

Wellbeing Survey 2018

Aspects of University of Groningen PhD students' wellbeing

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Preface

After reading the quite alarming reports on the mental health of PhD students published in the international literature (among others, Levecque et al., 2017; Van der Weijden et al., 2017), we decided that it was timely to conduct a thorough survey on the mental health of PhD students in Groningen. The University of Groningen is a large 'classic' research university with many PhD students doing research in a broad array of scientific disciplines. Thanks to our comprehensive PhD student registration and follow-up system (Hora Finita) all PhD students in Groningen could be invited to participate in the present survey. Of the 3,600 PhD students contacted, 26% completed the lengthy survey. This response rate can be interpreted as a source for some bias, but is in fact quite high and at least sufficient to draw important conclusions.

The main results are in line with or even indicative of more mental health issues than already shown in the alarming publications mentioned above. However, the present study is especially interesting since it has much more detailed data and analyses. PhD student mental health was related to their gender, personality, nationality, lifestyle, career aspirations, field of research, type of PhD contract and also the time phase of the project. This has provided a wealth of data that can be used by the Groningen Graduate Schools to understand mental health-related issues much better and to design appropriate conditions for PhD students to prepare for a PhD in a healthier way.

One of the most striking outcomes is the correlation between the phase of the PhD project and PhD student mental health. While a significant number of PhD students may already experience more mental health problems in their first two years than in their Bachelor's or Master's, this worsens in the final years, becoming quite serious for those who have to finish their PhD thesis after their contract has ended, i.e., in their 'spare time'. Since most PhD students do not finish their project within the allotted time period, it is clear that this apparent worsening of mental health over time is quite common and, in fact, an alarming prospect for too many PhD students.

The University of Groningen (UG) took some initiatives to improve the mental health of its PhD students after the publications of Levecque and Van der Weijden in 2017, but the present report once more clearly underlines the urgency of the issue. As mentioned above, this report also provides more detailed solutions to counteract mental health-related problems. At the UG, a PhD support team was recently established to provide help (<https://www.rug.nl/education/phd-support>). Moreover, the appointment of a psychologist for PhD students, as also suggested in this report, will be done shortly. However, it is clear that, in addition to these measures, it is necessary to focus on prevention. Prevention may involve various approaches, for example not only educating PhD students to recognize stress early and to deal with it in a healthy way, which will be done, but also tackling important underlying causes of unhealthy stress. For example, many PhD students are uncertain about themselves, do not know exactly what is expected of them and do not finish their PhD thesis in the allotted time period. It will not be easy to change this, as it requires a change of mind, not only by PhD students, but also and perhaps more importantly by supervisors and university administrators. While the UG recently started to discuss this issue, it is clear that such a discussion should not stay confined to Groningen, since the situation in other Dutch universities is probably the same. This demands a discussion at the level of the Association of Universities in the Netherlands (VSNU).

I would like to thank all of the PhD students who took the time to answer the very long list of questions in the survey and, of course, many thanks to Els van Rooij, Marjon Fokkens-Bruinsma and Ellen Jansen for a great job in designing the survey, analysing the results, drawing important conclusions and writing this very interesting report.

Prof. Lou de Leij, Dean of the Groningen Graduate Schools

Management summary

In May 2018, the Wellbeing Survey was sent to all PhD students at the University of Groningen (UG) as a part of the 'Succesvol Promoveren' research project. The main aim of this wellbeing study was to gain more insight into the prevalence of mental health and related problems among PhD students. In addition, several factors that were likely to relate to mental health were included in the survey. A total of 935 PhD students completed the survey (response rate of 26%). The main results are summarized in this section. For more detailed information, we refer to the full report and the appendix.

Progress and satisfaction

Most PhD students indicated that they were behind schedule. On average, PhD students were confident that they would finish their PhD, but their confidence in being able to finish within the time of their contract (i.e. submit the thesis to the Examination Committee before the end of the contract) was substantially lower. Not many PhD students often considered quitting their PhD. On average, PhD students were satisfied with their PhD trajectory overall and with their supervision. The PhD students rated the workload and the complexity of their project as high. PhD students were reasonably confident that they would be able to find a suitable and interesting job after they finished their PhD.

Mental health

Mental health was measured with the General Health Questionnaire (GHQ), which consists of 12 symptoms that are indicators of mental health problems. People who suffer from four or more of these symptoms are considered to be 'at risk of developing a psychiatric disorder'. Of the respondents, 42% experienced four or more symptoms, which is higher than reported in research at Leiden (38%) and Flanders (32%). One-quarter of the PhD students in the UG sample reported experiencing seven or more symptoms.

On a scale of 1 to 10, PhD students rated their average mental health during the PhD at 6.95, whereas they rated their mental health during their Bachelor's and Master's studies at 7.68.

Almost half of all respondents expected that their mental health would improve if they pursued a career outside academia after having finished their PhD. Most of these PhD students also aspired to pursue a career outside academia – those PhD students who wanted to stay in academia were less negative about their mental health in academia.

PhD students often worried about their career. Those who wanted to stay in academia worried most about the high competition, a work-life balance and having to move to another city or country. PhD students who wanted a career outside academia mainly worried about not knowing what kind of career they want, about feeling unprepared for the job they want, and about having to start a new job before finishing their PhD thesis.

Mental health support at the University

Most PhD students would like to be able to talk to someone at the University if they were to experience mental health problems. However, many PhD students did not know whom to turn to in such a case. PhD students were more likely to talk to their daily supervisor than to their primary supervisor if they experienced mental health problems, although both supervisors scored high on the PhD students' expectation that they would act supportively.

One-fifth of the respondents had attended at least one workshop at the University related to mental health. However, the helpfulness of such workshops was rated quite low. About half of all PhD students expressed interest in a support group. Almost all PhD students supported the idea that the University should have a specialist psychologist for PhD students.

PhD students who have or had mental health problems

Almost half of the PhD students reported they had mental health problems in previous years of their PhD or were experiencing problems at present. Again, almost half of these PhD students had discussed their problems with their supervisors and more than 50% with colleagues or both. Of the PhD students who experienced or were experiencing problems, 41% also had professional help outside the University (GP, psychologist or therapist).

Burnout and work engagement

Burnout is often measured by the level of exhaustion, cynicism and professional efficacy (where low efficacy is an indicator of burnout). The mean scores for exhaustion and cynicism in the PhD student sample were slightly above the absolute average of the scale, which means that most PhD students experience a considerable amount of exhaustion and/or cynicism. Professional efficacy was above average. Work engagement can be measured by vigour and dedication. The PhD students' mean vigour was slightly above the scale average, and dedication clearly above average.

Self-efficacy, work-life balance, work-life conflict, imposter syndrome

PhD students' general self-efficacy was quite high, meaning that they are confident in their ability to achieve important goals in life. However, the mean scores for both work-life balance and work-life conflict were average, which indicates that many PhD students are struggling with maintaining a healthy balance between work and their personal life – ideally, work-life balance is high and work-life conflict is low. The respondents' mean score on imposter syndrome was average as well, indicating that PhD students struggle with self-doubt and the belief that they are not as competent as others perceive them to be.

Sociodemographic and lifestyle characteristics

Of the respondents, 37% reported being involved in a structural activity in addition to their PhD, e.g., they had another job, were involved in a board of an organization or did volunteer work. More than 80% slept 6 to 8 hours every night and 80% were doing sports activities for at least one hour a week. Of the PhD students, 23% reported alcohol use that may be considered as at-risk drinking.

More than two-thirds of PhD students reported having experienced a significant life event in the last 12 months, e.g., severe problems in personal relationships or severe illness of the PhD student themselves or someone close to them. The majority of those who experienced such a life event indicated this affected their work somewhat or quite a lot; 58% had discussed this with their supervisor; and the vast majority felt at least somewhat supported by their supervisor.

More than 60% of the respondents work in the evenings for about one to two hours. Almost 60% of all PhD students indicated that they work on the weekends.

PhD students who had official vacation days were asked how many they had used in 2017. Only 9% had used all their vacation days and almost one-fifth had used less than half of all their vacation days.

Two-thirds of the PhD students in the sample have incoming work emails on their phone outside official work hours, and most of those PhD students indicated they usually or always immediately read them.

Relationships between mental health aspects and progress and satisfaction

Both the number of GHQ symptoms experienced and PhD students' self-rated mental health had medium correlations with progress, confidence in finishing on time, satisfaction with the PhD overall, satisfaction with supervision, and considering whether to quit. The aspects of burnout – exhaustion, cynicism and professional efficacy – and of work engagement – vigour and dedication – had medium correlations with progress, confidence in finishing on time and satisfaction with supervision, and large correlations with satisfaction with the PhD in general and considering quitting.

Mental health (i.e. number of GHQ symptoms) had medium to high correlations with all aspects of burnout and work engagement, and medium correlations with general self-efficacy, work-life balance, work-life conflict and imposter syndrome.

Gender differences

When comparing male and female PhD students, we see that men were more confident (more confident about finishing, more confident about finishing on time, higher self-efficacy, lower score on imposter syndrome) and that women were more likely to experience mental health problems and more likely to frequently worry about their career.

Nationality differences

We saw nationality differences on many aspects. In general, Asian PhD student responses were more positive than those of Dutch, European and South American PhD students. Asian PhD students were: most confident about finishing (on time) and in finding a suitable job after the PhD; least often considered leaving their PhD; reported the fewest mental health problems; most often reported that doing a PhD had a positive effect on their mental health; and had the lowest scores on imposter syndrome. In contrast, the most negative results were found among South American PhD students.

Faculty graduate school differences

There were not many differences based on the faculty graduate school/discipline, and when these differences were found, they were usually small. The clearest differences were that PhD students from the Humanities were the least confident about finding a suitable job and, in line with this, worried most about their career. They were also the most likely to have experienced mental health problems during their PhD. PhD students from Economics and Business also worried relatively often about their future career. Moreover, they were the least positive about their expectations regarding their mental health if they were to stay in academia.

Differences based on contract/type of PhD student

Comparing different types (based on contract) of PhD students, it appears that external PhD students have a relatively high sense of wellbeing and that 'spare time' PhD students¹ have the worst wellbeing. External PhD students were also the most likely to report that doing a PhD had a positive effect on their mental health, whereas more than half of the spare time PhD students reported a negative effect. Spare time PhD students also worried by far the most about their career, and half of them reported that they had experienced mental health problems. In addition, spare time PhD students were significantly more exhausted and more cynical than most of the other types of PhD students and had significantly lower scores on work engagement (vigour and dedication). Finally, they also had lower scores on work-life balance and higher scores on work-life conflict.

Differences between junior and senior PhD students

There were many differences between junior (first two years of the PhD project) and senior PhD students (final years of the project), with junior PhD students having more positive scores. Compared to senior PhD students, junior PhD students indicated a lower workload and lower complexity in their projects, were more confident that they would be able to finish on time, more likely to be on schedule, considered quitting their PhD less often, and were more satisfied with their PhD in general and with their supervision.

Whereas 48% of the senior PhD students experienced four or more of the GHQ symptoms, the figure was only 36% for the junior PhD students. In line with this, the latter rated their current mental health substantially higher than the former, and less often reported having experienced, or to

¹ 'Spare time' PhD students are PhD students whose contract has ended and who are trying to finish their thesis in their own/spare time.

be currently experiencing, mental health problems. Senior PhD students were also more pessimistic than juniors about their mental health if they were to stay in academia after finishing their PhD.

Finally, senior PhD students had higher scores on exhaustion, cynicism and work-life conflict, and lower scores on professional efficacy, vigour, dedication and work-life balance than junior PhD students.

Concluding remarks

The results of the Wellbeing Survey show that mental health problems are a serious issue for PhD students at the University of Groningen. Although it is likely that the results are biased – mentally unwell PhD students may have been more likely to complete a survey on the topic of wellbeing – the fact that 42% of the survey participants reported experiencing four symptoms on the GHQ, which is indicative of mental health problems, means that there are at least 400 PhD students with problems. Many other findings also point to this, for example more PhD students reported a negative effect of doing a PhD on their mental health than a positive effect. Furthermore, PhD students rated their current mental health substantially lower than their mental health during their Bachelor's and Master's studies, and many PhD students expected that their mental health would improve once they started working outside academia after having finished their PhD.

Mental health problems are not only negative in themselves, but we also found a negative relationship between mental health problems and progress and satisfaction in the PhD trajectory.

The results also point to specific at-risk groups, namely women, South American PhD students (although their results are only based on 50 participants), PhD students who are finishing their thesis in their spare time, and PhD students in the final years of their project.

Appointing a psychologist to assist with these PhD problems was mentioned as a highly desired support measure.

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1. Introduction

The ‘Succesvol Promoveren’ research project started in early 2017. The aims of this project were to investigate factors that are related to PhD students’ timely and successful completion of their PhD thesis at the University of Groningen (UG). By gaining insight into these factors, PhD education can be improved. One part of this project focused specifically on PhD student wellbeing. This is a topic that has gained in importance in recent years, with different studies showing that many PhD students suffer from mental health problems (Levecque et al., 2017; Van der Weijden et al., 2017). To investigate the wellbeing of our UG PhD students, we sent out the Wellbeing Survey in May 2018. The main goals of this study were:

- (1) to gain insight into the prevalence of mental health problems and other work-related problems (e.g. burnout, work-life conflict, imposter syndrome)
- (2) to investigate if and how these problems are related to a number of background factors: gender, nationality, graduate school, type of PhD student (e.g. employed, scholarship, external) and phase of the project (i.e. first two years or last two years)
- (3) to find out how and to what extent mental health is related to a PhD student’s progress, satisfaction and intention to quit
- (4) to gain insight into PhD students’ use and appreciation of the support that is currently offered by the University.

The survey addressed the following topics:

1. Progress and satisfaction
2. Personality
3. Mental health
4. Support at the University
5. Burnout and work engagement
6. General self-efficacy
7. Work-life balance and work-life conflict
8. Feelings about performance and accomplishments
9. Sociodemographic and lifestyle questions
10. Background characteristics

The Wellbeing survey was sent to all PhD students via an email from the Groningen Graduate Schools, in which the goal of the survey was explained. It was emphasized that the survey was meant for all PhD students, and words such as ‘problems’ were avoided to decrease response bias towards PhD students who did not feel well mentally. After two weeks, a reminder was sent out. After four weeks, the survey was closed. Participation in the survey was voluntary, anonymity was guaranteed and participants were free to withdraw from the survey at any time they wished. One hundred Bol.com vouchers were randomly allotted to participants who completed the survey. A total of 935 PhD students completed the entire survey, which represents a response rate of 26%.

In this report, we present the most important descriptive results. The results regarding topics 1 to 9 will be shown in tables that focus on the total sample of PhD students. Differences based on gender, nationality, graduate school, type of PhD student and phase of the project will be briefly described in the main text. These differences are presented in tables in the Appendix. Topic 10 – Background characteristics – will be discussed in the ‘Sample description’ section that follows below.

To ensure PhD students’ anonymity, the results are only presented on a group level, while the results of small groups ($n < 30$) are not presented at all (e.g. the results of Russian PhD students [$n = 16$] and those of Campus Fryslân PhD students [$n = 9$]).

2. Sample description

The total sample consisted of 1,023 PhD students, with 935 PhD students completing the whole survey and 88 completing at least 66% of it. PhD students who completed less than 66% of the survey were eliminated from the analyses (239 PhD students). The background questions that are used to describe our sample were in the final part of the survey, so these were not completed by all 1023 PhD students in the sample.

As Table 1 shows, 60% of the respondents were female. As the number of female PhD students is equal to that of male PhD students in the entire UG PhD student population (source: Hora Finita), it can be concluded that female PhD students are overrepresented in the present study. Table 2 shows which continent the PhD students in the sample come from. Over half were Dutch, 19% European, 15% Asian, 5% South American and the rest were from Africa, North America, Russia, or preferred not to say.

