Of the PhD students who responded, 60% teach. Eighty percent of these PhD students were satisfied with the amount of support they received when they were learning to teach and supervise undergraduate students. However, only 34% of the PhD students had received formal training in teaching or supervising.

Recommendations:

- Formal training in teaching and supervising should be available for all PhD students who will teach during their project.

Evaluation

Sixty-three percent of the senior respondents indicated that their progress was formally evaluated on a regular basis, which is about the same as in 2009. Despite the recommendation in the 2009 survey, no improvement was found here. In 2009, it was also recommended that an HR Officer attend the appraisal interviews of PhD students with employee status, and that the Graduate School PhD coordinator should attend those of PhD students with scholarship status. This recommendation has not yet been implemented and the attendance of HR Officers at the appraisal interviews of PhD students with employee status has only decreased.

Recommendations:

- It is important to have a clear agreement and time schedule about when formal evaluations will take place and to include this in the TSP. The same evaluation format should be implemented for all Graduate Schools. This should make clear when a PhD student will be evaluated, who will be present at this interview and what topics will be discussed.

Supervision

Qualitative analyses of the 2009 data revealed that good supervision consists of frequent and regular feedback, satisfactory feedback communicated in a positive way, realistic planning, a balance between providing guidance and leaving room for the PhD student's own ideas, commitment and enthusiasm, sufficient expertise and sound coordination with other supervisors. The results from the 2011 survey indicate that the PhD students have become more satisfied with the quality and organization of supervision. The PhD students state that constructive feedback, expertise and support are the most valuable elements of the supervision. The availability of the supervisors is often mentioned as a positive aspect of the supervision. Furthermore, freedom and commitment are mentioned quite often. The most common problem is the feeling that supervisors are not available to PhD students as often as they would wish.

Recommendation:

- The TSP should contain agreements about when and how often supervision will take place. Supervisors should commit to this agreement and it should be clear to PhD students where they can turn if they feel that their supervisors are not keeping to this agreement.

Working environment

PhD students have become more positive about the expertise and support in their department. The working conditions and general work satisfaction have improved since 2009. However, sharing their workspace is often mentioned as a point for improvement. PhD students would like to have a separate room in which they can meet visitors or have a telephone conversation.

Recommendation:

- Investigate to what extent PhD students' workspaces need improvement. Given the number of PhD students present at the university it is not expected that more rooms will become available. However, it is conceivable that better regulations governing the use of room space could be drawn up.

Career development

The University's support of the PhD students' future career planning can be improved. When the PhD students were asked how the University could support their career planning many answered that they would be interested in courses in this area. Such courses already exist, but the PhD students do not appear to know how to find them. Therefore, clear communication, for instance in the form of an e-mail announcing upcoming activities in this area, is very important. It should also be easy to find this information on a Graduate School web portal that can be accessed from the main University website.

Recommendation:

- Inform PhD students, especially those in their fourth year, more actively about the career training opportunities offered through the Graduate Schools, both within and outside the University. This can be done by sending regular e-mails to PhD students and with a clear web portal where all this information can be found.

Systematic quality assurance

A regular evaluation of the quality of the various PhD programmes is essential. We propose a biannual cycle of systematic quality assurance, which would entail conducting a general survey every other year. This would provide an understanding of how various elements of the PhD programmes have developed. It would also make it possible to assess the progress made and, where necessary, identify any points for improvement. These improvements should be consolidated after two years, and the next survey would then determine the effects. In the interim years, it would be possible to administer thematic surveys to provide more in-depth information about one or two elements of the PhD programme.

Appendix I: Scores on satisfaction scales

	Total 2009	Total 2011	HUM	Phil.	B&SSc	Spat. Sc	Th&R. St	SOM	Law	Science	Med. Sc
Educational activities	2.84	3.03	2.90	2.97	3.19	3.02	2.87	3.15	3.16	3.05	2.98
Training & Supervision Plan	2.77	2.66	2.68	2.77	2.48	2.50	2.91	3.13	2.46	2.78	2.59
Graduate School	*	2.67									
	2.54	2.52	2.19	2.64	2.62	2.98	3.08	2.72	2.68		
National Research school	*	3.10	3.01	3.00	3.43	2.74	3.20	3.04	2.90	3.18	2.99
Organization of supervision	3.23	3.35	3.32	3.74	3.40	3.41	3.50	3.43	3.38	3.29	3.32
Quality of supervision	3.18	3.28	3.17	3.45	3.37	3.35	3.53	3.38	3.33	3.28	3.23
Expertise and support	3.03	3.13	2.99	2.90	3.22	3.05	3.18	2.95	3.06	3.18	3.19
Working conditions	3.01	3.10	2.99	3.19	3.22	3.10	3.12	3.07	3.14	3.10	3.09
General work satisfaction	3.20	3.29	3.21	3.42	3.48	3.26	3.45	3.33	3.30	3.28	3.25

* Not asked in 2009