

BEING A PHD STUDENT: SATISFACTION, INTEGRATION AND WORK CONDITIONS AMONG PHD STUDENTS 2012

*A Survey Based Evaluation of the PhD School at the Faculty
of Business and Social Sciences, University of Southern
Denmark*

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November 2012



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SUMMARY & CONCLUSIONS

The large majority of PhD students – 89 percent – are satisfied with their PhD study. Older PhD students and PhD students with children are most satisfied with their PhD study.

The large majority – in all cases more than 80 percent – are satisfied with (a) plans and agreements about advising meetings; (b) the availability of their advisors; (c) the quality of advising on their thesis; and (d) the academic and pedagogical competences of their advisors. Female PhD students are a little less satisfied with the availability of advisors and the perceived quality of advising than men.

A small group of approximately 10 percent – 6-7 PhD students in the sample – who is not satisfied with their PhD study, is significantly less satisfied with (a) plans and agreements about advising meetings; (b) the availability of their advisors; (c) the quality of advising on their thesis; and (d) the academic and pedagogical competences of their advisors. These PhD students do not cluster at any particular department or program.

PhD students who are making a thesis which is part of a larger, usually externally funded, project find that their advisors are more often available when needed. In contrast, PhD students who have their own independent project are on average more satisfied with their PhD study.

A large majority, 75 percent of PhD students finds the advising with respect to teaching activities satisfactory and 25 percent find it less satisfactory/unsatisfactory. 86 percent are satisfied with their teaching experience and research dissemination. The level of satisfaction with advising on teaching activities is rather strongly correlated with teaching experience (0.35).

A large majority, 76 percent, is satisfied with the assistance with regard to their research stay at another university, and 85 percent have had or are planning a long research stay of three months or more which the PhD School strongly encourages. Those who are planning a short research stay of less than three months have provider responsibility (except one). Almost all, 93 percent, of those who plan or have undertaken a long research stay are going to universities outside Denmark which is in accord with the goals and ambitions of the PhD School. Almost all have positive experiences from their research stay.

A large majority, 75 percent, finds the assistance with regard to PhD courses, conference participation and establishing networks satisfactory. Three out of four take courses/have taken courses at SDU while more than half have taken courses at other Danish universities and at universities outside Denmark. 64 percent have mainly positive course experiences and 36 percent have mixed experiences; none have mainly negative experiences. Still, around 60 percent find that there are not always enough relevant courses to choose from; this perception is more widespread in some programs than others. Some comment that information about relevant courses has been lacking; with the introduction of the inclusive national PhD course homepage www.phdcourses.dk in September 2012 this problem has been solved.

A large majority, 87 percent, find the level of service at the PhD School satisfactory.

A large majority, 67 percent of all PhD students think that their departments have always or almost always been assisting them in their PhD studies, and an additional 22 percent finds this to be the case “in general, but not always”. The perception among PhD students that the department rarely assists them in their PhD study is more widespread at one department; it is not the general perception.

PhD students often report to have long working hours. 50 percent usually work more than 45 hours per week and 30 percent report to work 40-45 hours a week; there are no sex differences in working hours. Working hours is not related to feelings of stress.

Most PhD students, 77 percent, are satisfied with the study and work environment, but 23 percent of all PhD students are not. PhD students who are “not very satisfied” or “dissatisfied” with the working environment are particularly widespread at one department; it is not a general perception.

A large majority, 86 percent of all PhD students, has a good relationship to their fellow PhD students – most of them both socially and academically. An additional 9 percent find the relationship reasonable.

Feelings of stress are quite frequent among PhD students. 34 percent do hardly ever or only rarely feel stressed. 51 percent, now and then feel stressed. The potentially most vulnerable group, those who frequently feel stressed, counts 15 percent or 10 PhD students. At four departments two or three PhD students often feel stressed. Feeling of stress is not significantly related to PhD students’ general assessment of the work environment or to the relationship to fellow PhD students.

By way of correlation analysis the PhD students who often feel stressed and PhD students who are not satisfied with the study and work environment have been profiled. The analyses show that,

- *PhD students who are less satisfied with the study and working environment
... are less satisfied with their PhD study in general
... to a lesser extent find that their department is assisting them in their PhD study
... work more hours
... have a more distant relationship to their fellow PhD students
... and they are vastly over-represented in one department*
- *PhD students who more often feel stressed
... are less satisfied with their PhD study in general
... to a lesser extent find that their department is assisting them in their PhD study
... do more often feel that their work on the thesis is not progressing well*

*... more often predict that they will submit their thesis with a longer delay
... and they are over-represented in four of eight departments*

A large majority, 81 percent, find that the work on the thesis is progressing well without problems or no major problems. 17 percent think that the work is progressing so-so and face a range of challenges while one PhD student face a lot of problems relating to the thesis. Older PhD students and PhD students with children to a higher extent find that their work on the thesis is progressing well.

The overwhelming majority of PhD students expect to finish as planned after 3 years of study or – if you are on a 4 + 4 program – after 4 years. Almost all, 94 percent, expect to submit their thesis exactly as planned (85 percent) or after a delay of up to 3 months (9 percent) (excluding sickness and parental leave). Thus, when asking the PhD students themselves the PhD School will not have many delayed submissions in the years to come.

INTRODUCTION

The PhD School continuously evaluates its programs, rules and practices to make sure that the quality of the PhD programs is high and managed effectively. The Faculty Strategy Plan for 2011-2015 stressed that the well-being, work conditions, and professional integration of PhD Students was a focal point.

This is a survey-based report among all PhD Students who by February 2012 were enrolled in one of the 5(6) PhD programs under the PhD School: Business Administration/Business Economics, Law, Economics, Political Science & Journalism, and the cross-disciplinary Social Science. Every second year we have previously collected information based on input from the PhD coordinators and department chairs; this is the first survey collecting information directly from all PhD Students.

The survey mostly includes questions with fixed answering categories; you may like or dislike that format, but it is the most effective way to get a general picture of PhD students' opinions, perceptions and experiences. Besides, PhD students have been given a chance to make 'further comments' on almost all questions. The questionnaire is a chance for PhD Student to voice their opinion about their study, the advising and guidance, work conditions, etc.