Table 1. Number and percentage of male and female participants

	Number	Percentage
Male	371	40.2
Female	553	59.8
Total	924	100

Table 2. Number and percentage of participants from each continent

	Number	Percentage
African	21	2.2
Asian	136	14.5
Dutch	503	53.8
European (non-Dutch)	173	18.5
North American	29	3.1
South American	50	5.3
Russian	16	1.7
Prefer not to say	7	0.6
Total	935	100

Note. Marked in yellow means that these groups contain more than 30 respondents and will be used to investigate possible differences based on nationality.

Table 3 shows the number and percentage of participants per graduate school. The largest number of participants were doing their PhD in Medical Sciences (38%), followed by Science and Engineering (29%). The remaining 33% came from one of the graduate schools of the Federation (a collaboration between the graduate schools for all humanities and social sciences at the UG). This is a fair reflection of the distribution of PhD students over the various disciplines at the UG. Using the total number of PhD students enrolled in May 2018 (data provided by the Groningen Graduate Schools), we calculated the response rate per graduate school. The highest response rates were found in Behavioural and Social Sciences, Campus Fryslân and Spatial Sciences. The lowest response rates came from Humanities and Law. The overall response rate for a complete survey was 26%. Including the participants who completed at least 66% but not the whole survey, the response rate was 28%.

Table 3. Number and percentage of participants in every graduate school, total number of students per graduate school, and response rate per graduate school

	Number	Percentage	Number of PhD students per faculty (22 May 2018)	Response rate per faculty
BSS	84	9	202	41.6
Campus Fryslân	9	1	19	47.4
EB	39	4.2	145	26.9
Hum	55	5.9	333	16.5
Law	22	2.4	151	14.6
MS	359	38.4	1510	23.8
Philosophy	10	1.1	38	26.3
SE	275	29.4	1112	24.7
SS	34	3.6	90	37.8
TRS	13	1.4	60	21.7
Don't know / prefer not to say	35	3.7		
Total	935	100	3660	25.5

Note. Marked in yellow means that these groups contain more than 30 respondents and will be used to investigate possible differences based on graduate school.

Table 4 presents the type of contract the PhD students in the sample had. Half were employed and the other half had other types of contracts (external PhD students, bursary² or scholarship PhD students, MD/PhD students) or no longer had a contract (i.e. those whose contract ended and who were trying to finish their thesis in their own/spare time).

Table 4. Number and percentage of participants per type of contract

	Number	Percentage of total
Employed	473	50.5
External	47	5
Bursary	64	6.8
Scholarship	182	19.4
MD/PhD	51	5.4
Spare time	50	5.3
Already finished	12	1.3
Other / prefer not to say	57	6.1
Total	936	100

Note. Marked in yellow means that these groups contain more than 30 respondents and will be used to investigate possible differences based on the type of contract.

Table 5 shows the allotted time period of the PhD projects. Two-thirds of the sample have a four-year time period. Table 6 shows that 84% of the survey participants were working fulltime on their PhD project.

² Bursary PhD students are international PhD students with a scholarship (usually from their home country) who are not eligible to participate in the PhD Scholarship Programme in Groningen because they started before 1 September 2016. From that time on, both PhD students with a full scholarship and those with a scholarship from their home country (which is supplemented by the UG) are included in the PhD scholarship programme and are labelled 'PhD scholarship students'.

Table 5. Allotted time period of the PhD project

	Number	Percentage
< 3 years	55	5.9
3 years	132	14.1
4 years	636	67.9
> 4 years	60	6.4
Other / don't know / no contract	53	5.6
Total	936	100

Table 6. Number and percentage of participants working fulltime and part-time on their PhD

	Number	Percentage
Fulltime	623	83.5
Part-time (< 36 hours)	62	8.3
Other	61	8.2
Total	936	100

Table 7 shows that 53.5% of the participants were in their first or second year (these PhD students are called 'junior PhD students'), 34.5% were in their third or fourth year (called 'senior PhD students') and 11.9% were in their fifth year or more.

Table 7. Year the participants are in

	Number	Percentage
First year	250	27.1
Second year	244	26.4
Third year	171	18.5
Fourth year	148	16
Fifth year	77	8.3
Over five years	33	3.6
Total	923	100

As already presented in Table 4, 50 PhD students (5% of the total sample) were finishing their thesis in their spare time because their contract had already ended. We asked this group whether they had a job in addition to finishing their PhD (see Table 8). Half of them did not have a job, 29% had a fulltime job, and 18% had a part-time job.

Table 8. Spare time PhD students: Do you have a job in addition to finishing your PhD?

	Number	Percentage
No	24	49
Yes, fulltime (36 or more)	14	28.6
Yes, part-time of 24 to 25 hours	5	10.2
Yes, part-time of 23 hours or less	4	8.2
Other	2	4.1
Total	49	100

3. Progress and satisfaction

Satisfaction with performance, project characteristics and confidence

In this section, we asked PhD students some general questions related to topics such as their self-perceived progress in their PhD project, their confidence in being able to finish on time, and their satisfaction (see Table 9). Interestingly, the PhD students' own satisfaction with their performance is somewhat lower than how satisfied they think their supervisors are about their performance. Perceived workload and complexity are high. The average confidence in being able to finish the PhD eventually is high, but their confidence in being able to submit their thesis to the assessment committee before their contract ends is substantially lower. PhD students' confidence in being able to find a suitable and interesting job is above average.

Table 9. Satisfaction with performance, project characteristics and confidence

	Mean (SD)
Overall, I am satisfied with how I am performing in my PhD.	3.64 (.92)
Overall, my primary supervisor is satisfied with how I am performing.	3.97 (.72)
Overall, my daily supervisor is satisfied with how I am performing.	4.04 (.71)
The workload in my PhD is high.	3.86 (.85)
The complexity of my PhD project is high.	4.03 (.81)
I am confident that I will, ever, finish my PhD.	4.29 (.80)
I am confident that I will be able to submit my thesis to the assessment committee before the end of my contract.	2.95 (1.25)
I am confident that I will find a suitable and interesting job after I have finished my PhD.	3.69 (1.00)

Note: Answers were given on a scale of 1 (completely disagree) to 5 (completely agree).

Gender. Two significant gender differences were found (see A13, Table 13 in the Appendix): Men were more confident than women that they would finish their PhD and that they would finish it on time.

Nationality. There were many significant differences based on PhD students' nationality. These can be found in Table A14. The most interesting differences were:

- (1) Dutch PhD students perceived their supervisors' satisfaction with their progress to be higher than do Asian, European and South American PhD students
- (2) Asian PhD students indicated a lower workload and a lower complexity in their PhD project than the other nationalities
- (3) Asian PhD students were more confident they will be able to finish their PhD on time
- (4) Both Asian and Dutch PhD students were more confident than European and South American PhD students that they will find a suitable job

Faculty graduate school. There were two significant differences based on faculty graduate school that remained after controlling for gender. Firstly, PhD students from Economics and Business and from Medical Sciences had less confidence in their ability to finish on time than did PhD students from Spatial Sciences, Science and Engineering, Behavioural and Social Sciences, and the Humanities. Secondly, Humanities PhD students were significantly less confident than other PhD students in their ability to find a suitable and interesting job after the PhD (see Table A15).

Type of PhD student. There were also many significant differences based on the type of PhD student. Details can be found in Table A16. The most substantial differences concerned PhD students whose contract had already ended and who were finishing their thesis in their spare time. These PhD

students were less satisfied about their performance and indicated that their supervisors were also less satisfied about their performance.

Phase of the project. We made a distinction between junior PhD students (first two years of their project) and senior PhD students (from the third year onwards). Three significant differences were found: junior PhD students indicated a lower workload and lower complexity of their PhD project and were more confident that they would be able to finish their PhD on time (see Table A17 in the Appendix).

Progress, considering quitting, and satisfaction with the trajectory and the supervision

When asked whether they thought they were on schedule or not, most PhD students indicated that they were behind schedule. Not many PhD students considered quitting the PhD project often. Satisfaction with the PhD trajectory and with supervision was above average (see Table 10).

Table 10. Progress, considering quitting, and satisfaction with the trajectory and the supervision

	Scale	Mean (<i>SD</i>)
Progress	1-3 (1 = will not finish in time; 2 = behind schedule, but likely still finish in time; 3 = on schedule)	2.10 (.86)
Have you ever considered quitting your PhD project?	1-5 (1 = very often; 5 = never)	4.11 (1.13)
Overall, how satisfied are you with your PhD trajectory so far?	1-5 (1 = very dissatisfied; 5 = very satisfied)	3.58 (.88)
Overall, how satisfied are you with the supervision you receive?	(1 = very dissatisfied; 5 = very satisfied)	3.77 (1.03)

Gender. Two significant gender differences were found: women considered quitting more often and were less satisfied with their supervision than men (see Table A18).

Nationality. Regarding nationality, Asian PhD students had considered quitting their PhD project the least often, and European PhD students relatively the most (see Table A19).

Faculty graduate school. There were no significant differences based on faculty (Table A20).

Type of PhD student. Significant differences based on type of PhD student were found on all items (see Table A21). These were mainly due to the low scores of PhD students who were finishing their thesis in their spare time. They were obviously less likely to be on schedule, considered quitting most often, and were least satisfied with their PhD trajectory in general and with their supervisors.

Phase of the project. The time point within the course of the project was important. Junior PhD students were more likely to find themselves to be on schedule, had considered quitting less often, and were more satisfied with both their PhD trajectory in general and their supervisors (see Table A22).

4. Personality

The survey included a short personality inventory, the Big Five Inventory-Short (BFI-S, Gerlitz & Schupp, 2005, in Hahn et al., 2012), which is based on the Five Factor Model of personality, a widely used and validated model of personality that consists of five enduring dispositions that are manifest in patterns of behaviour (Costa & McCrae, 1991). Extraversion refers to being sociable, outgoing and talkative. People high in neuroticism are more susceptible to stress and worry and are less emotionally stable. Openness (to experience) concerns appreciation for arts, culture and adventure, and being able to easily generate new ideas and being open to new experiences. Highly conscientious people tend to be organized and structured, have high self-discipline and prefer planned behaviour. Agreeableness refers to being helpful, cooperative and compassionate towards others. Table 11 shows the means and standard deviations on these five personality traits.

Table 11. Personality characteristics

	Mean (SD)
Extraversion	4.68 (1.12)
Neuroticism	4.33 (1.30)
Openness	5.06 (.95)
Conscientiousness	5.17 (.92)
Agreeableness	5.39 (.87)

Note: Answers on the items (3 items per personality characteristic) were given on a scale of 1 (completely disagree) to 7 (completely agree). All scales had sufficient reliability.

Gender. We found gender differences on all factors except extraversion. Women had higher scores on neuroticism, conscientiousness and agreeableness, but lower scores on openness (see Table A23).

Nationality. Differences based on nationality were present on all factors except agreeableness. Table A24 provides an overview of all factor scores. Both Dutch and European PhD students were significantly more extraverted than Asian PhD students. European and South American PhD students scored higher on neuroticism and on openness than Dutch PhD students. Regarding conscientiousness, Dutch and European PhD students had significantly higher scores than Asian PhD students.

Faculty graduate school. There were differences based on faculty on extraversion, openness and agreeableness. PhD students from the Medical Sciences had higher scores on extraversion than Science and Engineering PhD students. Regarding openness, both Science and Engineering and Spatial Sciences PhD students had higher scores than Medical Sciences PhD students. Finally, Behavioural and Social Sciences PhD students scored higher on agreeableness than both Medical Sciences and Science and Engineering PhD students (Table A25).

Type of PhD student. Differences based on the type of PhD contract were seen for openness and conscientiousness. MD/PhD students had lower scores on openness than PhD scholarship students and PhD students who were finishing their project in their spare time. Employed PhD students, external PhD students and MD/PhD students had higher scores on conscientiousness than PhD scholarship students (this difference remained after controlling for junior vs senior, so the difference cannot be explained by the fact that PhD scholarship students are first and second-year PhD students) (Table A26).

Phase of the project. Junior PhD students were less conscientious than senior PhD students (Table A27).

5. Mental health

General Health Questionnaire (GHQ)

To measure PhD students' mental health, we used the General Health Questionnaire (GHQ-12, Goldberg, 1972, in Levecque et al., 2017), because this instrument has also been used in previous studies on PhD students' mental health in Flanders and the Netherlands (Levecque et al., 2017; Van der Weijden, 2017). Moreover, this is a validated screening instrument that is often used in research. The GHQ-12 consists of 12 symptoms of mental health problems. Participants must indicate to what extent they have experienced these symptoms in the past two weeks. Response categories take the format of 'not at all', 'not more than usual', 'somewhat more than usual' and 'a lot more than usual'. If a participant does not experience the symptom or not more than usual, the score is 0. If the symptom is experienced, the score is 1. In the literature, GHQ2+ (experiencing two or more symptoms) and GHQ4+ (four or more symptoms) are most often used for describing mental health problems. The former is seen as a first sign of psychological distress, while the latter can be taken as a more serious indication that someone might be at risk of developing a psychiatric disorder (e.g. depression). Table 12 presents, for each symptom, the percentage of PhD students who experienced this symptom. As a comparison, we have also presented the percentages of PhD students in Leiden (from Van der Weijden's study in 2017) and in Flanders (from Levecque et al.'s study in 2017) who indicated they experienced these symptoms and the percentage of people in the general highly educated population (also taken from Levecque et al.'s study in 2017). The latter percentage is comparable to studies done by CBS (Statistics Netherlands).

As can be seen in Table 12, for some symptoms, the percentage of UG PhD students experiencing this symptom is comparable to the percentage that was found in Leiden. However, a substantially higher number of UG PhD students compared to Leiden suffer from not being able to concentrate on work (40% compared to 30%) and losing confidence in oneself (35% compared to 26%). Moreover, more UG PhD students indicated that they felt they were not playing a useful part in things, were not able to face their problems, were not feeling reasonably happy, were not able to enjoy day-to-day activities and think of themselves as worthless. For most symptoms, the Leiden percentages were higher than those found in Flanders. The UG percentages were also higher than those in Flanders in all cases, and in some, substantially higher.

A total of 42% of UG PhD students indicated that they were suffering from four or more of the GHQ symptoms. This is higher than the 38% found in Leiden and substantially higher than the 32% found in Flanders.

Table 12. Percentage of PhD students who experienced a GHQ symptom

	% UG (n = 1,022)	% Leiden (n = 235)	% Flanders (n = 3,659)	% Highly educated Flanders
Losing sleep over worry	33.9	32.8	28.3	18.1
Felt under constant strain	48.2	46.8	40.8	27.5
Not been able to concentrate on work	40	29.8	21.7	10.7
Feeling that you are not playing a useful part in things	26	22.6	22.5	9.2
Not been able to face your problems	23.2	18.3	13.4	4.3
Feeling incapable of making decisions	22.2	22.1	15.0	6
Feeling you cannot overcome your difficulties	34.1	31.5	26.1	12
Not feeling reasonably happy, all things considered	30.1	23	21.2	11.1
Not able to enjoy normal day-to-day activities	32.0	26.4	24.3	13.1
Been feeling unhappy and depressed	35.4	32.8	30.3	13.6
Losing confidence in yourself	35	26.4	24.3	8
Thinking of yourself as a worthless person	20.7	14	16.2	5.3
GHQ2+ (Experiencing two or more GHQ symptoms)	62.7		51.1	26.8
GHQ4+ (Experiencing four or more GHQ symptoms)	42.1	38.3	31.8	14

Gender. We found gender-related differences for four symptoms (see Table A28). Women more often had been losing sleep due to worrying, more often felt incapable of making decisions, more often had lost confidence in themselves and more often thought of themselves as a worthless person. Moreover, a higher percentage of female PhD students experienced more than two symptoms (66% compared to 56%) and more than four symptoms (45% compared to 36%).

Nationality. We found significant nationality differences on three symptoms (see Table A29). Of the South American PhD students, 50% reported that they had not been able to concentrate on their work, compared to 42% of the Dutch, 36% of the European and only 27% of the Asian PhD students. Regarding the feeling of not playing a useful part in things, 38% of the South American PhD students experienced this, compared to 34% of the European, 22% of the Dutch and 22% of the Asian PhD students. Finally, 50% of the South American PhD students said they felt that they could not overcome their difficulties, compared to 36% of the European, 32% of the Asian, and 31% of the Dutch PhD students. The general trend is that South American PhD students are more likely to experience mental health issues. This is also reflected in the GHQ2+ and GHQ4+, with 76% and 50% of South American PhD students experiencing two or four or more of the symptoms, respectively. Asian PhD students experienced the least symptoms: 58% experienced two or more, and 35% four or more. Dutch and European PhD students fell in the middle.

Faculty graduate school. There were no significant differences based on faculty graduate school (see Table A30).

Type of PhD student. Differences based on type of PhD student were found for eight symptoms. These differences mainly concerned PhD students who were finishing in their spare time. This is also reflected in the GHQ4+: 71% of PhD students finishing in their spare time were experiencing four or more symptoms of problematic mental health, compared to 38% of employed PhD students and 33% of external PhD students. On some symptoms, bursary PhD students also scored substantially lower than other PhD students. These differences can be seen in the Appendix in Table 31.

Phase of the project. Senior PhD students scored higher than junior PhD students on nine symptoms (see Table A32). Of the senior PhD students, 48% reported experiencing four or more symptoms, compared to 36% of the junior PhD students. Mental health problems thus seem to be more prevalent further into the PhD.

Table 13 presents more information about the total number of symptoms PhD students experience. Of the participants, 24% did not experience any symptoms and another 13% only one; however, 25% of the participants experienced 7 or more symptoms.

Table 13. Percentage of PhD students who experienced a certain number of symptoms

Number of GHQ symptoms experienced	%
0	23.9
1	13.4
2	10.7
3	9.9
4	6.5
5	6.4
6	4.3
7	4.2
8	4.8
9	4.8
10	3.4
11	4
12	3.6

The impact of pursuing a PhD on one's mental health

In an attempt to gain more insight into the extent to which pursuing a PhD can be seen as a cause of mental health problems, we added several questions. Firstly, we asked participants to rate (on a scale of 1 to 10) their current mental health (i.e. during their PhD) and their mental health during their Bachelor's and Master's studies. Table 14 shows that the average mental health during the PhD is rated at 6.95, whereas the average mental health in previous years of study was rated at 7.68. This is a substantial difference. Whether memory bias might partly explain these results or not, is not clear however.

Table 14. Self-rated mental health

	Mean (SD)
Self-rated mental health during PhD	6.95 (1.81)
Self-rated mental health during BaMa	7.68 (1.45)

Gender. Male PhD students reported significantly better mental health than female PhD students, both during their PhD and during their Bachelor's and Master's studies: 7.15 versus 6.87 during their PhD; and 7.93 versus 7.51 during their previous studies (see Table A33).

Nationality. South American PhD students scored their mental health lowest during their PhD (6.52) and Dutch PhD students the highest (7.17). For their Bachelor's and Master's studies, European PhD

students had the lowest score (7.39), while the other three nationalities all scored around 7.7 (see Table A34).

Faculty graduate school. There were no significant differences between the faculty graduate schools (see Table A35).

Type of PhD student. PhD students working on their thesis in their spare time and bursary PhD students rated their current mental health significantly lower than employed PhD students (6.35 and 6.39 compared to 7.05) (Table A36).

Phase of the project. Senior PhD students rated their current mental health significantly lower than junior PhD students (6.71 and 7.19 respectively). In contrast, senior PhD students rated their mental health during their Bachelor's and Master's studies higher than junior PhD students (7.81 and 7.57 respectively) (Table A37).

Subsequently, we asked participants if, in their experience, doing a PhD affects their mental health. The results are presented in Table 15. For almost half of the PhD students, doing a PhD sometimes has a negative and sometimes has a positive effect on one's mental health. For 25%, doing a PhD affects their health negatively, and for 20% the effect is positive.

Table 15. In your experience, does doing a PhD affect your mental health?

Answer category	Percentage
No	7.1
Large negative effect on mental health	10.5
Small negative effect	14.4
Sometimes negative, sometimes positive	48.6
Small positive	11.2
Large positive	8.2

Gender. There were no substantial gender differences (see Table A38).

Nationality. Asian PhD students were most positive about the effect of pursuing a PhD on their mental health: 26% indicated it had a small or large positive effect, and only 14% indicated a negative effect. However, 37% of South American PhD students said the PhD had a negative effect, and only 13% mentioned a positive effect. About 28% of Dutch and European PhD students indicated a negative effect, and about 20% a positive effect (Table A39).

Faculty graduate school. PhD students from Economics and Business most often indicated that doing a PhD affected their mental health negatively, while PhD students from the Behavioural and Social Sciences reported such an effect the least often (39% and 19% respectively, compared to 24-28% of PhD students in other graduate schools). Regarding positive mental health effects, the percentages did not differ much: 18-23% indicated a positive effect (Table A40).

Type of PhD student. There were substantial differences between the different types of PhD students. Of PhD students who were finishing their thesis in their spare time, 56% said the PhD negatively affected their health, compared to 32% of bursary PhD students, 28% of employed PhD students, 22% of MD/PhD students, 17% of PhD scholarship students and 15% of external PhD students. At the same time, 30% of external PhD students, 22% of employed PhD students, 21% of PhD scholarship students, 16% of MD/PhD students, 10% of spare time PhD students, and 7% of bursary PhD students indicated a positive effect of doing a PhD on their mental health. In other words, only among external PhD students and among PhD scholarship students were there more PhD

students who experienced a positive effect on their mental health than those who experienced a negative effect. For PhD scholarship students, this may be related to the fact they are also in the junior PhD phase (Table A41).

Phase of the project. Of the senior PhD students, 36% indicated that doing a PhD affected their health negatively, compared to only 16% of the junior PhD students, while 23% of the junior PhD students and 18% of senior PhD students (Table A42) said that doing a PhD positively affected their mental health.

We asked those PhD students who indicated that pursuing a PhD affects them negatively, or does so sometimes, which aspects play a role. Multiple answers were possible. Table 16 shows that insecurities about their own capacities and problems with work-life balance were the most frequent aspects of doing a PhD that negatively affect someone's mental health. Not achieving good results, not being able to finish on time and a high workload were also mentioned by more than one-third of the PhD students.

Table 16. Aspects of doing a PhD that negatively affect mental health

	% mentioned
Insecurities about own capabilities	42
Problems with work/life balance	42
Not achieving good results or doubts about achieving good results	38
Not being able to finish in time or doubts about being able to finish in time	38
High workload	37
Insecurities about future career	32
Issues due to practical setbacks in the project	31
Publication pressure	30
High level of competition in academia	20
Problems with supervisor(s)	17
Problems with colleague(s)	6

Gender. Female PhD students mentioned insecurities about their own capabilities more often than male PhD students (49% vs 32%) and not being able to finish on time or doubts about being able to finish on time (41% vs 33%) (Table A43).

Nationality. Differences between the nationalities can be found in Table A44. All PhD students, with the exception of the Asian PhD students, indicated insecurities about their own capabilities most often as an aspect of doing a PhD that they worry about. Dutch PhD students worry relatively less often about not achieving good results and publication pressure but more often about a high workload.

Faculty graduate school. Insecurities about their own capabilities were very common among PhD students from the Humanities (60%) and Behavioural and Social Sciences (54%). At the other faculties, this percentage was below 50%. Regarding concerns about not being able to finish on time, there were also substantial differences: while 47% of PhD students from the Humanities worried about this, only 29% from Spatial Sciences did so. Insecurities about their future career were also highest among PhD students from the Humanities (49%) and lowest from the Spatial Sciences (24%). In contrast, PhD students from the Spatial Sciences most often indicated that publication pressure affects their mental health (32%). In the Behavioural and Social Sciences, only 14% mentioned this. Other, smaller differences can be seen in Table A45.

Type of PhD student. Most aspects were mentioned more often, or far more often, by PhD students who were finishing their thesis in their spare time. However, bursary PhD students also scored high on problems with work-life balance, not achieving good results, and not being able to finish on time. MD/PhD students also indicated quite often that they worry about not being able to finish on time. Table A46 presents all of the differences.

Phase of the project. Senior PhD students mentioned all symptoms more often than junior PhD students. The largest difference can be found in relation to worrying about not being able to finish on time (49% vs 28%) (see Table A47).

Mental health and career

We asked PhD students whether they currently aspire to a career within academia or outside academia. The results (Table 17) show that the majority (41%) aspire to a career within academia (definitely or probably within), while 34.7% probably or definitely want to work outside academia, and 24% of all PhD students do not know yet.

Table 17. Career aspirations

	%
Definitely inside	15.7
Probably inside	25.3
Don't know yet	24.2
Probably outside	21.4
Definitely outside	13.3

Gender. More male than female PhD students aspire to a career within academia (47.7% vs 36.3%) and slightly more female than male PhD students want to work outside academia (36.2% vs 32.1%). Female PhD students also indicated more often that did not yet know what kind of career they want (27.5% vs 20.2%) (see Table A48).

Nationality. There were large differences based on nationality: 59.1% of Asian PhD students aspire to a career within academia, while only 35-40% of Dutch, European and South American PhD students do so. The opposite is the case for a career outside academia: only 20.2% of Asian PhD students aspire to this, compared to 38-39% of Dutch, European and South American PhD students (see Table A49).

Faculty graduate school. Regarding fields of research, we found that PhD students from the Spatial Sciences and Humanities want to stay in academia most often (48.2% and 47.2%) and PhD students from Economics and Business and the Behavioural and Social Sciences want this the least often (36.8% and 37.6%). In line with this, PhD students from Economics and Business aspire to a career outside academia most often (42.1%). Of all the faculties, PhD students from the Behavioural and Social Sciences indicated most often that they did not yet know (see Table A50).

Type of contract. Bursary and scholarship PhD students aspire to a career within academia most often (50% and 49%). Many MD/PhD students also wish to stay in academia (43%). Among employed PhD students (38%), external PhD students (30%) and PhD students finishing in their spare time (33%), these percentages were lower. The percentage of PhD students who aspire to a career outside academia was highest among the PhD students finishing in their spare time (60%) and lowest among bursary and PhD scholarship students (25% and 24%) (see Table A51).

Phase of the project. There is not a large difference in the percentage of junior versus senior PhD students concerning their wish to stay in academia: 41.4% of junior PhD students aspire to a career within academia versus 38.9% of senior PhD students. The percentage of PhD students who do not know yet, with respect to both knowing what kind of career they want and if they want to work outside academia, differ considerably in these two groups: 30.1% of junior versus 18% of senior PhD students indicated that they did not know yet, while 28.5% of junior versus 43.2% of senior PhD students indicated that they wanted to work outside academia (Table A52).

We asked the PhD students about their expectations regarding their mental health if they stayed in academia or transferred to a job outside academia. Table 18 shows that PhD students are substantially more positive about mental health outside academia: almost half of all PhD students expected their mental health to improve if they pursue a career outside academia.

Table 18. PhD students' expectations regarding post-PhD mental health within and outside academia in %

	If I stay in academia	If I leave academia
I expect my mental health to get worse	21	4.3
I expect no change in my mental health	39.3	31.3
I expect my mental health to improve	23.6	47.9
I don't know	16	16.6

Gender. There were no substantial gender differences (see Table A53).

Nationality. There were substantial nationality differences (Table A54). While only about 15% of Dutch and European PhD students indicated that they expected their mental health to improve in a job in academia, 46% and 50% of South American and Asian PhD students respectively expected it would improve. Regarding a career outside academia, 72% of South American PhD students thought their mental health would improve, compared to 45-48% of Asian, Dutch and European PhD students. This means that Dutch, European and South American PhD students were more positive about their prospective mental health in a career outside academia, whereas for Asian PhD students, there was no difference.

Faculty graduate school. Economics and Business PhD students were least positive about their mental health prospects if they stayed in academia, while the Spatial Science PhD students were the most positive: 31% and 15% respectively thought it would get worse. In line with this, the largest difference in expecting improved mental health outside academia was also between these two faculties: 62% of Economics and Business PhD students expected it to get better versus only 38% of Spatial Sciences PhD students (see Table A55).

Type of PhD student. Employed PhD students and PhD students finishing in their spare time were most pessimistic about their mental health if they stayed in academia: 24% and 29% respectively expected their mental health to get worse if they stayed in academia. Bursary PhD students were the most optimistic: only 8% expected their mental health to get worse. Interestingly, 53% of bursary PhD students expected their mental health to improve if they stayed in academia. Among the other types of PhD students, only 18-26% expected this improvement. However, the percentage of PhD students who thought their mental health would improve if they started a job outside academia was highest among the bursary PhD students (69%). Among the other types, this percentage varied a lot. Of the PhD students finishing in their spare time, 70% expected better mental health outside

academia, while 50% of employed PhD students, 30% of external PhD students, 45% of PhD scholarship students and 39% of MD/PhD students thought this (see Table A56).

Phase of the project. Senior PhD students expected worse mental health if they stayed in academia more often than junior PhD students (25% vs 18%) and better mental health outside academia (56% vs 22%) (see Table A57).

Aspiring to a career within vs outside. Table 19 shows how the expectations of future mental health differ between PhD students who aspire to a career within academia and those who aspire to a career outside academia. A clear picture emerges: PhD students who wish to stay in academia were substantially more positive about their future mental health in academia than those who wish to leave academia. While 40% of PhD students who aspire to a career outside academia thought their mental health would get worse in academia, only 9% of those who aspire to stay, thought so. In addition, 68% of PhD students who want to work outside academia thought their mental health would improve outside the University, while only 36% of those who want to stay in academia thought it would improve outside.

Table 19. PhD students’ expectations regarding post-PhD mental health within and outside academia, by career aspirations in %

	PhD students who aspire to a career in academia		PhD students who aspire to a career outside academia	
	If I stayed in academia	If I leave academia	If I stayed in academia	If I leave academia
I expect my mental health to get worse	9.1	7.7	39.7	0.3
I expect no change in my mental health	43.6	34	32.8	25.3
I expect my mental health to improve	34.8	35.8	10.9	68.2
I don’t know	12.6	22.5	16.6	6.3

We asked the PhD students to what extent they worry about their future career and/or the career decisions they have to make. Table 20 presents the results. Career concerns seem to be quite common: 41% worry about it sometimes, 27% often, and 7% all the time.

Table 20. How often do PhD students worry about their career

	Percentage
Never	4.9
Rarely	19.2
Sometimes	41.1
Often	27.3
All the time	7.5

Gender. Female PhD students worry slightly more often about their career than do male PhD students (see Table A58).

Nationality. European and South American PhD students worry the most about their career: 46% of European and 68% of South American PhD students worry often or all the time about their career, compared to 26% and 27% of Asian and Dutch PhD students respectively (see Table A59).

Faculty graduate school. Economics and Business and Humanities PhD students worry most often about their career, with 41% and 38% respectively, worrying about it often or all the time. Among the other faculties, this percentage varies from 21% (Behavioural and Social Sciences and Spatial Sciences) to 34-35% (Medical Sciences and Science and Engineering) (see Table A60).

Type of PhD student. PhD students who are finishing their thesis in their spare time worry by far the most about their career, with 62% of them worrying often or all the time. External PhD students worry the least, at 28% often or all the time. Bursary PhD students worry more often than employed PhD students, PhD scholarship students, and MD/PhD students: 43% versus 32% and 33% (see Table A61).

Phase of the project. Of the senior PhD students, 44% worry often or all the time about their career compared to 26% of junior PhD students. However, 43% of junior PhD students worry about their career sometimes and only 32% never or rarely (see Table A62).

Aspiring to a career within vs outside. There were no substantial differences in the frequency of worry between PhD students who aspire to a career within and those who aspire to a career outside academia.