The survey is anonymous and only the PhD School has access to the data. When analyzing the data the PhD School has been interested in pattern-finding and in pinpointing similarities and differences in satisfaction, integration, progress on the thesis, etc. across variables such as field of study, gender, provider status, whether you are part of a larger project or not, and so forth. However, due to concern for anonymity and because of the low number of respondents the analyses in the report may not be as detailed as some would have liked.

There is another and equally important reason why making a survey-based analysis of PhD students' opinion, perceptions and experiences seems appropriate. All female and almost all male PhD students have chosen to embark on a PhD study because they found it academically exciting and challenging – the question is, do we live up to their expectations and optimism? In addition, more than half of our PhD students were actively encouraged to apply for a PhD – the question is, are the PhD students satisfied with their first choice of career and their PhD study?

These and other questions concerning the advice and guidance situation, work conditions and environment, progress on the thesis, etc. are addressed in the report.

THE SURVEY

The e-survey was sent out to all active PhD students at the Faculty as of February 1, 2012. In total 97 students were enrolled, but 13 of these were on leave (parental, sickness etc.) on February 1. One of the e-mail addresses was wrong and we did not detect this mistake. Therefore, 83 students received the survey, out of which 66 had answered by April, when we closed the survey after having sent out two reminders. The response rate was therefore 79.5% which is quite satisfactory.

The general drop-out rate was 20.5%, and the sample is not significantly biased according to gender and the department at which PhD students are employed/affiliated (Industrial PhD students are affiliated with, but not employed at a department). Thus, on these two variables the sample is representative of the PhD student population.

Table 1: Response rate; Department affiliation

Department (employed at/affiliated with)	Response rate, %	N _{Populat.}
Border Region Studies (Grænseregionsforskning, Sønderborg)	100%	4
IMM, Marketing and Management (Odense)	75%	8
Business and Economics, including Health Economics (IVØ, Odense)	79%	19
- of which Health Economics (Sundhedsøkonomi, Odense)	100%	6
Environmental & Business Economics (Miljø & Erhvervsøkonomi, Esbjerg)	71%	7
Entrepreneursh. & Relationship Manag.(Entreprenørskab & Relationsledelse, Kolding)	67%	12
Leadership & Strategy (Ledelse & Virksomhedsstrategi, Slagelse)	82%	11
Political Science, including Journalism (Statskundskab & Journalism, Odense)	93%	14
Law (Jura, Odense)	75%	8
TOTAL	79.5%	83

Table 2: Representativeness of sample across sex

	Share of Sample	N _{Sample}	Share of Population	N _{Population}
Men	60.6%	40	60.2%	50
Women	39.4%	26	39.8%	33

As Table 1 shows the absolute number of respondents from each of our eight departments is rather low; only at four departments the number of respondents is higher than 10. Due to concern for anonymity the report will not present the thematic analyses below by department (at least not by name).

For each of the analyses in the following section the distribution of answers and mean response for each item/issue will be compared across sex to inspect if male and female PhD students respond differently¹. If there are sex differences it will be commented upon.

Given the sample size differences are classified as *strongly significant* if the mean difference reaches the $p \leq 0.05$ level and as *significant*; if $0.05 < p \leq 0.10$. If $0.10 < p \leq 0.2$ we will conclude that there is a *non-significant tendency* for a sex difference. “Don’t know” responses are defined as missing, and are not included in the tables. Therefore, the number of respondents is sometimes less than 66.

In the same way the mean responses will be compared for PhD students with and without children. Finally, the correlation between age and item response will be analyzed and reported if significant.

A number of other correlates will be examined when relevant. With the data at hand it is not possible to draw any strong causal inference about what-causes-what. We will only be able to point at associations between variables and, in some cases, to profile PhD students who have answered in a distinct and patterned way.

¹ Most variables have a Likert-scale or ordinal character with four or five categories (no neutral), going from strongly negative responses to strongly positive. The variables are treated as if they were on an interval scale, and the mean responses are compared across sex and provider status, e.g. are females on average more or less satisfied than men on a particular issue. T-tests are made to test for significance of mean difference, but a Chi-square test would yield approximately the same results. However, since some cells will have less than 5 respondents the Chi-square test is less appropriate.

1. THE PHD PROGRAM

In general, the large majority of PhD students at the Faculty of Business and Social Sciences are satisfied with their PhD program, cf. table 3. 89 percent report that their study program is satisfactory or highly satisfactory, whereas 11 percent find it less satisfactory (6 respondent) or even unsatisfactory (1 respondent).

Table 3: “In general, how do you consider your PhD Study?” Percent, mean and N.

	Highly Satisfactory (=1)	Satisfactory (=2)	Less satisfactory (=3)	Unsatisfactory (=4)	Mean	N=100
All	21	68	9	2	1.91	66
Females	31	54	15	0	1.85	26
Males	15	78	5	2	1.95	40
Children	33	60	7	0	1.73	30
No Children	11	75	11	3	2.06	36

The responses do not differ among males and females, but PhD students with children are more satisfied with their study program than PhD students without children and the difference in assessment is strongly significant. There is also a rather strong (0.39) and strongly significant association between age and satisfaction with your studies: Older PhD students are more satisfied than their younger colleagues. Age and children, of course, is confounded, but multivariate analyses are not pursued because of the small sample size.

Many aspects are involved when a PhD student reports to be more or less satisfied with his or her studies: the advising situation and progression in the work on the thesis are important aspects, but the quality and supply of PhD courses, the experience with teaching, studies abroad, etc. also matters. In the following we will look at each of these aspects.

1.1. Advising and supervision on the thesis

Table 4 to 9 below all concern the PhD students’ perception of the advising situation and their supervision.

Table 4: “In your opinion, how have plans and agreements about content and frequency of advising meetings worked?” Percent, mean and N.

	Highly Satisfactory (=1)	Satisfactory (=2)	Less satisfactory (=3)	Unsatisfactory (=4)	Mean	N=100
All	36	47	16	2	1.83	64
Females	29	50	17	4	1.96	24
Males	40	45	15	0	1.75	40
Children	33	53	13	0	1.80	30
No Children	38	41	18	3	1.85	34

The large majority, 83 percent, find plans and agreements on advising satisfactory or highly satisfactory, cf. table 4. Around 17 percent are not quite satisfied with plans and agreements, although only one respondent is outright unsatisfied. There are no differences in assessments across sex and provider status, and there is no age correlation.