As a follow-up question, we asked those PhD students who indicated they worried sometimes, often or all the time, what aspects they worried about. Table 21 shows that the most concerning issue is the high level of competition in obtaining a job to which they aspired. However, more than one-third of PhD students also indicated they had feelings of insecurity about being good enough for the job that they want, and about not knowing what kind of career they wanted.

Table 21. Types of career worries

	% who mentioned it
The high competition to obtain the job that I want	41.7
Being unsure if I am good enough for the kind of job that I want	37.7
Not knowing what kind of career I want	36.9
The work-life balance in my future job	33.1
Having to move to another place for a new job	24.2
Feeling unprepared for the job that I want	23.9
Having to start a new job already while my PhD thesis isn't finished yet	22.9
Being insecure about my skills in writing application letters and/or doing job interviews	13.8

Gender. Feeling insecure about being good enough and not knowing what kind of career they want was more common among female than male PhD students (42% versus 32% and 40% versus 32%) (see Table A63).

Nationality. The type of worries varied quite a lot between PhD students with different nationalities. Among Asian PhD students, the high competition and being unsure whether they are good enough for the job they want were mentioned most often. Dutch PhD students worry most often about not knowing what kind of career they want. European PhD students worry most often about the high competition, not knowing what kind of career they want, and also relatively often about the work-life balance in their future job and feeling unprepared for the job that they want. South American PhD

students, like Asian PhD students, worry most about the high competition and being unsure whether they are good enough. In addition, a lot of them also worry about the work-life balance in their future job and having to move to another place for a new job (see Table A64).

Faculty graduate school. For PhD students from the Behavioural and Social Sciences, Humanities and Science and Engineering, the most frequent worry concerns the high competition to obtain the job that they want. For PhD students from Economics and Business, not knowing what kind of career they want was the biggest issue. PhD students from the Medical Sciences worry most about being unsure whether they are good enough and not knowing what kind of career they want, and they also relatively often indicated they worry about the work-life balance in their future job. PhD students from the Spatial Sciences expressed the least worries overall. Their most often mentioned worries were the high competition and being unsure whether they are good enough for the job they want. Having to move to another place is a worry that was relatively often expressed by PhD students from Economics and Business. PhD students from Humanities and Spatial Sciences worry relatively often about having to start a new job before their thesis is finished (see Table A65).

Type of PhD student. Employed PhD students worry most often about not knowing what kind of career they want, the high competition and being unsure whether they are good enough. External PhD students worry most about not knowing what kind of job they want. Bursary PhD students worry most about the work-life balance in their future job. PhD scholarship students worry most often about the high competition. MD/PhD students also worry about the high competition a lot, and also about the work-life balance. PhD students who are finishing in their spare time worry the most about having to start a new job while not having finished their PhD, the high competition, and the work-life balance (see Table A66).

Phase of the project. Both junior and senior PhD students worry most often about the high competition in the job they want. After this, junior PhD students worry quite a lot about being unsure if they are good enough for the job they want. Senior PhD students' second greatest worry was not knowing what kind of career they want (see Table A67).

Aspiring to a career within vs outside. Table 22 shows that there were differences in the type of worries depending on whether the PhD students aspire to a career within or outside academia. The former worry more about the high competition to obtain the job that they want, the work-life balance in their future job, and having to move to another place. The latter worry more than twice as much about not knowing what kind of career they want and about feeling unprepared for the job that they want. They also worry a lot more about having to start a new job while their thesis is not yet finished.

Table 22. Types of career worries, by career aspirations

	% of PhD students who want a career inside academia who mentioned it	% of PhD students who want a career outside academia who mentioned it
The high competition to obtain the job that I want	50.4	35.1
Being unsure if I am good enough for the kind of job I want	39	38.4
Not knowing what kind of career I want	22.7	47.6
The work/life balance in my future job	35.5	31

Having to move to another place for a new job	28.5	22.6
Feeling unprepared for the job that I want	16.4	33.9
Having to start a new job already while my PhD thesis isn't finished yet	17.9	31.5
Being insecure about my skills in writing application letters and/or doing job interviews	11.3	16.7

6. Support at the University

In the first questions for the ‘Support at the University’ block, we asked if PhD students knew where to go if they experienced mental health problems; if they would like to talk about their problems with someone at the University; if they would talk about it with their supervisors; and if they think their supervisors would support them (see Table 23). The mean of 2.79 on a scale of 1-5 on the question of whether they knew whom they could talk to at the University if they were to experience mental health problems indicates that there are many PhD students who do not know where to go should they have problems. Most PhD students would like to talk to someone at the University; however, as the mean score of 3.3 on the second question indicates, PhD students are more likely to talk to their daily supervisor than to their primary supervisor if they experience mental health problems (3.5 compared to 3.1). They also expect their daily supervisor to be slightly more supportive than their primary supervisor (4 compared to 3.9).

Table 23. Statements about talking about (hypothetical) mental health problems

	Mean	SD
If I were to experience mental health problems, I would know whom I could talk to at the University.	2.79	1.26
If I were to experience mental health problems, I would like to talk about it with someone at the University.	3.30	1.11
If I were to experience mental health problems, I would talk about this with my primary supervisor.	3.05	1.22
My primary supervisor would act supportively if I told him/her I am experiencing mental health problems.	3.88	1.01
If I were to experience mental health problems, I would talk about this with my daily supervisor.	3.47	1.19
My daily supervisor would act supportively if I told him/her I am experiencing mental health problems.	4.01	.99

Note: These questions were answered on a scale of 1 (completely disagree) to 5 (completely agree).

Gender. There were three gender differences. Female PhD students were less likely to talk to both their primary and daily supervisor if they experienced problems. In addition, women were less convinced that their primary supervisor would act supportively if they told him/her about their mental health problems (see Table A68).

Nationality. We found significant differences based on nationality on two items. Firstly, Asian PhD students were more likely than Dutch, European and South American PhD students to know whom they could talk to within the University if they experienced mental health problems. Secondly, Dutch PhD students were less likely to want to talk to someone within the University about possible mental health problems than the other PhD students (Table A69).

Faculty Graduate School. PhD students from the Behavioural and Social Sciences indicated significantly more often than PhD students from the Medical Sciences that they know whom they can talk to at the University. However, PhD students from the Behavioural and Social Sciences and those from the Medical Sciences indicated that they were significantly less likely to talk to someone at the University if they experienced problems. PhD students from Economics and Business and from the Medical Sciences were significantly less convinced that their daily supervisor would act supportively if they discussed mental health problems with them. However, it is important to note that overall the mean scores of all PhD students were high (> 3.72 on a scale of 1-5), so most PhD students agree or completely agree with the statement that their daily supervisor would act supportively (see Table A70).

Type of PhD student. There was a significant difference on only one item, with bursary PhD students more likely to want to talk to someone at the University about their problems than employed, external and MD/PhD students (Table A71).

Phase of the project. Junior PhD students agreed significantly more often with the statements that their primary supervisor and daily supervisor would act supportively if they were to experience mental health problems (Table A72).

Workshops, support groups and a PhD psychologist

We asked the PhD students if they had ever attended workshops at the University about topics related to mental health, e.g. workshops about work-life balance and how to deal with specific PhD-related challenges (Table 24). Of all the PhD students, 22% have attended such a workshop or multiple workshops. On average, they rate the usefulness of the workshop they attended at 2.8 on a scale of 1 to 5. This sounds quite negative, but is difficult to interpret, as we do not know which workshops they took. Only 1% of PhD students who participated in the present survey had attended the fortnightly support group organized by Student Support and Career Services as advised by the Groningen Graduate Schools. PhD students who participated in this support group rated this as very helpful, as shown by the average score of 3.8 (see Table 24).

Table 25 presents the results regarding interest in workshops and support groups: 23% are interested in following workshops related to mental health, and another 49% may be interested; 9% are interested in joining a support group, and another 41% may be interested; 74% indicated the University should have a psychologist especially for PhD students; and another 19% indicated that perhaps the University should have this; 52% would go to this psychologist if they were to experience problems, and another 36% would perhaps go.

Table 24. Workshop and support group attendance, and ratings of helpfulness

Question	Yes	No	Don't remember/prefer not to say	Helpfulness of course or support group (1-5)
Have you ever attended workshops at the University about topics related to mental health?	21.7	69.3	10	2.8 (n = 217)
Have you ever attended the fortnightly support group?	1.3	96.8	1.9	3.8 (n = 12)

Table 25. Interest in mental health workshops and support group

Question	No	Maybe	Yes
Interest in workshops	27.5	49.3	23.2
Interest in support group	50	40.8	9.2
Do you think the University should have a PhD student psychologist?	7.2	18.7	74.1
If there were a PhD student psychologist, would you visit him/her?	12.3	35.7	52

Gender. As can be seen in Table A73, female PhD students are somewhat more likely than male PhD students to have attended a workshop on mental health, and a lot more likely to have joined the support group. This difference is also apparent in relation to their interest in workshops and in the support group (Table A74). Of the female PhD students, 78% are interested in workshops (maybe and yes) compared to 68% of male PhD students, and 55% of female compared to 41% of male PhD students are interested in the support group. Female PhD students also indicated more often that the University should have a PhD student psychologist (79% compared to 67%) and that they would use such a psychologist (58% compared to 45%).

Nationality. Dutch PhD students were most likely to have attended mental health workshops, while Asian PhD students were the least likely. Dutch PhD students were also most likely to have joined the support group (see A75). Regarding interest in workshops, this is a different story (Table A76). Dutch PhD students showed the least interest in mental health workshops: only 16% indicated they were definitely interested, compared to 36% of Asian, 24% of European, and 38% of South American PhD students. The same is the case for the PhD support group: Dutch PhD students were interested the least, and Asian and South American PhD students the most. Regarding the idea of a psychologist specialized in PhD students' problems, the Asian and South American PhD students especially thought that the University should definitely have such a psychologist (84% and 94%). They are also the groups that most often indicated they would use this psychologist (65% yes).

Faculty graduate school. The highest percentages of PhD students who have attended workshops regarding mental health come from the Behavioural and Social Sciences, Humanities, and Spatial Sciences (about 30% of PhD students in these faculties have attended such workshops). The perceived helpfulness of these workshops was average: 7% of PhD students from the Humanities have attended the fortnightly support group, which is by far the highest percentage of the faculties – although it must be kept in mind that this is equivalent to only four PhD students. These four PhD students were very positive about the support group, rating its helpfulness on average as 4.75 (see Table A77). In most faculty graduate schools, about three-quarters of PhD students said they were interested in mental health workshops. Among PhD students from the Humanities and from Science and Engineering, this percentage was somewhat higher, at about 80% (see Table A78). Interest in joining a support group was also highest among PhD students from these two faculties, with 65% of PhD students from the Humanities and 54% from Science and Engineering indicating 'maybe' or 'yes' in answer to the question of whether they would be interested in joining a PhD support group.

PhD students from all faculty graduate schools were enthusiastic about the idea of appointing a PhD psychologist. Among PhD students from Economics and Business and from the Spatial Sciences, however, more than 10% indicated they did not think it was a good idea to appoint a special psychologist for PhD students. If there was such a psychologist, 85% (Economics and Business and Medical Sciences) to 90% (all other faculties) of PhD students would definitely or maybe use this psychologist if they were to experience mental health problems.

Type of PhD student. The percentage of those who had attended mental health workshops was the highest (25%) among employed PhD students and PhD scholarship students and lowest (12%) among MD/PhD students. The PhD support group has been attended by employed, bursary and scholarship PhD students (see Table A79). Interest in mental health workshops, as well as joining a PhD support group, was highest among bursary and PhD scholarship students (see Table A80). These two types of PhD students, and PhD students who were finishing in their spare time, were most convinced that there should be a PhD student psychologist: only 3 to 5% of these PhD students said that this was not necessary. In line with this, these PhD students also indicated most often that they would visit this psychologist if they were in mental health trouble.

Phase of the project. There is little difference between junior and senior PhD students regarding mental health workshops and PhD support group attendance (see Table A81). Senior PhD students were more positive about the perceived helpfulness of the PhD support group than junior PhD students (4.1 compared to 3.2). Also, regarding interest in workshops and the support group, and regarding the items that concern the idea of having a PhD student psychologist, both juniors and seniors scored quite similarly (Table A82).

7. Questions to PhD students who experienced or are experiencing mental health problems

We asked the survey participants whether they had experienced or were currently experiencing mental health problems during their PhD, with 31% reporting they had mental health problems in the past (during the PhD) and 16% experiencing issues at the time of the survey (May 2018) (see Table 26).

Table 26. Experience of mental health problems during the PhD (*n* and %)

	<i>n</i>	%
No, I have never experienced mental health problems that affected my work	511	53.2
Yes, I have experienced mental health problems	300	31.2
Yes, I am currently experiencing mental health problems	150	15.6

Gender. Female PhD students more often experienced problems than male PhD students, both in the past (34% of female vs 26% of male PhD students) and currently (17% of female vs 13% of male PhD students) (see A83).

Nationality. The percentage of PhD students who had experienced problems was the highest among South American PhD students, at 42%. Regarding current problems, the highest percentage was among both South American and European PhD students, at 21%. Asian PhD students are least likely to suffer from mental problems, with only 8% indicating they were currently experiencing mental health problems that affected their work (see Table A84).

Faculty graduate school. PhD students from the Humanities were most likely to have experienced problems (35%), PhD students from the Behavioural and Social Sciences and from the Spatial Sciences were the least likely to have experienced problems (22-23%). The percentage of PhD students who indicated that they were currently experiencing mental health problem was the highest among PhD students from Economics and Business (24%) (see A85).

Type of contract. Half of the PhD students who were finishing in their spare time indicated they have experienced problems. Bursary PhD students are also likely to have experienced problems in the past (40%). The percentage was the lowest among MD/PhD students (20%). Regarding current problems, there were no large differences (see A86).

Phase of the project. Senior PhD students were more likely than junior PhD students to have faced difficulties in the past and to be experiencing problems now (see A87).

Talking about mental health problems

The questions discussed in this section were only asked to those PhD students who indicated they had or were experiencing problems (*n* = 450). Firstly, we asked them whether they had talked to someone at the University about their mental health problems and, if so, to whom: 20% indicated they had not talked to anyone about this; 44% had discussed it with their supervisor; and 57% with a colleague or multiple colleagues. Another 12% had talked to someone from the 'Arbo- en Milieudienst' (AMD); 8% to a PhD coordinator or mentor; 6% to a confidential advisor; and 3% to someone from the Student Support and Career Services (see Table 27).

Table 27. Talking about mental health problems (number and percentage)

	<i>n</i>	%
No	89	19.8
Yes, to my supervisor	205	43.7
Yes, to a colleague/colleagues	257	57.1
Yes, to the confidential advisor	30	6.4
Yes, to my PhD coordinator or mentor	35	7.5
Yes, to someone from the Student Support and Career Services	15	3.3
Yes, to someone from the AMD	56	11.9
Yes, to someone else	45	9.6

Gender. Female PhD students were somewhat more likely than male PhD students to talk to their supervisor and colleagues (see Table A88).

Nationality. South American PhD students were less likely than Asian, Dutch and European PhD students to talk about their problems with someone at the University. Dutch PhD students were most likely to talk to their supervisor and to colleagues (see Table A89).

Faculty graduate school. PhD students from the Behavioural and Social Sciences were most open to talk to someone at the University – only 9% were not prepared to do this. Some options seem to be used more in certain faculties than in others: in the Behavioural and Social Sciences and Economics and Business, 15% and 11% of the PhD students, respectively, had talked to their confidential advisor, while in the other faculties, this percentage was between 5% and 7% and in the Humanities this percentage was 0%. In addition, while 32% of PhD students from Economics and Business and 27% of PhD students from Spatial Sciences had talked to a PhD coordinator or mentor, this was only 1% for Medical Sciences and 0% for the Humanities (see Table A90).