Table 5: “In your opinion, are your supervisor/-s available when you need their advice?” Percent, mean and N.

	Yes, always (=1)	Yes, almost always (=2)	In general, but not always (=3)	Not always (=4)	Rarely (=5)	Mean	N=100
All	24	56	14	5	2	2.03	66
Females	12	58	15	12	4	2.38	26
Males	33	55	13	0	0	1.80	40
Children	27	60	7	7	0	1.93	30
No Children	22	53	19	3	3	2.11	36

Regarding the perception of advisor availability 80 percent find that the supervisor/-s are always or almost always available when the PhD student needs their advice, cf. table 5. An additional 14 percent are of the opinion that the supervisor/-s is ‘in general, but not always’ available. 6-7 percent find that the supervisor/-s are ‘not always’ or rarely available; all these respondents are women, and the difference in assessment of supervisor availability is strongly significant across the sexes. This said, 70 percent of female PhD students find the supervisor/-s always or almost always available. Provider status and age are not significantly related to the perception of supervisor availability.

Table 6: “How will you characterize the advising and guidance concerning work on the PhD thesis?” Percent, mean and N.

	Highly Satisfactory (=1)	Satisfactory (=2)	Less satisfactory (=3)	Unsatisfactory (=4)	Mean	N=100
All	26	63	8	3	1.89	62
Females	12	68	16	4	2.12	25
Males	35	60	3	3	1.73	37
Children	13	77	10	0	1.97	30
No Children	38	50	6	6	1.81	32

As shown in table 6 89 percent of the PhD students find the advising and guidance concerning the work on the thesis either satisfactory or highly satisfactory, leaving 11 percent who are not satisfied. Again, female PhD-students are more often less satisfied with the guidance and advising situation than males, and the difference in mean response is strongly significant. Provider status and age do not have any bearing on the answers.

Table 7: “In your opinion, are your supervisors academically competent to advise you and your project?” Percent, mean and N.

	Yes, definitely (=1)	Yes, in most cases (=2)	In some cases, but not all (=3)	No (=4)	Mean	N=100
All	63	25	11	2	1.51	65
Females	58	27	12	4	1.62	26
Males	67	23	10	0	1.44	39
Children	70	27	3	0	1.33	30
No Children	57	23	17	3	1.66	35

Table 7 shows that 88 percent of the student body finds their supervisors are academically competent to advise them on their project. The rest, except one person (2 percent), finds their supervisors to be academically competent in some cases, but not all. Even if the overall variation in responses is low PhD students with children on average more often find their supervisors academically competent than their fellow PhD students without children ($p=0.084$). Age and sex are not significantly related to the assessment of the academic competence of supervisors.

Table 8: “In your opinion, are your supervisors pedagogically competent to advise you and your project?” Percent, mean and N.

	Yes, definitely (=1)	Yes, in most cases (=2)	In some cases, but not all (=3)	No (=4)	Mean	N=100
All	54	27	19	0	1.65	63
Females	54	25	21	0	1.67	24
Males	54	28	18	0	1.64	39
Children	55	28	17	0	1.62	29
No Children	53	27	21	0	1.68	34

The assessment of the supervisors’ pedagogical competence is also overwhelmingly positive, cf. table 8. 81 percent find their supervisors competent on this dimension (definitely or in most cases), and nobody find their supervisors to be pedagogically incompetent altogether. There are no differences in assessment across sex, provider status and age.

How PhD students evaluate their PhD study program is rather closely related to how they perceive the advising situation and the supervision. Table 9 summarizes mean responses on the questions reported in tables 4 to 7 by the response on how PhD students overall

evaluate their PhD study. ‘Less satisfactory’ and ‘unsatisfactory’ categories have been merged because the latter category included only one person. For all variables 1 is the most positive assessment and 4 or 5 is the most negative assessment.

Table 9. Relationship between assessment of PhD study and perception of supervision/advising situation. Mean values and N.

<i>In general, how do you consider your PhD Study?</i>	How have plans and agreements about content and frequency of advising meetings worked?	Are your supervisor/-s available when you need their advice?	How will you characterize the advising and guidance concerning work on the PhD thesis?	Are your supervisors academically competent to advise you and your project?
Highly satisfactory	1.36	1.93	1.71	1.29
Satisfactory	1.88	1.93	1.86	1.45
Less satisfactory/ Unsatisfactory	2.43	2.86	2.50	2.29
N	64	66	62	65

The (combined) differences in mean are all strongly significant, but there are only small and insignificant differences in the perception of the supervision between PhD students who are highly satisfied and those who are satisfied with their PhD study (except in their assessment of how plans and agreements worked which is strongly significant).

Thus, in particular those who are less satisfied with their PhD studies, counting around 10 percent of the sample (6 or 7 persons) are also less satisfied with all aspects of their supervision. From the data at hand it is impossible to say how these assessments are causally related, if at all, but the assessments do cluster.

In addition, although in general the large majority of all PhD students are satisfied with their PhD studies and the supervision (in no cases less than 80 percent of the PhD students are satisfied) female PhD students are less satisfied than their male colleagues with the availability of the supervisor/-s and the advising and guidance concerning work on the PhD thesis.

1.2. Being part of a larger project or having your own individual project?

How you perceive your PhD study and advising situation may not only be dependent on socio-economic factors like sex, provider status and age. Your integration in a larger research project/program may also matter. Increasingly, PhD students are doing a thesis which is part of a larger project managed by a senior professor, who has often secured funding for his project through external grants.

There are not many differences in the assessment and perceptions of the PhD study and the advising situation between PhD students who have their own project and those who are part of a larger project. For all questions reported in tables 3 to 7 we have also

analyzed if ‘being part of larger project’ matters. On two questions significant differences are found.

PhD students who have their own project are significantly more satisfied with their study than PhD students who are part of a larger project (Mean 2.09 and 1.82 respectively. In contrast, those who are part of a larger project perceive the supervisor/-s to be more available than PhD students who are not part of a larger project, and the difference is strongly significant (Mean 1.73 and 2.18).

PhD students who are funded by the faculty/department rather than external funds are also substantially more satisfied about their PhD study than their colleagues who are externally funded (Means 1.73 and 2.23) and the difference is strongly significant. The funding variable, of course, is strongly related to the variable measuring whether you are part of a larger project (81 percent of faculty funded PhD students have their own project, whereas 59 percent of the externally funded PhD students are part of a larger project), so the two effects cannot be isolated.

1.3. Teaching, research stay abroad, and course work.

The focus in the PhD study is the thesis, but a successful program also includes doing course work, teaching (and other forms of research dissemination) and studying at a research institution outside the University of Southern Denmark, most often outside Denmark.

It is important to note that the advising in relation to teaching, course work and research stay is not necessarily the responsibility of the PhD students main advisor. Other senior researcher, the head of studies and others may assume these responsibilities.

1.3.1. Teaching experience

According to rules PhD students must have at least 300 hours of research dissemination/communication. However, most PhD students have scholarships requiring them to teach and perform other duties of 840 hours in the 3-year period their scholarship lasts. In general, teaching is an integral part of being a PhD student.

Table 10: “How will you characterize the supervision with regard to the teaching activities that you yourself have carried out during your PhD studies?” Percent, mean and N.

	Highly Satisfactory (=1)	Satisfactory (=2)	Less satisfactory (=3)	Unsatisfactory (=4)	Mean	N=100
All	16	59	12	14	2.24	51
Females	26	47	11	16	2.16	19
Males	9	66	13	13	2.28	32
Children	13	57	22	9	2.26	23
No Children	18	61	4	18	2.21	28

75 percent find the advising in relation to their teaching activities satisfactory or highly satisfactory, cf. table 10. This implies that one fourth of the PhD students are not satisfied with the supervision and advising they get in relation to their teaching obligations. In addition, 15 respondents or 23 percent of the sample answer “don’t know”. There are no significant differences in assessment across sex, age and provider status.

However, the most important thing about teaching is the experiences with the teaching situation, not supervision per se. Table 11 show how PhD students evaluate their teaching activities.

Table 11: “How successful have your teaching and knowledge dissemination been?” Percent and N.

	Highly Satisfactory (=1)	Satisfactory (=2)	Less satisfactory (=3)	Unsatisfactory (=4)	N=100
All	25	61	13	2	56
Females	20	60	15	5	20
Males	28	61	11	0	36
Children	21	67	13	0	24
No Children	28	56	13	3	32

Most PhD student, 86 percent, have satisfactory or highly satisfactory experiences with teaching and knowledge dissemination, and there are no significant differences in the teaching experience across sex, age and provider status.

However, even if the overwhelming majority has positive experiences there is still an association between teaching experience as such and satisfaction with supervision with regard to the teaching. The correlation is moderate at 0.35 and it is highly significant. Thus, the more positive the supervision is perceived the better the teaching experience. Whether this association is causal and if so which direction the causality runs is impossible to determine: The small group who has had negative teaching experiences (15 percent or 8 persons) also tends to perceive the supervision with regard to teaching as less than satisfactory. If anything this shows that in some cases the need for guidance and supervision with regard to teaching is not quite fulfilled.

1.3.2. Research stay at another university

The rules for the PhD School as well as government regulation say that a stay in another research milieu is mandatory. The PhD School strongly encourages longer stays of 3-6 months primarily at international universities, but shorter stays (e.g. at Danish universities) are also accepted if the PhD student for personal reasons (e.g. provider responsibility for small children, the family situation etc.) cannot complete a long research stay away from home.

Table 12: “How will you characterize the supervision/assistance with regard to your stay at another university/research institution?” Percent, mean and N.

	Highly Satisfactory (=1)	Satisfactory (=2)	Less satisfactory (=3)	Unsatisfactory (=4)	Mean	N=100
All	20	56	15	9	2.13	54
Females	19	43	29	10	2.29	21
Males	21	64	6	9	2.03	33
Children	13	57	22	9	2.26	23
No Children	26	55	10	10	2.03	31

76 percent of the PhD students find the assistance with regard to research stay at another university satisfactory or highly satisfactory whereas the remaining 24 percent find the assistance less satisfactory or even unsatisfactory, cf. Table 12. 12 respondents do not answer this question. There are no significant differences in assessment across sex, age and provider status.

The assistance with regard to research stay may be related to the extent to which PhD students successfully realize a research stay at another university (or research institution). Tables 13 and 14 show how long research stays PhD students have had (or planned) and where they have been.

Table 13: “How long have you been or how long do you plan to stay at a research environment outside the University of Southern Denmark?” Percent, mean and N.

	Have not done so/do not plan to do so (=1)	Less than 3 months (=2)	About 3 months (=3)	More than 3 months (=4)	Mean	N=100
All	3	12	32	53	3.35	66
Females	4	12	35	50	3.31	26
Males	3	13	30	55	3.38	40
Children	7	23	33	37	3.00	30
No Children	0	3	31	67	3.65	36

Only 3 percent, or two persons, have not been on (or are not planning) a research stay, and only 12 percent have been on research stays of less than three months. That is, 85 percent have been on a research stay of three months or more.

As intended, only PhD students with provider responsibilities have been exempted from the general rule and the strong encouragement to complete a longer research stay of three months or more. Two PhD students with children (7 percent) are not planning to make a research stay which implies that they must acquire this experience in another way (short research stays, visits, seminars, etc.). In addition, 23 percent of PhD students with provider responsibility have only completed shorter research stays which, however, is fully in accord with government regulations that do not require 3 months or more. The difference in provider status is strongly significant for the propensity to complete at least a 3 months research stay at another university ($p < 0.001$). 98 percent of PhD students without children comply with the PhD Schools rules and encouragement to realize a long research stay at another institution.

Table 14: “If relevant: Is the other research environment at another Danish university or in a foreign country?” Percent and N.

	A university in Denmark	A university in a Nordic country	A university in Europe (outside the Nordic countries)	A university outside Europe	Not relevant	N=100
All	3	11	33	49	5	66
Females	4	15	39	35	8	26
Males	3	8	30	58	3	40
Children	7	13	30	43	7	30
No Children	0	8	36	53	3	36

Most PhD students not only complete longer research stays at another university (85 percent, cf. table 13), the large majority also go to universities outside Denmark (93 percent). 49 percent, i.e. the majority of those going to a university in another country, go to universities outside Europe, mainly top-universities in the USA (places like Stanford, NYU, University of Minnesota, Duke University, etc.). But also those who complete research stays in Europe mostly attend highly ranked universities (Oslo, Uppsala, Lund, Oxford, Manchester, Amsterdam, Kingston, etc.).