Type of contract. Employed PhD students were most open to talk to someone within the University (only 16% were not open to this), bursary PhD students were the least open (29% were not open to this). MD/PhD students and PhD students who were finishing in their spare time were the least open to talk to their supervisors (28% and 30%, compared to 50% of the employed PhD students). PhD students who were finishing in their spare time were more open than the other types of PhD students to talk to their confidential advisor (15%) and someone from the ‘Arbo- en Milieudienst’ (AMD) (24%) (see Table A91).

Phase of the project. Senior PhD students were almost twice as open as junior PhD students to talk about their problems – 15% of senior PhD students had not discussed their problems with anyone, compared to 27% of juniors. In line with this, senior PhD students were more likely to talk to all optional providers of mental health support (see Table A92).

Perceived helpfulness of talking to someone at the University

We asked those PhD students who had indicated that they talked to someone within the University, who could provide mental support and how helpful this had been for them (see Table 28). There were no large differences between the different sources regarding perceived helpfulness: on a scale of 1 to 5, all were rated approximately 3.50, which is between ‘somewhat helpful’ (3) and ‘quite helpful’ (4).

Table 28. Perceived helpfulness of talking to people at the University

	Mean	SD
Yes, to my supervisor	3.56	.82
Yes, to a colleague/colleagues	3.47	.82
Yes, to the confidential advisor	3.33	.76
Yes, to my PhD coordinator or mentor	3.54	.74
Yes, to someone from the Student Support and Career Services	3.60	.74
Yes, to someone from the AMD	3.59	.83
Yes, to someone else	3.51	.82

Professional help from outside the University

We asked all PhD students who indicated that they had experienced mental health problems during their PhD in the past or were experiencing problems now, whether they had received or were receiving professional help from outside the University. As Table 29 shows, more than half of the PhD students did not or were not receiving professional help: 29% were seeing or had visited a psychologist or therapist and 12% received help from their GP.

Table 29. Help outside the University

	%
No	55.3
Yes, from my GP	11.6
Yes, from a psychologist or therapist	29.1
Yes, from someone else	7.1

Gender. Female PhD students were slightly more likely to receive or have received professional help than male PhD students (see Table A93).

Nationality. Asian PhD students were less likely than Dutch, European and South American PhD students to receive or have received professional help (Table A94).

Faculty graduate school. PhD students from Science and Engineering were the least likely to receive or have received professional help – this might be explained by the high percentage of male PhD students in this faculty (Table A95).

Type of contract. Employed and external PhD students were most likely to receive or have received professional help; bursary and scholarship PhD students the least (Table A96).

Phase of the project. Senior PhD students were more likely than junior PhD students to receive or have received professional help (Table A97).

8. Burnout and work engagement

We measured burnout and engagement using the Maslach Burnout Inventory-General Survey and the Utrecht Work Engagement Scale-9 respectively (Schaufeli et al., 2002). Some items were slightly rephrased to match the PhD students' situation. All factors related to burnout had sufficient reliability, that is exhaustion, cynicism and professional efficacy (the reverse of burnout). Engagement consisted of three factors: vigour, dedication and absorption. However, the absorption scale did not have sufficient reliability ($\alpha < .60$) and was thus not included in the analyses. All items were measured on a 7-point Likert scale. The mean scores for exhaustion and cynicism were slightly below the scale average (3.56 and 3.62 respectively). Vigour was slightly above the scale average (4.16) and professional efficacy and dedication somewhat more convincingly above average (5.11 and 4.85 respectively) (see Table 30).

Table 30. Means and standard deviations of the different factors of burnout and engagement

Factor	Mean	SD
Exhaustion ($n = 984$)	3.56	1.13
Cynicism ($n = 980$)	3.62	1.40
Professional efficacy ($n = 980$)	5.11	0.78
Vigour ($n = 984$)	4.16	0.98
Dedication ($n = 984$)	4.85	0.99

Note. Burnout and engagement were measured on a 7-point Likert scale.

Gender. There were no significant gender differences (Table A98).

Nationality. South American PhD students were significantly more exhausted than Dutch PhD students. European PhD students were significantly more cynical than Dutch and Asian PhD students. Asian PhD students had significantly more vigour than European PhD students (Table A99).

Faculty graduate school. There were no significant differences based on faculty graduate school (Table A100).

Type of contract. Spare time PhD students were significantly more exhausted than employed, external, scholarship and MD/PhD students (Table A101). External PhD students were the least exhausted. Cynicism was also highest among the spare time PhD students, and significantly higher than the cynicism of employed, external and scholarship PhD students. On professional efficacy, there were no significant differences between the different types of PhD students. Regarding vigour, spare time PhD students had a significantly lower score than external, scholarship and MD/PhD students. Spare time PhD students' dedication was significantly lower than that of employed, external, scholarship and MD/PhD students. Overall, spare time PhD students suffer the most from burnout symptoms and are the least engaged with their PhD work.

Phase of the project. Senior PhD students were more exhausted and cynical and had less professional efficacy than junior PhD students. Junior PhD students scored higher on vigour and dedication (see Table A102).

9. General self-efficacy, work-life balance, work-life conflict and imposter syndrome

General self-efficacy refers to one's belief in one's overall competence to effect the required performance across a wide variety of achievement situations. It was measured using the General Self-Efficacy Scale (Chen, Gully & Eden, 2001). Work-life balance measures the extent to which someone's work life is in balance with their personal life and was measured with a scale developed by Brough et al. (2014). Work-life conflict measures the extent to which work and private life problematically interfere with each other and was measured with an instrument developed by Netemeyer et al. (1996; in Waumsley, Houston & Marks, 2010). Imposter syndrome concerns feelings of inadequacy that persist despite evidence of successful accomplishment and was measured by a slightly adapted version of the Clance Impostor Phenomenon Scale (original by Clance, 1985; adapted version by Jöstl et al., 2012). Individuals suffering from this syndrome doubt their achievements and fear that they will be exposed as a 'fraud'. All these four factors were measured on a five-point scale. On average, PhD students feel quite self-efficacious (3.73). The mean scores for work-life balance, work-life conflict and experience of imposter syndrome were average, as Table 31 shows.

Table 31. Means and standard deviations of self-efficacy, work-life balance, work-life conflict and imposter syndrome

	Mean	SD
Self-efficacy	3.73	.58
Work/life balance	3.14	.97
Work/life conflict	3.05	.89
Imposter syndrome	3.13	.77

Gender. Male PhD students were significantly more self-efficacious than female PhD students and experience imposter syndrome significantly less often (see Table A103).

Nationality. European PhD students had a significantly lower score on work-life balance than Dutch PhD students. In addition, European PhD students scored significantly higher on imposter syndrome than Asian PhD students (see Table A104).

Faculty graduate school. There were no significant differences based on graduate school (Table A105).

Type of contract. There were significant differences based on the type of contract on work-life balance and work-life conflict. Spare time PhD students had a lower score on work-life balance and a higher score on work-life conflict than employed, scholarship and MD/PhD students. In addition, employed PhD students reported a higher balance than external and bursary PhD students. Moreover, bursary PhD students experienced more conflict than employed PhD students (Table A106).

Phase of the project. Junior PhD students had a significantly higher score on work-life balance than senior PhD students, and a lower score on work-life conflict (Table A107).

10. Sociodemographic and lifestyle questions

Because this section included a substantial number of questions, differences based on gender, nationality, faculty graduate school, type of contract and phase of the project are not discussed in the text, but only presented in tables in the Appendix (the corresponding table numbers in the Appendix can be found in a note below the main tables).

Structural activities in addition to the PhD

We asked the PhD students if they were engaged in any structural activities in addition to pursuing their PhD. For nearly two-thirds of the students, this was not the case (see Table 32). Those who did report engagement in structural activities in addition to their PhD were most likely to have a second job or were a board member of, or actively involved, in an organization.

Table 32. Percentage of PhD students who are engaged in structural activities in addition to their PhD

	%
No	63
Yes, I have another job	10.9
Yes, I am in the board of an organization or actively involved in an organization	9.9
Yes, I am actively involved in a political party	0.4
Yes, I do volunteer work	5.0
Yes, I am an informal caregiver for a relative or other person ('mantelzorger')	1.8
Yes, I am a (semi-)professional athlete or musician	2.8

Note: See Tables A108-112.

Relationship status

We asked the PhD students about their relationship or marital status. The majority reported being in a relationship, with a smaller but still considerable percentage of students reporting being single or married (see Table 33).

Table 33. Percentage of PhD students per relationship/marital status

	%
Single	27.7
In a relationship of < 6 months	4.5
In a relationship of > 6 months	46.6
Married	18.6
Prefer not to say	1.1

Note: See Tables A113-117.

Children

We also asked the PhD students whether or not they had children: 13% had at least one child (see Table 34).

Table 34. Percentage of PhD students who have children

	%
No	86.1
Yes	13.4
Prefer not to say	0.5

Note: See Tables A118-122.

Sleep

All PhD students were asked how many hours they sleep per night on weekdays (see Table 35). A large majority reported sleeping 6 to 7 or 7 to 8 hours per night.

Table 35. Percentage of PhD students per number of hours of sleep

Hours of sleep	Percentage of PhD students
Less than 6 hours	6.4
6 to 7 hours	36.4
7 to 8 hours	48.0
More than 8 hours	8.9
Don't know	0.3

Note: See Tables A123-127.

Sports

We asked PhD students whether they do sports or not (Table 36). Nearly one-fifth of PhD students reported not doing sport. Among those who do, a variety is seen with regard to how many hours they spend doing sport on average and per week.

Table 36. PhD students' frequency of sports activities

Answer category	Percentage
No	19.6
Yes, on average one hour per week	18.7
Yes, on average 2 hours per week	23.3
Yes, on average 3 hours per week	20.5
Yes, on average 4 or more hours per week	17.4
Prefer not to say	0.5

Note: See Tables A128-132.

Alcohol use

To measure alcohol use, we adapted the Audit-C for problematic alcohol use (Bush et al., 1998). Based on this instrument, we asked the PhD students: how often they drink alcohol (Table 37); if they do; how much alcohol they drink when they do (Table 38); and how often they drink more than six glasses of alcohol in one day (Table 39).

Table 37. PhD students' frequency of alcohol use

Answer category (score)	Percentage
Never (0)	12.4
Once every month or less (1)	17.4
Two to four times every month (2)	37.1
Two to three times every week (3)	25.2
Four or more times every week (4)	7.1
Prefer not to say	0.7

Note: See Tables A133-137.

Table 38. Number of glasses PhD students drink on an average day they drink alcohol

Answer category (score)	Percentage
1 or 2 glasses (0)	61.4
3 or 4 glasses (1)	29.9
5 or 6 glasses (2)	5.9
7, 8 or 9 glasses (3)	1.5
10 glasses or more (4)	0.4
Prefer not to say	1.0

Note: See Tables A138-142.

Table 39. How often PhD students drink more than six glasses in one day

Answer category (score)	Percentage
Never (0)	36.3
Less than once a month (1)	35.8
Once per month (2)	17.0
Once per week (3)	8.7
Two or three times per week (4)	0.4
Prefer not to say	0.4
I don't know/ remember	1.6

Note: See Tables A143-147.

A total score (0-12) can be calculated from the three separate questions of the AUDIT-C. There are gender-specific cut-off scores based on a low threshold (4 or higher for women and 5 or higher for men) and based on a high threshold (5 or higher for women and 7 or higher for men) (Barry et al., 2015). Based on the higher threshold, which is recommended to use in higher education student samples (Barry et al., 2015), 23% of PhD students in the sample can be classified as at-risk drinkers.

Table. Percentage of at-risk drinkers according to AUDIT-C criteria

Answer category	Percentage based on low threshold	Percentage based on high threshold
Not an at-risk drinker	55.9	77.1
At risk drinker	44.1	22.9

Note: See Tables AUDIT1-5 in the appendix.

Significant life events

We asked the PhD students if they had experienced any significant life events in the last 12 months. Nearly one-third reported not experiencing any life events (Table 40). Among those who did experience one or more life events, severe problems in personal relationships and severe illness of the PhD student or someone close to them were the most common and reported by just over 20% of the PhD students. Fewer of the PhD students, although still over 10%, reported having experienced the death of someone close to them, financial problems, or being in the process of buying a house in the last 12 months.

Table 40. Percentage of PhD students who have experienced significant life events

Event	Percentage
Death of someone close to you	15.2
Severe problems in personal relationships	20.9
Financial problems	12.2
Severe illness of yourself or someone close to you	20.7
Being in the process of buying a house	10.9
Getting married	4.7

Expecting a child	5.1
None of these events	31.7
Prefer not to say	1.6

Note: See Tables A148-152.

Those PhD students who indicated they had experienced one or more of the significant life events listed above were asked how much this event or these events affected their work as a PhD student (i.e. increase in absent days or decrease in concentration and productivity). As can be seen in Table 41, the majority indicated that this event somewhat affected their work.

Table 41. Extent to which the life event affected work

Answer category	Percentage
Not at all	8.5
Hardly	18.8
Somewhat	41.7
Quite a lot	24.8
Extremely	6.2

Note: See Tables A153-157.

In addition, we asked whether the PhD students had talked about this event with their supervisor. More than half had done so (Table 42).

Table 42. Percentage of PhD students who had talked about the life event(s) with their supervisor(s)

Answer category	Percentage
No	42.4
Yes	57.6

Note: See Tables A158-162.

The PhD students who indicated they had talked to their supervisor were asked if they felt (or feel) supported by their supervisor(s) in dealing with the event(s). More than 60% reported that they felt supported by their supervisor(s) quite a lot or even extremely (Table 43).

Table 43. Perceived support by supervisor(s) in dealing with life event(s)

Answer category	Percentage
Not at all	3.7
Hardly	6.1
Somewhat	29.4
Quite a lot	40.8
Extremely	20.0

Note: See Tables A163-167.

The PhD students who indicated they had not discussed the life event(s) with their supervisor(s) were asked why they decided not to talk to their supervisor(s). As presented in Table 44, the majority indicated that the event did not affect their work to the extent that they felt their supervisor(s) needed to know.

Table 44. Reasons why PhD students chose not to talk to their supervisor(s) about significant life events

Answer category	Percentage
It doesn't affect my work so much that he/she needs to know	61.1

I already receive support elsewhere	28.9
It is none of his/her business	45
I would feel uncomfortable talking about this with him/her	45
I think he/she would not understand	17.2
I think it would be bad for my career to discuss this	22.8
Prefer not to say	1.1
Other, namely	11.7

Note. Multiple answers were possible. The number of PhD students who answered this questions was not large enough to make meaningful group comparisons.

Diagnosis

PhD students were asked if they had ever been officially diagnosed with a mental disorder (e.g. depression, autism spectrum disorder, AD(H)D, personality disorder): 11% had been diagnosed (Table 45).

Table 45. Percentage of PhD students who have ever been officially diagnosed with a mental disorder

Answer category	Percentage
No	86.5
Yes	11.1
Prefer not to say	2.4

Note: See Tables A168-172.

The 104 PhD students who answered positively were asked about the disorder that had been diagnosed. Most often mentioned were depression (57% of people with a diagnosis; 6% of total sample) and anxiety disorder (37% of people with a diagnosis; 4% of total sample) (see Table 46).

Table 46. Mental disorders

Answer category	Percentage of total sample
Depression or other mood disorder	5.8
Anxiety disorder	3.7
Other	5.6

Note. All disorders that were mentioned by less than 30 PhD students were integrated into the category 'other' for reasons of anonymity. The number of PhD students who answered these questions was not large enough to make meaningful group comparisons.

We asked the PhD students who had ever been diagnosed whether this disorder currently affected their work or not. One-third of these PhD students indicated that their disorder affected their work quite a lot or extremely (Table 47).

Table 47. The extent to which the disorder affects PhD students' work

Answer category	Percentage
Not at all	17.3
Hardly	23.1
Somewhat	26.9
Quite a lot	22.1
Extremely	10.6

Note. The number of PhD students who answered this question was not large enough to make meaningful group comparisons.