29 PhD students gave additional comments on their research stay in open-ended questions: One had negative experiences, 12 had not yet completed their research stay, and 16 provided details on their positive experiences from their research stay. Hence, the experiences with research stay are mostly very positive.

There is no correlation between satisfaction with the assistance on planning the research stay and the length of the research stay.

1.3.3. The supply and quality of PhD courses

The course work amounts to 30 ECTS, or roughly half a work year, of a PhD program. The courses are not only important to acquire the skills needed to make a good thesis.

The course work should also make sure that PhD students more generally get sufficient competence to plan and undertake large research and development projects in their future career in academia or outside academia. That is, courses are important to acquire ‘transferable skills’. Therefore, a sufficient supply of quality courses is important.

Table 15: “How will you characterize the supervision/assistance with regard to PhD courses, conference participation and establishing networks?” Percent, mean and N.

	Highly Satisfactory (=1)	Satisfactory (=2)	Less satisfactory (=3)	Unsatisfactory (=4)	Mean	N=100
All	17	58	19	6	2.14	64
Females	16	56	20	8	2.20	25
Males	18	59	18	5	2.10	39
Children	7	69	17	7	2.24	29
No Children	26	49	20	6	2.06	35

The assessment of the supervision/assistance with regard to PhD courses, conference participation and establishing networks is pretty similar to the assessment of assistance with teaching and research stay. Table 15 shows that 75 percent are satisfied whereas 25 percent are less satisfied or unsatisfied with this assistance. There are no significant differences in assessment across sex, age and provider status.

PhD students at SDU take their courses many places, cf. Table 16. 76 percent have taken courses at one or more of the departments at SDU and 45 percent have attended courses supplied by research education programs which SDU participates in. More than half have taken courses at other Danish universities (52 percent), which usually offer free participation to SDU students through “open market” agreements, or at universities outside Denmark (56 percent) – often in connection with the PhD students’ research stay.

Table 16: “Who have offered the courses that you have been attending?” Percent and N.

	Percent of respondents	N=100 ¹
University of Southern Denmark, SDU	76	62
Research Education Programs in which SDU is participating (FIOL, FAME, Polforsk, Jurforsk, etc.)	45	62
Other Danish Universities	52	62
Universities in other countries	56	62
Industrial PhD course	6	62
Other	19	62

Note¹: Four respondents are new PhD student and report not to have taken any course work yet. Thus, with 66 respondents having answered the questionnaire at the most 62 have attended courses at the time the survey was fielded.

Even if PhD students are taking courses through many outlets, almost two thirds report that they do not always have enough courses to choose from, cf. table 17.

Table 17: “Did you have enough relevant courses to choose from?” Percent, mean and N.

	Yes, always (=1)	Yes, most of the time (=2)	No, not always (=3)	No, never (=4)	Mean	N=100
All	3	34	58	5	2.64	64
Females	0	50	46	4	2.54	26
Males	5	24	66	5	2.71	38
Children	7	40	53	0	2.47	30
No Children	0	29	62	9	2.71	34

Whereas 58 percent find that relevant courses are not always available five percent (three respondents) are of the opinion that relevant courses can never be found. There is no significant difference in responses across sex or age, but PhD students without children are significantly less satisfied with the availability of relevant courses than PhD students with children. It is hard to explain this difference systematically.

Table 18: “Did you have enough relevant courses to choose from?” PhD Programs: Percent, mean and N.

	Yes (= 1 or 2)	No (= 3 or 4)	Mean	N=100
Business administration	16	84	2.84	19
Economics	43	57	2.71	14
Law	17	83	3.00	6
Political Sc. & Journalism	54	46	2.38	13
Social Science ('Soc')	58	42	2.33	12

If we look at the various PhD programs, which exist under the Faculty of Business and Social Sciences, there are some notable differences in the perception of the availability of relevant courses, cf. table 18. More Law students and students in Business Administration/Business Economics find the availability of relevant courses to be lacking compared to PhD students in Political Science/Journalism and in the broad Social Science program, and the differences are significant (in the case of Law students strongly significant). PhD students in Economics fall in-between, but are not significantly different from students in any of the four other programs.

Tables 17 and 18 show that many PhD students do not find that enough relevant, high-quality courses are available at present. Even if one cannot infer from this that all relevant – and perhaps highly specialized – courses have to be offered by the PhD School (or departments and programs under the PhD School) it is the responsibility of the PhD School to make sure that relevant courses are available to PhD students.

The recently launched homepage www.phdcourses.dk should help PhD students to find and identify all relevant courses that are presently offered in Denmark. But in addition to this, more good courses have to be developed and taught in-house. However, this challenge is not unique to Business and Social Sciences at SDU. Most other PhD schools

face the same challenge. In many cases it may be a good idea to develop and co-offer courses in collaboration with departments and programs outside the University of Southern Denmark, but the PhD School is also able to support financially the development of new high-quality courses, in particular courses that are relevant to more than one PhD program. Recently, an incentive scheme has been introduced to incite the programs and departments under the PhD School to supply more relevant, high-quality courses.

Even if relevant courses are not always available, no PhD students have had “mainly negative” experiences with the courses they have attended, cf. table 19.

Table 19: “How have you experienced the courses?” Percent and N.

	Mainly positive	Positive and negative	Mainly negative	N=100
All	64	36	0	59
Females	61	39	0	23
Males	67	33	0	36
Children	68	32	0	28
No Children	61	39	0	31

Almost two thirds of the PhD students (64 percent) have “mainly positive” experiences with their course work. The last third have had both positive and negative experiences. Thus, the fact that relevant courses are not always available does not imply that the courses PhD students have attended are bad. In fact, most have mainly positive experiences and all have good experiences with some of their courses. There are no significant differences in experiences across age, provider status and sex.

1.4. The service of the PhD School

Formally all PhD students at the Faculty of Business and Social Sciences are enrolled in the PhD School. Under the PhD School we have 5 (6) programs: Law, Business Administration/Business Economics, Economics, Political Science including Journalism, and the cross-disciplinary Social Science program. Most PhD students do not think of themselves as students of a PhD School, but as students in political science, economics, law, etc. The PhD School is an administrative and institutional unit and a principle of organization, not a field in itself. In addition, all PhD students are affiliated with one of the Faculty’s eight Departments, four of which are located outside the main campus in Odense. It is at the department level PhD students meet fellow PhD students, senior colleagues, administrative staff etc., and it is at the Departments that PhD students, who are on scholarships, teach and work

The PhD School and the PhD Board approve the PhD plan, PhD courses, assessment committees, parental leave, etc. and it is in charge of admission and, in a few cases,

termination of PhD students who are not progressing on their work. Therefore, PhD students relation to the PhD School are mostly administrative, infrequent and rather formal. For this reason, it is no offense if PhD students do not know much about the PhD School; in fact this suggests that their PhD study is proceeding fully according to plans and that no administrative hurdles have occurred.

Still, the PhD students' perception of the PhD School's service and practices are relevant and may provide inputs for improvements.

Table 20: "How satisfied are you with the PhD School's level of service?" Percent and N.

	Highly Satisfactory (=1)	Satisfactory (=2)	Less satisfactory (=3)	Unsatisfactory (=4)	N=100
All	22	65	13	0	54
Females	24	67	9	0	21
Males	21	64	15	0	33
Children	24	68	8	0	25
No Children	21	62	17	0	29

In general PhD students are satisfied with the service at the PhD School. Only 13 percent find the service less satisfactory and nobody finds it unsatisfactory. 12 PhD students have not answered the question and in the comments section following the question, nine PhD students say that they do not have much contact with or knowledge of the PhD School. Most of the other comments are positive examples of the services provided, but one or two have experienced that administrative decisions have taken too long time. There are no differences in satisfaction across sex, provider status and age.

The satisfaction with the level of information at the homepage of the PhD School is a little lower than with the service more generally, cf. table 21.

Table 21: "How satisfied are you with the level of information available on the PhD School's website?" Percent and N.

	Highly Satisfactory (=1)	Satisfactory (=2)	Less satisfactory (=3)	Unsatisfactory (=4)	N=100
All	5	66	24	5	58
Females	4	57	35	4	23
Males	6	71	17	6	35
Children	4	79	18	0	28
No Children	7	53	30	10	30

Whereas 71 percent find the information on the net satisfactory, 24 percent find it less satisfactory and five percent (three persons) find it unsatisfactory. The main criticism voiced in the comments is the fact that the webpage is hard to find or that it is too may

clicks away. Six students gave this comment. Four find the webpage not well-organized and three find the level of information about available courses too sparse.

The PhD School continuously works on improving the homepage, and SDU is presently streamlining the entry to the PhD studies and making the access point more intuitive. Thus, the main entry to PhD affairs will be SDU's main page in a few months. As already mentioned above, the new national website phdcourses.dk which is already up and running since September should make information on all courses offered by any Danish university easy to find.

2. THE WORK ENVIRONMENT AND WORKING CONDITIONS

The level of satisfaction with the PhD study and all main elements in the PhD programs is generally high. However, it is also important to map how PhD students' evaluate their working conditions and work environment. This is the focus in the following.

The work environment and work condition indicators will be discussed separately for men and women and for providers and non-providers only if there are significant differences at the 0.10 level.

PhD students are hard-working and most of them are usually spending most of their working hours at the department, cf. table 22.

Table 22: Various indicators of work conditions and working habits. Percent and N.

N=100						
<i>Do you think the department has been doing enough to assist you in your PhD study?</i>	Yes, always (=1)	Yes, almost always (=2)	In general, but not always (=3)	Sometimes (=4)	Rarely (=5)	
All	18	49	22	6	5	63
<i>How often are you in the department?</i>	Every day, unless on conference etc. (=1)	Usually 4 days a week (=2)	Usually 3 days a week (=3)	Usually 2 days a week (=4)	Usually less than 2 days a week (=5)	
All	50	8	26	12	5	66
<i>How many hours do you usually work in a week?</i>	+50 hours	45-50 hours	40-45 hours	37-40 hours	< 37 hours	
	23	27	30	18	2	66

In general, PhD students think that their departments have been assisting them in their PhD studies. 67 percent says always or almost always, and an additional 22 percent finds that their departments “in general, but not always” are assisting them. 11 percent, or 7 PhD students, only find this to be the case only sometimes or even rarely. In particular at one department the perception among PhD students that the department rarely assists them in their PhD study is rather common; it is not the general perception (due to concern for anonymity the department will not be named).

PhD students are also quite frequently working at the department, rather than at home. 58 percent are usually 4-5 days a week at the university, 26 percent usually three days a week, and 17 percent report to be two days or less at the department. Among the 11 who are usually two days or less at the university six of them are industrial PhD students not employed by the university, and it is fully to be expected that they spend most time in their company.

According to their self-report 50 percent of the PhD students usually work more than 45 hours a week and only 20 percent usually work around the norm of 37-40 hours. 30

percent usually work 40-45 hours. Thus, at least half of the PhD students often work very long hours. Many PhD students are highly ambitious and some do not distinguish strongly between work and leisure, because they find their job interesting. This is not uncommon among academics. Still, it can be difficult to find the right work-life balance if around 50 hours of work per week is the rule rather than the exception.

The department chairs, the PhD coordinators, and the PhD advisors have to address this issue. The problem of long working hours is almost equally widespread across programs and departments save perhaps Department of Border Region Studies where the problem seems less prominent. However, it may be argued that long working hours are potentially more harmful if related to feelings of stress and a perception that the work environment is not very good; an issue to which we will return shortly.

There are no sex differences in the self-reported working hours, days at the department, or perception of the department as being more or less assisting/helpful. Provider status is only important for one of the indicators: PhD students without children are significantly more often working at the department rather than at home. Also, the number of working hours is not significantly related to the number of days per week PhD students are working at the department.

Three indicators measure various aspects of the psychological work environment, cf. table 23.

Table 23: Various indicators of the work environment. Percent and N.