To those PhD students who indicated that the disorder affected their work somewhat, quite a lot or extremely, we asked if they had talked to their supervisor(s) about the disorder. Slightly more than half had done so (Table 48).

Table 48. Percentage of PhD students who talked to their supervisor(s) about their disorder

Answer category	Percentage
No	46.8
Yes	53.2

Note. The number of PhD students who answered this question was not large enough to make meaningful group comparisons.

The PhD students who indicated they had talked to their supervisor were asked to what extent they feel or felt supported by their supervisor(s) regarding dealing with difficulties at work due to their disorder. The majority felt at least somewhat supported (see Table 49).

Table 49. Perceived support by supervisor(s) regarding dealing with a disorder at work

Answer category	Percentage
Not at all	9.1
Hardly	12.1
Somewhat	33.3
Quite a bit	33.3
Extremely	12.1

Note. The number of PhD students who answered this question was not large enough to make meaningful group comparisons.

The PhD students who had not talked to their supervisor about their disorder mostly indicated that the disorder did not affect their work to the extent that the supervisor needed to know and/or that they would feel uncomfortable discussing this (see Table 50).

Table 50. Reasons why PhD students chose not to talk to their supervisor(s) about a diagnosis

Answer category	Percentage
It doesn't affect my work that much that he/she needs to know	51.7
I already receive support elsewhere	41.4
It is none of his/her business	20.7
I would feel uncomfortable talking about this with him/her	51.7
I think he/she would not understand	3.4
I think it would be bad for my career to discuss this	37.9
Other, namely	10.3

Note. Multiple answers were possible. The number of PhD students who answered this question was not large enough to make meaningful group comparisons.

Work outside official work hours

Evenings

One-third of the PhD students in the sample indicated they did not work in the evenings on weekdays (i.e. after 6 PM): 40% worked on one or two evenings and the rest more often (see Table 51). Of those PhD students who do work in the evenings, about half work one to two hours (see Table 52). Less than 20% always or usually compensate for these extra hours of work by starting later in the morning or by taking longer breaks during the day (see Table 53).

Table 51. In an average week, do you work in the evenings on weekdays after 6 PM?

Answer category	Percentage
No	33.5
Yes, on one or two evenings	39.1
Yes, on three or four evenings	19.3
Yes, on all five weekday evenings	8.0

Note: See Tables A173-177.

Table 52. How long do you work on an average evening on which you work?

Answer category	Percentage of evening workers
Less than an hour	8.7
One to two hours	51.6
Two to three hours	30.7
More than three hours	9.0

Note: See Tables A178-182.

Table 53. Do you compensate for extra work hours in the evening?

Answer category	Percentage
Never	18.5
Rarely	28.4
Sometimes	33.7
Usually	15.2
Always	4.2

Note: See Tables A183-187.

Weekends

Almost 60% of all PhD students indicated that they work on the weekends (see Table 54). Of those who work on the weekend, most work one to three hours.

Table 54. Do you work on an average weekend?

Answer category	Percentage
No	41.3
Yes, one to three hours	32.5
Yes, three to six hours	17.7
Yes, six to nine hours	6.3
Yes, more than nine hours	2.1

Note: See Tables A188-192.

Vacation days

Of all the PhD students, 61% indicated they have official vacation days. These PhD students were asked how many of their vacation days they had used – and had actually spent not working – in 2017. (if they had traded part of their vacation days for extra salary, they were asked to only take into account the vacation days that remained afterwards). As Table 55 shows, only 9% had used all their vacation days and almost one-fifth had used less than half of all their vacation days.

Table 55. Vacation day use

Answer category	Percentage
All of them	8.7
Almost all of them	20.4
More than half of them	19.4
About half of them	16.9
Less than half of them	19.2
I don't remember	5.8
Prefer not to say	0.5
I was not yet working at the University in 2017	9.1

Note: See Tables A193-197.

The PhD students who indicated that they had not used all or almost all of their vacation days ($n = 318$) were asked why they had not used more vacation days. Most PhD students in this group indicated that they had too much work to do and/or that there never seemed to be a good time to take days off (Table 56). Almost one-third also indicated that working was a better use of their time than taking a holiday.

Table 56. Reasons for not using more vacation days

Answer category	Percentage of those who did not take (almost) all of their vacation days
I had too much work to do	56.3
There never seemed to be a good time to take days off	46.5
I felt working would be a better use of my time than taking a holiday	32.7
I didn't feel the need for (many) days off	26.4
My supervisor(s) wanted me to keep working	9.1
Other, namely	10.7

Note. Multiple answers possible.

Emails outside official work hours

Two-thirds of the PhD students in the sample receive incoming work emails on their phone (Table 57). These two-thirds were asked whether they immediately read work emails outside work hours. Most indicated that they do this always or usually (Table 58). Those who sometimes, usually or always read incoming emails outside work hours were asked how often they immediately took action as a response to emails outside of work hours (e.g. reply or do something that is asked in the email). The majority of those who answered this question indicated they sometimes or usually do this (Table 59). Finally, we asked all of those who read work emails on their phone outside work hours whether checking this mail affects their ability to relax and enjoy their free time or not. Almost half of the PhD students said this hardly affected or did not at all affect their ability to relax, and only 16% indicated that this affected their relaxed mode quite a lot or extremely (Table 60).

Table 57. Percentage of PhD students who receive work emails on their phone

Answer category	Percentage
No	32.6
Yes	67.4

Note: See Tables A198-202.

Table 58. How often do you immediately read incoming work emails on your phone outside work hours?

Answer category	Percentage
Never	0.5
Rarely	5.7
Sometimes	19.8
Usually	42.9
Always	31.1

Note: See Tables A203-207.

Table 59. How often do you immediately take action as a response to an email you receive outside of work hours (e.g. reply or do something that is asked in the email?)

Answer category	Percentage
Never	0.7
Rarely	17.2
Sometimes	36.3
Usually	37.0
Always	8.8

Note: See Tables A208-212.

Table 60. Does checking your work email outside work hours affect your ability to relax and enjoy your free time?

Answer category	Percentage
Not at all	10.3
Hardly	37.0
Somewhat	37.0
Quite a lot	12.7
Extremely	3.0

Note: See Tables A213-217.

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Appendix

1. Sample characteristics

In this Appendix, we will present the differences between the following groups:

- Gender: male vs female
- Nationality: Asian, Dutch, European, South American (other nationalities consisted of fewer than 30 participants)
- Graduate schools: Behavioural and Social Sciences (BSS), Economics and Business (EB), Humanities (Hum), Medical Sciences (MS), Science and Engineering (SE), and Spatial Sciences (SS) (other graduate schools consisted of fewer than 30 participants)
- Type of contract/PhD student: employed, external, bursary (those with a scholarship who started before September 2016), PhD scholarship (those with a scholarship who started after September 2016), MD/PhD, spare time (PhD students whose contract has already ended and are trying to finish their thesis in their own time).

When reading about these differences between gender, nationalities, graduate schools, types of contract and phase of the project (junior vs senior), it is important to keep in mind that these factors do not stand alone and that differences can often be explained by multiple factors or by interaction effects. The most important 'issues' that can confound the results are listed here.

Nationality

- Among the Asian PhD students, relatively more participants are male, while among the Dutch participants, there are relatively more female PhD students (Table A1).
- While in the total sample, 33% are from the Faculty of Science and Engineering, among Asian and European PhD students, more than half work in this faculty (A2).
- Dutch and European PhD students more often have an employment contract; Asian and South American PhD students are relatively often bursary or PhD scholarship students. External PhD students and MD/PhD students are usually Dutch. Relatively many European PhD students are finishing their thesis in their spare time, compared to Asian, Dutch and South American PhD students (A3).
- Among the junior PhD students in our sample, there were relatively many Asian PhD students and relatively few South American PhD students (A4).

Faculty graduate school

- Compared to the whole sample, in which 40% were male, there were relatively few male PhD students in the faculties of Behavioural and Social Sciences and the Humanities. There were relatively many male PhD students in the faculties of Economics and Business, Science and Engineering, and Spatial Sciences (A5).
- In the faculties of Behavioural and Social Sciences, Economics and Business, the Humanities, and Medical Sciences, there were relatively many Dutch PhD students (A6).
- In the faculties of Behavioural and Social Sciences and Economics and Business, there were relatively many employed PhD students. The Faculty of the Humanities had relatively many external PhD students and PhD scholarship students. Science and Engineering and Spatial Sciences also had relatively many PhD scholarship students. (A7)
- Behavioural and Social Sciences and the Humanities had somewhat fewer junior PhD students in the sample; the Medical Sciences and Spatial Sciences somewhat more (A8).

Type of contract

- Among the bursary PhD students and PhD students who were finishing their PhD thesis in their spare time, there were slightly more men than in the total sample (A9).
- Among the employed PhD students, but particularly among the external and MD/PhD students, there were more Dutch respondents. Among the bursary and scholarship PhD students, there were relatively more Asian and South American PhD students (A10).
- There were relatively many external PhD students based in the Humanities. The number of bursary and PhD scholarship students was relatively high in Science and Engineering (A11).
- Of the bursary PhD students, 81% were senior PhD students (in their final two years). Of the PhD scholarship students, 93% were junior (in their first two years). Among MD/PhD students, a relatively large share was junior as well (69%) (A12).

Table A1. Percentage of male and female survey participants, per nationality

Nationality	% male	% female
Asian	46.7	53.3
Dutch	37.3	62.7
European	42.1	57.9
South American	44	56
Total sample	40.2	59.8

Table A2. Division of participants over graduate schools, per nationality

Nationality	BSS	EB	Hum	MS	SE	SS
Asian	3.2	4	5.6	30.6	52.4	4
Dutch	13.6	5.5	8.3	49.5	19.7	3.5
European	8.9	5.7	3.2	25.5	52.9	3.8
South American	4.3	0	4.3	47.8	39.1	4.3
Total sample	10.5	5	6.6	41.6	32.7	3.7

Table A3. Division of participants over types of contract, per nationality

Nationality	Employed	External	Bursary	Scholarship	MD/PhD	Spare time
Asian	32.6	1.6	20.2	43.4	0.8	1.6
Dutch	63.2	8.8	1.1	11.5	10	5.3
European	60	1.9	4.4	22.5	0.6	10.6
South American	28.3	0	32.6	34.8	0	4.3
Total sample	55.7	5.7	6.6	20.2	6.1	5.7

Table A4. Percentage of junior and senior survey participants, per nationality

Nationality	% junior	% senior
Asian	64.4	35.6
Dutch	51.2	48.8
European	51.5	48.5
South American	41.7	58.3
Total sample	52.8	47.2

Table A5. Percentage of male and female survey participants, per graduate school

Graduate school	% male	% female
BSS	15.7	84.3
EB	51.3	48.7
Hum	28.3	71.7
MS	34.5	65.5
SE	52.6	47.4
SS	52.9	47.1
Total	39.6	60.4

Table A6. Division of participants over nationalities, per graduate school

Graduate school	Asian	Dutch	European	South American
BSS	4.9	75.6	17.1	2.4
EB	12.8	64.1	23.1	0
Hum	13.5	73.1	9.6	3.8
MS	11.7	69.3	12.3	6.7
SE	25.4	35.2	32.4	7
SS	17.2	55.2	20.7	6.9
Total	15.8	58.3	20	5.9

Table A7. Division of participants over types of contract, per graduate school

Graduate school	Employed	External	Bursary	Scholarship	MD/PhD	Spare time
BSS	73.8	7.5	3.8	10	0	5
EB	66.7	5.6	2.8	16.7	0	8.3
Hum	50	11.5	3.8	28.8	0	5.8
MS	53	6.4	6.1	14	15.5	4.9
SE	54.6	1.9	9.6	26.5	0	7.3
SS	50	6.3	12.5	25	0	6.3
Total	56	5.3	7	19.3	6.5	6

Table A8. Percentage of junior and senior survey participants, per graduate school

Graduate school	% junior	% senior
BSS	45.8	54.2
EB	51.3	48.7
Hum	47.3	52.7
MS	55.6	44.4
SE	53.5	46.5
SS	57.6	42.4
Total	53.3	46.7

Table A9. Percentage of male and female survey participants, per type of contract

Type of contract	% male	% female
Employed	38.3	61.7
External	40.4	59.6
Bursary	44.4	55.6
Scholarship	41.8	58.2
MD/PhD	38	62
Spare time	44.9	55.1
Total	40	60

Table A10. Division of participants over nationalities, per type of contract

Type of contract	Asian	Dutch	European	South American
Employed	9.4	66.2	21.5	2.9
External	4.3	89.1	6.5	0
Bursary	49.1	9.4	13.2	28.3
Scholarship	34.6	33.3	22.2	9.9
MD/PhD	2	95.9	2	0
Spare time	4.3	54.3	37	4.3
Total	16.1	58.3	19.9	5.7

Table A11. Division of participants over graduate schools, per type of contract

Type of contract	BSS	EB	Hum	MS	SE	SS
Employed	13.4	5.4	5.9	39.5	32.2	3.6
External	14.3	4.8	14.3	50	11.9	4.8
Bursary	5.5	1.8	3.6	36.4	45.5	7.3
Scholarship	5.3	3.9	9.9	30.3	45.4	5.3
MD/PhD	0	0	0	100	0	0
Spare time	8.5	6.4	6.4	34	40.4	4.3
Total	10.2	4.6	6.6	41.6	33	4.1

Table A12. Percentage of junior and senior survey participants, per type of contract

Type of contract	% junior	% senior
Employed	47.5	52.5
External	53.2	46.8
Bursary	18.8	81.3
Scholarship	92.8	7.2
MD/PhD	68.6	31.4
Spare time	2	98
Total	53.8	46.2

2. Progress and satisfaction

Satisfaction with performance, project characteristics and confidence

Table A13. Satisfaction with performance, project characteristics, and confidence – by gender

	Mean (SD) men	Mean (SD) women
Overall, I am satisfied with how I am performing in my PhD.	3.67 (.94)	3.62 (.91)
Overall, my primary supervisor is satisfied with how I am performing.	4.01 (.74)	3.96 (.71)
Overall, my daily supervisor is satisfied with how I am performing.	4.09 (.70)	4.02 (.72)
The workload in my PhD is high.	3.81 (.87)	3.87 (.85)
The complexity of my PhD project is high.	4.07 (.78)	4.02 (.80)
I am confident that I will, ever, finish my PhD.**	4.39 (.79)	4.23 (.82)
I am confident that I will be able to submit my thesis to the assessment committee before the end of my contract.*	3.07 (1.31)	2.88 (1.22)
I am confident that I will find a suitable and interesting job after I have finished my PhD.	3.74 (1.03)	3.68 (.97)

Table A14. Satisfaction with performance, project characteristics and confidence – by nationality

	Mean (SD) Asian	Mean (SD) Dutch	Mean (SD) European	Mean (SD) South American
Overall, I am satisfied with how I am performing in my PhD.	3.60 (.88)	3.69 (.90)	3.54 (.94)	3.46 (1.05)
Overall, my primary supervisor is satisfied with how I am performing.**	3.91 (.68)	4.06 (.66)	3.94 (.81)	3.74 (.92)
Overall, my daily supervisor is satisfied with how I am performing.*	3.93 (.67)	4.12 (.67)	3.99 (.74)	3.94 (.86)
The workload in my PhD is high.**	3.61 (.87)	3.83 (.85)	3.95 (.82)	4.02 (.87)
The complexity of my PhD project is high.**	3.88 (.85)	4.02 (.81)	4.15 (.70)	4.24 (.59)
I am confident that I will, ever, finish my PhD.	4.22 (.76)	4.33 (.79)	4.27 (.87)	4.26 (.83)
I am confident that I will be able to submit my thesis to the assessment committee before the end of my contract.**	3.28 (1.13)	2.89 (1.23)	2.84 (1.35)	3.09 (1.35)
I am confident that I will find a suitable and interesting job after I have finished my PhD.***	3.72 (.87)	3.83 (1.00)	3.50 (.97)	3.38 (1.09)

Notes: Answers were given on a scale of 1 (completely disagree) to 5 (completely agree).