					N=100
<i>How satisfied are you with the study and working environment? (relations with other supervisors, other PhD students, the research groups at the department, etc.)</i>	Very Satisfied (=1)	Satisfied (=2)	Not very satisfied (=3)	Dissatisfied (=4)	
All	34	43	15	8	65
<i>On a daily basis as a PhD student, do you feel stressed?</i>	Yes, frequently (=1)	Yes, now and then (=2)	No, rarely (=3)	No, hardly ever (=4)	
All	15	51	29	5	65
<i>How would you describe your relationship with other PhD students at your workplace?</i>	Good socially & academically (=1)	Good, academically (=2)	Reasonable (=3)	Not good (=4)	
All	55	31	9	5	65

Most PhD students, 77 percent, are satisfied with the study and work environment, but almost a fourth of all PhD students (23 percent) are not and five of these (8 percent) are outright dissatisfied, cf. table 23. No matter the standard, the share of PhD students who are not satisfied with the work environment is rather high – too high. However, as in the

case with the question on the extent to which “the department has been doing enough to assist you in your PhD study” the PhD students who are “not very satisfied” or “dissatisfied” with the study and working environment is particularly widespread at one department; it is not the general perception.

In general, the relationship to fellow PhD students is good. 86 percent have a good relationship to their colleagues at the department – most of them both socially and academically, and an additional 9 percent find the relationship with fellow PhD students reasonable (table 23). Five percent – three respondents – find the relationship ‘not good’. Still, the association between the assessment of the general work and study environment on the one hand and of the relationship with fellow PhD students is rather strong 0.53 and strongly significant ($p < 0.001$)².

Stress is quite frequent among PhD students. Needless to say, our measure of stress is not clinical, but a self-reported feeling tapping into perception of work environment and work conditions. 34 percent do hardly ever or only rarely feel stressed. Half of the PhD students, 51 percent, now and then feel stressed. Although this can be a problem, depending on exactly how often and how much PhD students feel stressed, the potentially most vulnerable group (those who frequently feel stressed) counts 15 percent or 10 PhD students. At four departments two or more PhD students often feel stressed. Perhaps somewhat surprisingly feeling of stress is not significantly related to PhD students’ general assessment of the work environment or to the relationship to fellow PhD students.

Table 24 below shows all comments given in the survey (by a total of 12 respondents) with regard to the stress question. Comments have been translated and, if necessary, edited to ensure anonymity.

² However, it may be argued that the variable measuring the relationship with fellow PhD students is not ordinal and also does not exhibit Likert-scale qualities: Having a good relationship both socially and academically is not necessarily better than ‘just’ having a good professional/academic relationship. However, if these values (1 and 2) are merged the correlation with the work environment variable remains strong, 0.43, and it is still significant at the $p < 0.001$ level.

Table 24: Comments on stress, 12 respondents

<i>There are many unknowns in the work as PhD student, Most of the time you don't know if you are in the right or the wrong direction. That's a stress factor. But that is how it is being a PhD student</i>	<i>High stress levels occur regularly, but I think it is part of the process</i>
<i>There has been times when I have feeled stressed, but it has not been a predominant feeling during my PhD study. Frustrated, yes – stressed, no.</i>	<i>I am very much aware of my periodic stress and try to regulate it by way of different mental methods.</i>
<i>It is a knowledge-intensive and often confusing process, and you often think/work after normal working hours. It can be difficult to define how much time you use on work.</i>	<i>I cannot see how it is possible to get the job done in 37 hours a week</i>
<i>The greatest cause of stress for me has been finding work / life balance. I always feel guilty about not paying enough attention to my children or not paying enough attention to my project. There are never enough hours in the day... other sources of stress have come from... the experience of doing a PhD, such as feeling incompetent, confused... isolated, concern about the future etc</i>	<i>Stress? It is not nearly on the same level as I experienced in the private sector. To be able to plan your own time and set your own goals are extremely important.</i>
<i>Especially when you are about to finish your thesis</i>	<i>When deadlines for advising meetings approaches...</i>
	<i>Stress is not always negative - a feeling of stress is often a needed motivation for me - the pressure to get things done often provides a good mental structure for me to work - of course sometimes the pressure or stress is overwhelming - in which case it is not positive (but this is rare) - but mostly when I refer to feeling stressed it is a quite productive state of mind.</i>
	<i>Yes, in certain periods I feel stressed. Especially when working with new challenges</i>

As can be seen, the reasons for feelings of stress vary a lot, but so does the way respondents use the term stress.

None of the three work environment indicators are related to sex and provider status; i.e. mean responses do not vary significantly across sex and provider status. We have also tested if PhD student who are writing a thesis as part of a larger research project differ from those who have their own independent project. No significant differences are found.

In table 25 four variables that are related to the work environment perception and the stress variable (the two with most variation in responses) are shown by way of a correlation matrix. All potential correlates have been analyzed, but only correlations that are significant at least at the 0.10-level are shown. The purpose is to get a profile of PhD students who are not too happy about the work environment and who frequently feel stressed. The small N does not permit a more nuanced multivariate analysis.

- How satisfied PhD students are with their PhD study in general is moderately to strongly related to how satisfied they are with the working environment; the two questions may to some extent tap into the same underlying dimension. In addition, general satisfaction is related to feelings of stress. Both correlations are highly significant.
- The extent to which PhD students think that the department has been doing enough to assist them in their PhD study is also related to both perceptions of the working environment and feelings of stress and highly significantly so. Satisfaction with the working environment is very strongly related ($r = 0.624$) to a

perception that the department has not been doing enough to assist the PhD student in his or her studies, suggesting that the two are either strongly causally related or almost two sides of the same coin. The assessment of the department's assistance is also moderately related to feeling stress.

- Working hours, contrary to what could be expected, is not related to feelings of stress; those who work the longest hours are not more stressed. Working hours is weakly, but significantly related to perceptions of the working environment.
- How PhD students feel that their work on their thesis is progressing and how long a delay they expect before they are ready to submit their thesis is moderately related to feelings of stress, but not assessments of the working environment.
- Neither feelings of stress nor the perception of the working environment are related to how many days a week a PhD student is at the department or to how PhD students evaluate their own academic competences.

Table 25: Work environment and various variables: Correlations and significance level (*p*)

		In your everyday life as a PhD student, do you feel stressed? (1=frequently)	How satisfied are you with the study and working environment? (1=very satisfied)
In general, how do you consider your PhD study? (1= highly satisfactory)	Pearson corr. Sig. (2-tailed) N	-.324** .008 65	.347** -.005 65
Do you think the department has been doing enough to assist you in your PhD study? (1=yes, always; 4=rarely)	Pearson corr. Sig. (2-tailed) N	-.305* .016 62	.624** .000 63
How many hours do you usually work in a week? (1=+50 hours; 5= less than 37 hours)	Pearson corr. Sig. (2-tailed) N	.140 .191 65	-.182 .088# 65
How do you feel the work on your thesis is progressing? (1=good; 4=bad)	Pearson corr. Sig. (2-tailed) N	-.220# .081 64	.060 .637 64
When do you expect to submit your PhD thesis? (do not include leave of absence) (1=on time; 6=Not sure, whether I finish)	Pearson corr. Sig. (2-tailed) N	-.255* .042 64	-.066 .602 64

Correlation: # significant at the 0.10-level; * at the 0.05-level; ** at the 0.01-level (2 tailed)

Summing up the profiling analysis we have seen that PhD students who are *less satisfied with the study and working environment*

- ... are less satisfied with their PhD study in general
- ... to a lesser extent find that their department is assisting them in their PhD study
- ... work more hours
- ... have a more distant relationship to their fellow PhD students
- ... and they are vastly over-represented in one department

PhD students who *more often feel stressed*

- ... are less satisfied with their PhD study in general
- ... to a lesser extent find that their department is assisting them in their PhD study
- ... do more often feel that their work on the thesis is not progressing well
- ... more often predict that they will submit their thesis with a longer delay
- ... and they are over-represented in four of eight departments

3. PROGRESSION WITH THE THESIS AND FINISHING IN TIME

PhD student's assessment of the PhD program and the advice they get to complete their activities and fulfill their duties are important when analyzing how it is to be a PhD student at the Faculty of Business and Social Sciences. Work conditions and the perception of the work environment are also important elements. But how PhD students progress on their thesis is also extremely important: Both for the PhD School and the individual PhD student the goal is to get an education as a skilled researcher and a PhD degree. To achieve this, progress on the work with the thesis is essential. This is the topic of the last section.

Most PhD students think that the work on the thesis is in good progress, cf. table 26. 81 percent either find that there are no problems or no major problems. This means that 19 percent think that there are problems or challenges that have to be met.

Table 26: "How do you feel the work on your thesis is progressing?" Percent and N.

	Good, there are no problems (=1)	Reasonably good, no major problems (=2)	So-so, a range of problems (=3)	Badly, a lot of problems (=4)	N=100
All	15	66	17	2	65
Females	12	64	24	0	25
Males	17.5	67.5	12.5	2.5	40
Children	24	62	14	0	29
No Children	8	69	19	3	36

There are no significant sex differences in the average assessment on progress with the thesis. However, on average PhD student with children more so than their colleagues without children find that the work on the thesis is progressing without problems. The difference in assessment is significant ($p=0.082$). There is also a weak to moderate age correlation: older PhD students to a lesser degree find that there are problems with the work on the thesis ($r= -0.223$; $p= 0.075$ (2-tailed)).

There is a highly significant, moderate to strong correlation between PhD students' perception of their own competences (4 values, ordinal scale) and the extent to which they feel that there are problems in the progression on the work with the thesis ($r= 0.364$; $p= 0.003$ (2-tailed); $N=65$). Almost the same correlation is found for the variable measuring PhD students' general satisfaction with their PhD study (cf. table 3 above for question wording): $r = 0.354$ and $p=0.004$ (2-tailed). Contrary to what could be expected, there is no correlation with how satisfied PhD students are with their advisor's guidance on the thesis and their perception of the progress on the work with the thesis (for question wording on advising on the thesis see table 6). Finally, the perception of progress is unrelated to the number of hours that the PhD students are working.

Thus, the large majority of PhD students find that the work on the thesis is progressing well or at least only face minor problems. However, young PhD students without children (age and provider status are correlated of course) who to a lesser extent feel that they have the competences to complete a PhD study and who are less satisfied with their PhD study to a higher extent feel that there are problems. Sex, working hours and their level of satisfaction with the advising on the thesis are not related to the perception of progress with the thesis. There are no significant differences in the perception of progress with the thesis across departments or programs.

Another issue regarding the thesis is the extent to which PhD students expect to finish as planned after 3 years of study or – if you are on a 4 + 4 program – after 4 years. Almost all, 94 percent, expect to submit their thesis exactly as planned (85 percent) or after a delay of up to 3 months (9 percent) (reported sickness and parental leave excluded). Of course, submission exactly as planned is the best, but a delay of no more than 3 months is also acceptable. Thus, when asking the PhD students themselves the PhD School will not have many delayed submissions in the years to come.

Table 27: “When do you expect to submit your PhD thesis for assessment?” Percent and N.

	As planned after 3 years (4 years if 4+4) (=1)	Might have to take extra 3 months before I submit (=2)	Might have to take extra 3-6 months before I submit (=3)	I might have to take extra 6-12 months before I submit (=4)	Don't know whether I will ever finish (=5)	N=100
All	85	9	5	2	0	65
Females	72	20	8	0	0	25
Males	93	2.5	2.5	2.5	0	40
Children	86	7	3	3	0	29
No Children	83	11	6	0	0	36

The older you are the more you expect a delay before submitting your thesis ($r=0.227$), and this association is significant ($p=0.069$). In addition, PhD students who are writing a thesis which is part of a larger project to a significantly higher degree report that they will submit their thesis without delay than fellow PhD students who have their own independent project ($p=0.078$).

There is a non-significant tendency ($p=0.176$) for women to think that they will have to take some extra months before turning in the thesis than men; but perhaps the small difference is due to differences in realism. The expected delay is not related to how satisfied you are with your PhD study; and there is only a weak non-significant tendency for PhD students who are less satisfied with the advising on the thesis to expect a delay ($r=0.198$; $p=0.126$). The extent to which PhD students expect to submit their thesis on time is unrelated to working hours and also to their own perception of how the work on the thesis is progressing.

In general, the overwhelming majority of PhD students expect to submit their thesis on time and as planned. Younger PhD students and PhD students who are working on a thesis which is part of a larger collective research project and group on average expect smaller delays.

OOOOO

The final question in the survey said: “*Looking back with the experience you have today, would you be a PhD student if you could choose now?*” 88 percent answered ‘yes’ or ‘yes, probably’ whereas 12 percent answered ‘no, not necessarily’. The PhD School is happy that such a large share of our present PhD students finds that their study is worth the effort – the long working hours, periods of stress, and their intellectual energy and beautiful minds. We will do our best to convince the last small group that the PhD study at the Faculty of Business and Social Sciences is worth their effort.