* $p < .05$; ** $p < .01$; *** $p < .001$

Table A15. Satisfaction with performance, project characteristics and confidence – by graduate school

	Mean (SD) BSS	Mean (SD) EB	Mean (SD) Hum	Mean (SD) MS	Mean (SD) SE	Mean (SD) SS
Overall, I am satisfied with how I am performing in my PhD.	3.76 (.89)	3.72 (.76)	3.76 (.92)	3.62 (.96)	3.61 (.89)	3.71 (.84)
Overall, my primary supervisor is satisfied with how I am performing.	4.08 (.76)	3.86 (.80)	4.06 (.74)	3.99 (.69)	3.93 (.76)	4.15 (.57)
Overall, my daily supervisor is satisfied with how I am performing.	4.18 (.81)	3.94 (.80)	4.00 (.78)	4.05 (.72)	4.02 (.65)	4.18 (.58)
The workload in my PhD is high.	3.81 (.89)	3.97 (.89)	4.02 (.78)	3.85 (.89)	3.85 (.81)	3.53 (.96)
The complexity of my PhD project is high.	3.95 (.83)	4.03 (.90)	4.33 (.64)	3.99 (.86)	4.07 (.71)	4.09 (.71)
I am confident that I will, ever, finish my PhD.	4.29 (.87)	4.41 (.64)	4.31 (.74)	4.21 (.87)	4.35 (.77)	4.59 (.50)
I am confident that I will be able to submit my thesis to the assessment committee before the end of my contract.	3.09 (1.15)	2.58 (1.24)	3.13 (1.23)	2.81 (1.28)	3.08 (1.24)	3.06 (1.39)
I am confident that I will find a suitable and interesting job after I have finished my PhD.	3.76 (.87)	3.81 (.16)	3.39 (1.08)	3.86 (1.02)	3.64 (.95)	3.78 (.87)

Notes: Answers were given on a scale of 1 (completely disagree) to 5 (completely agree).

* $p < .05$; ** $p < .01$; *** $p < .001$

Table A16. Satisfaction with performance, project characteristics and confidence – by type of PhD student

	Mean employed (SD)	Mean external (SD)	Mean bursary (SD)	Mean scholarship (SD)	Mean MD/PhD (SD)	Mean spare time (SD)
Overall, I am satisfied with how I am performing in my PhD.**	3.68 (.89)	3.70 (.99)	3.50 (1.05)	3.57 (.90)	3.76 (.91)	3.14 (1.01)
Overall, my primary supervisor is satisfied with how I am performing.***	4.02 (.67)	4.00 (.68)	3.77 (.91)	4.02 (.66)	4.09 (.73)	3.36 (.87)
Overall, my daily supervisor is satisfied with how I am performing.**	4.08 (.68)	4.18 (.68)	3.96 (.84)	3.99 (.64)	4.07 (.77)	3.59 (.91)
The workload in my PhD is high.	3.84 (.86)	3.96 (.82)	3.97 (.82)	3.76 (.86)	3.94 (.81)	4.12 (.81)
The complexity of my PhD project is high.	4.07 (.79)	4.04 (.76)	4.13 (.81)	4.03 (.77)	3.98 (.89)	4.10 (.68)
I am confident that I will, ever, finish my PhD.	4.29 (.83)	4.24 (.93)	4.13 (.97)	4.26 (.73)	4.38 (.64)	4.35 (.78)
I am confident that I will be able to submit my thesis to the assessment committee before the end of my contract.***	2.96 (1.24)	2.95 (1.11)	2.90 (1.33)	3.21 (1.08)	3.14 (1.12)	1.25 (.87)
I am confident that I will find a suitable and interesting job after I have finished my PhD.***	3.68 (.98)	4.18 (1.01)	3.48 (1.06)	3.42 (.93)	4.35 (.63)	3.69 (1.10)

Notes: Answers were given on a scale of 1 (completely disagree) to 5 (completely agree).

* $p < .05$; ** $p < .01$; *** $p < .001$

Table A17. Satisfaction with performance, project characteristics and confidence – by phase of PhD project

	Mean (SD) juniors	Mean (SD) seniors
Overall, I am satisfied with how I am performing in my PhD.	3.68 (.87)	3.58 (.98)
Overall, my primary supervisor is satisfied with how I am performing.	4.02 (.64)	3.92 (.80)
Overall, my daily supervisor is satisfied with how I am performing.	4.03 (.66)	4.05 (.78)
The workload in my PhD is high.***	3.73 (.86)	3.99 (.83)
The complexity of my PhD project is high.**	3.96 (.83)	4.14 (.75)
I am confident that I will, ever, finish my PhD.	4.27 (.78)	4.30 (.83)
I am confident that I will be able to submit my thesis to the assessment committee before the end of my contract.***	3.31 (1.06)	2.55 (1.34)
I am confident that I will find a suitable and interesting job after I have finished my PhD.	3.74 (.95)	3.64 (1.04)

Notes: Answers were given on a scale of 1 (completely disagree) to 5 (completely agree).

* $p < .05$; ** $p < .01$; *** $p < .001$

Progress, considering quitting, and satisfaction with the trajectory and the supervision

Table A18. Progress, considering quitting, and satisfaction with the trajectory and the supervision – by gender

	Scale	Mean (SD) men	Mean (SD) women
Progress	1-3 (1 = will not finish in time; 2 = behind schedule, but likely still finish in time; 3 = on schedule)	2.14 (.88)	2.09 (.85)
Have you ever considered quitting your PhD project?	1-5 (1 = very often; 5 = never)	4.25 (1.04)	4.06 (1.16)
Overall, how satisfied are you with your PhD trajectory so far?***	1-5 (1 = very dissatisfied; 5 = very satisfied)	3.62 (.88)	3.58 (.89)
Overall, how satisfied are you with the supervision you receive?*	(1 = very dissatisfied; 5 = very satisfied)	3.88 (1.02)	3.72 (1.01)

Notes: * $p < .05$; ** $p < .01$; *** $p < .001$

Table A19. Progress, considering quitting, and satisfaction with the trajectory and the supervision – by nationality

	Scale	Mean (SD) Asian	Mean (SD) Dutch	Mean (SD) European	Mean (SD) South American
Progress	1-3 (1 = will not finish in time; 2 = behind schedule, but likely still finish in time; 3 = on schedule)	2.27 (.80)	2.11 (.86)	2.07 (.90)	1.91 (.81)
Have you ever considered quitting your PhD project?***	1-5 (1 = very often; 5 = never)	4.48 (.80)	4.11 (1.12)	3.93 (1.25)	4.10 (1.22)
Overall, how satisfied are you with your PhD trajectory so far?	1-5 (1 = very dissatisfied; 5 = very satisfied)	3.57 (.80)	3.66 (.88)	3.52 (.91)	3.46 (.99)
Overall, how satisfied are you with the supervision you receive?	(1 = very dissatisfied; 5 = very satisfied)	.85 (.93)	3.81 (1.00)	3.77 (1.06)	3.66 (1.08)

Notes: * $p < .05$; ** $p < .01$; *** $p < .001$

Table A20. Progress, considering quitting, and satisfaction with the trajectory and the supervision – by graduate school

	Mean (SD) BSS	Mean (SD) EB	Mean (SD) Hum	Mean (SD) MS	Mean (SD) SE	Mean (SD) SS
Progress	2.05 (.81)	2.03 (.96)	2.28 (.82)	2.04 (.82)	2.18 (.84)	2.13 (.91)
Have you ever considered quitting your PhD project?	4.33 (.99)	3.92 (1.11)	4.05 (1.11)	4.10 (1.12)	4.18 (1.11)	4.44 (.86)
Overall, how satisfied are you with your PhD trajectory so far?	3.75 (.92)	3.59 (.79)	3.60 (.94)	3.58 (.88)	3.57 (.88)	3.91 (.75)
Overall, how satisfied are you with the supervision you receive?	3.96 (.98)	4.08 (.62)	3.64 (1.25)	3.75 (1.04)	3.77 (1.01)	4.12 (.95)

Notes: * $p < .05$; ** $p < .01$; *** $p < .001$

Table A21. Progress, considering quitting, and satisfaction with the trajectory and the supervision – by type of PhD student

	Mean employed (SD)	Mean external (SD)	Mean bursary (SD)	Mean scholar-ship (SD)	Mean MD/PhD (SD)	Mean spare time (SD)
Progress ***	2.13 (.87)	1.95 (.80)	1.84 (.82)	2.43 (.74)	2.24 (.79)	1.04 (.29)
Have you ever considered quitting your PhD project? **	4.08 (1.17)	4.09 (1.23)	4.22 (.97)	4.37 (.91)	4.02 (1.23)	3.70 (1.23)
Overall, how satisfied are you with your PhD trajectory so far? ***	3.64 (.89)	3.79 (.91)	3.48 (.91)	3.59 (.79)	3.71 (.78)	2.94 (.96)
Overall, how satisfied are you with the supervision you receive? ***	3.79 (1.05)	3.74 (.92)	3.67 (.99)	3.93 (.87)	3.90 (.92)	3.14 (1.16)

Notes: * $p < .05$; ** $p < .01$; *** $p < .001$

Table A22. Progress, considering quitting, and satisfaction with the trajectory and the supervision – by phase of the project

	Scale	Mean (SD) juniors	Mean (SD) seniors
Progress***	1-3 (1 = will not finish in time; 2 = behind schedule, but likely still finish in time; 3 = on schedule)	2.44 (.72)	1.74 (.85)
Have you ever considered quitting your PhD project?***	1-5 (1 = very often; 5 = never)	4.32 (.99)	3.91 (1.20)
Overall, how satisfied are you with your PhD trajectory so far?***	1-5 (1 = very dissatisfied; 5 = very satisfied)	3.73 (.80)	3.44 (.94)
Overall, how satisfied are you with the supervision you receive?***	(1 = very dissatisfied; 5 = very satisfied)	3.96 (.92)	3.60 (1.08)

Notes: * $p < .05$; ** $p < .01$; *** $p < .001$

3. Personality

Table A23. Personality characteristics – by gender

	Mean (SD) men	Mean (SD) women
Extraversion	4.64 (1.13)	4.72 (1.15)
Neuroticism***	3.90 (1.26)	4.57 (1.26)
Openness**	5.17 (.96)	5 (.95)
Conscientiousness***	4.98 (.93)	5.31 (.86)
Agreeableness**	5.29 (.94)	5.46 (.82)

Note: Answers were given on a scale of 1 (completely disagree) to 7 (completely agree).

Table A24. Personality characteristics – by nationality

	Mean (SD) Asian	Mean (SD) Dutch	Mean (SD) European	Mean (SD) South American
Extraversion	4.38 (.96)	4.80 (1.11)	4.74 (1.24)	4.69 (1.20)
Neuroticism	4.44 (1.12)	4.12 (1.27)	4.50 (1.39)	4.87 (1.30)
Openness	5.07 (.82)	4.92 (.94)	5.34 (1.05)	5.35 (.93)
Conscientiousness	4.75 (.89)	5.30 (.88)	5.18 (.89)	5.18 (.90)
Agreeableness	5.55 (.85)	5.36 (.86)	5.40 (.92)	5.45 (.80)

Note: Answers were given on a scale of 1 (completely disagree) to 7 (completely agree).

Table A25. Personality characteristics – by graduate school

	Mean (SD) BSS	Mean (SD) EB	Mean (SD) Hum	Mean (SD) MS	Mean (SD) SE	Mean (SD) SS
Extraversion*	4.83 (1.16)	4.52 (1.40)	4.73 (.93)	4.80 (1.14)	4.51 (1.14)	4.74 (1.25)
Neuroticism	4.25 (1.26)	4.41 (1.35)	4.38 (1.30)	4.26 (1.34)	4.38 (1.27)	4.11 (1.21)
Openness***	4.92 (1)	4.85 (1.01)	5.27 (.98)	4.92 (.96)	5.17 (.90)	5.43 (1.11)
Conscientiousness*	5.42 (.91)	5.15 (.73)	5.30 (.84)	5.24 (.92)	5.06 (.90)	4.99 (1.02)
Agreeableness**	5.71 (.80)	5.33 (.97)	5.42 (.72)	5.39 (.86)	5.28 (.91)	5.59 (.90)

Note: Answers were given on a scale of 1 (completely disagree) to 7 (completely agree).

Table A26. Personality characteristics – by type of PhD student

	Mean employed (SD)	Mean external (SD)	Mean bursary (SD)	Mean scholarship (SD)	Mean MD/PhD (SD)	Mean spare time (SD)
Extraversion	4.71 (1.19)	4.81 (1)	4.40 (.96)	4.54 (1.12)	4.93 (1.06)	4.79 (1.21)
Neuroticism*	4.29 (1.27)	4.01 (1.38)	4.65 (1.17)	4.48 (1.28)	4.03 (1.24)	4.48 (1.37)
Openness**	4.01 (1)	5.21 (.84)	5.15 (.91)	5.21 (.90)	4.65 (.95)	5.28 (.90)
Conscientiousness***	5.22 (.86)	5.40 (.98)	4.98 (.80)	4.88 (.94)	5.38 (.88)	5.21 (.99)
Agreeableness	5.35 (.91)	5.36 (.87)	5.44 (.75)	5.47 (.82)	5.39 (.92)	5.41 (.97)

Note: Answers were given on a scale of 1 (completely disagree) to 7 (completely agree).

Table A27. Personality characteristics – by junior/senior

	Mean (SD)	Mean (SD)
Extraversion	4.62 (1.16)	4.75 (1.12)
Neuroticism	4.30 (1.29)	4.32 (1.30)
Openness	5.08 (.94)	5.05 (.98)
Conscientiousness*	5.10 (.89)	5.25 (.92)
Agreeableness	5.38 (.86)	5.42 (.90)

Note: Answers were given on a scale of 1 (completely disagree) to 7 (completely agree).

4. Mental health

General Health Questionnaire (GHQ)

Table A28. Percentage of PhD students who experience a GHQ symptom – by gender

		% Men (<i>n</i> = 371)	% Women (<i>n</i> = 553)
GH1**	Have you lost sleep over worry?	28	36.9
GH2	Have you felt under constant strain?	43.4	49.6
GH3	Have you been able to concentrate on your work?	37.2	41
GH4	Have you felt that you are playing a useful part in things?	23.2	27.1
GH5	Have you been able to face your problems?	19.7	25.4
GH6*	Have you felt capable of making decisions about things?	18.1	24.4
GH7	Have you felt you couldn't overcome your difficulties?	30.5	35.8
GH8	All things considered, have you been feeling reasonably happy?	27.8	31.1
GH9	Have you been able to enjoy your normal day-to-day activities?	30.2	32.3
GH10	Have you been feeling unhappy and depressed?	32.7	36.3
GH11*	Have you been losing confidence in yourself?	30.5	37.6
GH12*	Have you been thinking of yourself as a worthless person?	17.3	23.1
GHQ2+**	Experiencing two or more GHQ symptoms	56.3	66
GHQ4+**	Experiencing four or more GHQ symptoms	35.6	44.9

*Significant difference, $p < .05$

** $p < .01$

*** $p < .001$

Table A29. Percentage of PhD students who experience a GHQ symptom – by nationality

		Dutch (<i>n</i> = 503)	European (<i>n</i> = 173)	Asian (<i>n</i> = 136)	South American (<i>n</i> = 50)
GH1	Have you lost sleep over worry?	32.8	34.1	27.9	34
GH2	Have you felt under constant strain?	46.8	49.1	37.5	58
GH3**	Have you been able to concentrate on your work?	41.7	36.4	27.2	50
GH4**	Have you felt that you are playing a useful part in things?	21.9	34.1	22.1	38
GH5	Have you been able to face your problems?	21.7	26.7	20.7	26
GH6	Have you felt capable of making decisions about things?	23.3	21.4	16.9	28
GH7*	Have you felt you couldn't overcome your difficulties?	31	36.4	31.6	50
GH8	All things considered, have you been feeling reasonably happy?	28.6	31.8	26.5	34
GH9	Have you been able to enjoy your normal day-to-day activities?	27.6	35.8	32.4	38
GH10	Have you been feeling unhappy and depressed?	32.8	37.6	34.8	32
GH11	Have you been losing confidence in yourself?	31.8	37	35.6	46
GH12	Have you been thinking of yourself as a worthless person?	17.3	22	21.3	30
GHQ2+	Experiencing two or more GHQ symptoms	60.3	64.5	57.9	76
GHQ4+	Experiencing four or more GHQ symptoms	39.1	45.9	35.3	50

* $p < .05$

** $p < .01$

*** $p < .001$

Table A30. Percentage of PhD students who experience a GHQ symptom – by graduate school

		BSS (n = 84)	EB (n = 39)	Hum (n = 55)	GSMS (n = 359)	GSSE (n = 275)	SS (n = 34)
GH1	Have you lost sleep over worry?	34.5	33.3	29.1	34.8	30.9	38.2
GH2	Have you felt under constant strain?	50	51.3	49.1	49.2	42.9	38.2
GH3	Have you been able to concentrate on your work?	40.5	48.7	41.8	41.2	36.4	47.1
GH4	Have you felt that you are playing a useful part in things?	22.6	28.2	14.5	26.5	25.5	29.4
GH5	Have you been able to face your problems?	21.4	17.9	25.5	23.2	21.8	29.4
GH6	Have you felt capable of making decisions about things?	27.4	17.9	21.8	26.2	16.7	23.5
GH7	Have you felt you couldn't overcome your difficulties?	27.4	25.6	32.7	35.4	33.1	35.3
GH8	All things considered, have you been feeling reasonably happy?	27.4	25.6	30.9	31.2	28.4	29.4
GH9	Have you been able to enjoy your normal day-to-day activities?	32.1	43.6	27.3	27	34.2	32.4
GH10	Have you been feeling unhappy and depressed?	34.5	33.3	29.1	35.4	36.1	35.3
GH11	Have you been losing confidence in yourself?	33.3	41	41.8	34	35.3	30.3
GH12	Have you been thinking of yourself as a worthless person?	16.7	15.4	21.8	22	20.4	23.5
GHQ2+	Experiencing two or more GHQ symptoms	69	64.1	56.4	61.8	59.9	60.6
GHQ4+	Experiencing four or more GHQ symptoms	42.9	46.2	36.4	43	38.7	36.4

Table A31. Percentage of PhD students who experience a GHQ symptom – by type of contract

		Employed (n = 473)	External (n = 47)	Bursary (n = 64)	PhD scholarship (n = 182)	MD/PhD (n = 51)	Finishing in spare time (n = 50)
GH1*	Have you lost sleep over worry?	31.9	34	39.1	28	39.2	54
GH2	Have you felt under constant strain?	46.3	47.8	51.6	46.7	41.2	60
GH3	Have you been able to concentrate on your work?	40	31.9	45.3	37.4	33.3	58
GH4	Have you felt that you are playing a useful part in things?	25	23.4	28.1	29.1	21.6	36
GH5*	Have you been able to face your problems?	19.5	27.7	23.8	28	27.5	38.8
GH6	Have you felt capable of making decisions about things?	21.1	25.5	25	22.5	25.5	24
GH7	Have you felt you couldn't overcome your difficulties?	30.2	27.7	45.3	33	31.4	46
GH8***	All things considered, have you been feeling reasonably happy?	24.7	31.9	37.5	34.6	25.5	54
GH9***	Have you been able to enjoy your normal day-to-day activities?	27.7	25.5	50	34.6	23.5	50
GH10**	Have you been feeling unhappy and depressed?	32.4	29.8	39.7	34.1	33.3	60
GH11**	Have you been losing confidence in yourself?	31.9	21.3	40.6	37	35.3	58
GH12	Have you been thinking of yourself as a worthless person?	18.8	17	25	24.2	19.6	32
GHQ2+**	Experiencing two or more GHQ symptoms	58.4	63	79	62.4	54.9	81.6
GHQ4+***	Experiencing four or more GHQ symptoms	38.1	32.6	45.2	42.5	45.1	71.4

Table A32. Percentage of PhD students who experience a GHQ symptom – by phase of the project

		% junior (n = 494)	% senior (n = 429)
GH1*	Have you lost sleep over worry?	29.8	37.8
GH2**	Have you felt under constant strain?	43.1	52.6
GH3**	Have you been able to concentrate on your work?	35	45.5
GH4	Have you felt that you are playing a useful part in things?	24.3	27.7
GH5	Have you been able to face your problems?	22.9	24.1
GH6	Have you felt capable of making decisions about things?	20.9	23.5
GH7**	Have you felt you couldn't overcome your difficulties?	29.4	38.2
GH8**	All things considered, have you been feeling reasonably happy?	25.1	35.4
GH9*	Have you been able to enjoy your normal day-to-day activities?	27.7	35.4
GH10*	Have you been feeling unhappy and depressed?	31.6	38.6
GH11*	Have you been losing confidence in yourself?	30.4	39.4
GH12*	Have you been thinking of yourself as a worthless person?	18	24
GHQ2+**	Experiencing two or more GHQ symptoms	57.1	68
GHQ4+**	Experiencing four or more GHQ symptoms	35.8	48

Self-rated mental health

Table A33. Self-rated mental health, by gender

	Mean (<i>SD</i>) men	Mean (<i>SD</i>) women
Self-rated mental health during PhD*	7.15 (1.88)	6.87 (1.74)
Self-rated mental health during BaMa***	7.93 (1.31)	7.51 (1.51)

Table A34. Self-rated mental health, by nationality

	Mean (<i>SD</i>) Dutch	Mean (<i>SD</i>) European	Mean (<i>SD</i>) Asian	Mean (<i>SD</i>) South American
Self-rated mental health during PhD**	7.17 (1.60)	6.64 (2.11)	6.96 (1.75)	6.52 (2.22)
Self-rated mental health during BaMa*	7.73 (1.20)	7.39 (1.86)	7.79 (1.33)	7.74 (1.65)

Table A35. Self-rated mental health, by graduate school

	BSS	EB	Hum	GSMS	GSSE	SS
Self-rated mental health during PhD	6.98 (1.56)	7.14 (1.72)	6.79 (1.92)	7.04 (1.88)	6.95 (1.79)	7 (1.89)
Self-rated mental health during BaMa	7.41 (1.43)	7.71 (1.63)	7.69 (1.44)	7.75 (1.42)	7.68 (1.46)	7.69 (1.61)

Table A36. Self-rated mental health, by type of PhD

	Employed (<i>n</i> = 473)	External (<i>n</i> = 47)	Bursary (<i>n</i> = 64)	PhD scholarship (<i>n</i> = 182)	MD/PhD (<i>n</i> = 51)	Finishing in spare time (<i>n</i> = 50)
Self-rated mental health during PhD**	7.05 (1.79)	7.05 (1.69)	6.39 (1.85)	6.92 (1.79)	7.44 (1.90)	6.35 (1.80)
Self-rated mental health during BaMa	7.62 (1.45)	7.62 (1.52)	8.07 (1.35)	7.56 (1.53)	8.09 (.94)	7.62 (1.50)

Table A37. Self-rated mental health, by phase of the project

	Mean (<i>SD</i>) junior	Mean (<i>SD</i>) senior
Self-rated mental health during PhD***	7.19	6.71
Self-rated mental health during BaMa*	7.57	7.81

Does a PhD affect your mental health?

Table A38. In your experience, does doing a PhD affect your mental health? (%) – by gender

	No	Large negative	Small negative	Sometimes negative, sometimes positive	Small positive	Large positive
Men	8.1	11.1	15	42.6	13.1	10
Women	6.2	10.8	14	50.8	11.2	6.9

Table A39. In your experience, does doing a PhD affect your mental health? (%) – by nationality

	No	Large negative	Small negative	Sometimes negative, sometimes positive	Small positive	Large positive
Dutch	8.3	8.5	17.5	45.2	13.7	6.9
European	4.3	16.6	14.7	46	8	10.4
Asian	4.5	7.6	6.1	56.1	15.9	9.8
South American	2.2	19.6	17.4	47.8	4.3	8.7

Table A40. In your experience, does doing a PhD affect your mental health? (%) – by graduate school

	No	Large negative	Small negative	Sometimes negative, sometimes positive	Small positive	Large positive
BSS	8.5	8.5	11	48.8	11	12.2
EB	7.7	15.4	23.1	35.9	10.3	7.7
Hum	1.9	14.8	13	50	9.3	11.1
GSMS	8.2	9.9	14.2	49	13.6	5.1
GSSE	5	10.4	16.5	46.9	10.8	10.4
SS	12.1	12.1	12.1	45.5	12.1	6.1

Table A41. In your experience, does doing a PhD affect your mental health? (%) – by type of PhD student

	No	Large negative	Small negative	Sometimes negative, sometimes positive	Small positive	Large positive
Employed	7.2	12.6	15	43	13.7	8.7
External	4.3	4.3	10.6	51.1	14.9	14.9
Bursary	3.3	15	16.7	58.3	3.3	3.3
Scholarship	5.9	4.1	12.4	57.1	11.8	8.8
MD/PhD	14	10	12	48	10	6
Spare time	0	29.2	27.1	33.3	2.1	8.3

Table A42. In your experience, does doing a PhD affect your mental health? (%) – by phase of the project

	No	Large negative	Small negative	Sometimes negative, sometimes positive	Small positive	Large positive
Junior	9.1	4.7	11.6	52.2	13.7	8.7
Senior	4.3	17.6	18.1	42.4	10	7.6

Which aspects of doing a PhD negatively aspect your mental health?

Table A43. Which aspects negatively affect your mental health? – by gender

	% mentioned by men	% mentioned by women
Insecurities about own capabilities	32	49
Problems with work/life balance	42	42
Not achieving good results or doubts about achieving good results	35	41
Not being able to finish in time or doubts about being able to finish in time	33	41
High workload	35	38
Insecurities about future career	33	30
Issues due to practical setbacks in the project	27	34
Publication pressure	28	30
High level of competition in academia	20	20
Problems with supervisor(s)	13	20
Problems with colleague(s)	4	7

Table A44. Which aspects negatively affect your mental health? (%) – by nationality

	% mentioned by Dutch	% mentioned by European	% mentioned by Asian	% mentioned by South American
Insecurities about own capabilities	42	47	35	58
Problems with work/life balance	41	46	43	48
Not achieving good results or doubts about achieving good results	35	42	42	56
Not being able to finish in time or doubts about being able to finish in time	37	35	43	42
High workload	41	32	29	40
Insecurities about future career	26	38	29	54
Issues due to practical setbacks in the project	31	35	30	38
Publication pressure	25	30	35	38
High level of competition in academia	17	28	17	26
Problems with supervisor(s)	18	17	12	20
Problems with colleague(s)	3	12	4	8

Table A45. Which aspects negatively affect your mental health? – by graduate school

	BSS	EB	Hum	GSMS	GSSE	SS
Insecurities about own capabilities	54	46	60	40	39	41
Problems with work/life balance	42	49	49	41	41	47
Not achieving good results or doubts about achieving good results	38	36	36	34	46	44
Not being able to finish in time or doubts about being able to finish in time	31	41	47	41	35	29
High workload	37	38	42	38	35	38
Insecurities about future career	30	41	49	25	34	24
Issues due to practical setbacks in the project	35	31	31	31	34	26
Publication pressure	14	31	25	31	31	32
High level of competition in academia	18	23	31	16	20	18
Problems with supervisor(s)	13	21	24	16	17	15
Problems with colleague(s)	2	3	0	6	7	9

Table A46. Which aspects negatively affect your mental health? – by type of PhD student

	Employed	External	Bursary	Scholarship	MD/PhD	Spare time
Insecurities about own capabilities	41	43	42	47	33	48
Problems with work/life balance	40	40	55	41	37	62
Not achieving good results or doubts about achieving good results	37	23	52	44	29	50
Not being able to finish in time or doubts about being able to finish in time	33	45	56	34	55	62
High workload	36	43	41	33	39	46
Insecurities about future career	34	17	38	33	8	44
Issues due to practical setbacks in the project	34	23	41	29	25	36
Publication pressure	26	30	38	35	24	36
High level of competition in academia	21	9	19	23	8	28
Problems with supervisor(s)	18	26	19	10	18	32
Problems with colleague(s)	7	0	3	5	2	4

Table A47. Which aspects negatively affect your mental health? – by phase of the project

	% mentioned by juniors	% mentioned by seniors
Insecurities about own capabilities	40.1	45.7
Problems with work/life balance	37	48.5
Not achieving good results or doubts about achieving good results	35.2	42.7
Not being able to finish in time or doubts about being able to finish in time	28.3	48.7
High workload	33.4	41.3
Insecurities about future career	24.5	39.4
Issues due to practical setbacks in the project	27.1	36.1
Publication pressure	24.1	35
High level of competition in academia	17	22.6
Problems with supervisor(s)	11.3	23.3
Problems with colleague(s)	5.1	6.1

Mental health and career

Career aspirations

Table A48. Career aspirations – by gender

	% men (<i>n</i> = 352)	% women (<i>n</i> = 528)
Definitely inside	17.9	13.4
Probably inside	29.8	22.9
Don't know yet	20.2	27.5
Probably outside	17.6	23.9
Definitely outside	14.5	12.3

Table A49. Career aspirations – by nationality

	Asian (<i>n</i> = 132)	Dutch (<i>n</i> = 475)	European (<i>n</i> = 162)	South-American (<i>n</i> = 50)
Definitely inside	26.5	9.9	16.7	20
Probably inside	32.6	27.4	17.9	20
Don't know yet	19.7	24.8	26.5	22
Probably outside	14.4	26.7	17.9	16
Definitely outside	6.8	11.2	21	22

Table A50. Career aspirations – by graduate school

	BSS (<i>n</i> = 80)	EB (<i>n</i> = 38)	Hum (<i>n</i> = 53)	MS (<i>n</i> = 339)	FSE (<i>n</i> = 269)	SS (<i>n</i> = 34)
Definitely inside	11.3	10.5	17	15	16.4	17.2
Probably inside	26.3	26.3	30.2	25.4	24.2	31
Don't know yet	30	21.1	18.9	22.4	26	17.2
Probably outside	26.3	23.7	24.5	23	17.1	34.5
Definitely outside	6.3	18.4	9.4	14.2	16.4	0

Table A51. Career aspirations – by type of contract

	Employed (<i>n</i> = 457)	External (<i>n</i> = 47)	Bursary (<i>n</i> = 64)	Scholarship (<i>n</i> = 181)	MD/PhD (<i>n</i> = 50)	Spare timers (<i>n</i> = 50)
Definitely inside	12	7.5	30	20.7	12.8	11.1
Probably inside	26	22.5	20	27.9	29.8	22.2
Don't know yet	24.7	27.5	25	26.8	23.4	6.7
Probably outside	22.5	30	15	16.8	21.3	28.9
Definitely outside	14.7	12.5	10	7.8	12.8	31.1

Table A52. Career aspirations – by phase of the project

	Junior (<i>n</i> = 478)	Senior (<i>n</i> = 419)
Definitely inside	15.9	13.5
Probably inside	25.5	25.4
Don't know yet	30.1	18
Probably outside	19.7	25.2
Definitely outside	8.8	18

Mental health expectations within and outside academia

Table A53. Expectations regarding mental health for a career within academia and outside academia – by gender

	Men		Women	
	% inside	% outside	% inside	% outside
I expect my mental health to get worse	20.4	5.9	21.8	3.1
I expect no change in my mental health	41.1	32.7	38.9	31.8
I expect my mental health to improve	26.4	44.1	20.5	50
I don't know	12	17.3	18.8	15.1

Table A54. Expectations regarding mental health for a career within academia and outside academia – by gender

	Asian		Dutch		European		% inside	% outside
	% inside	% outside	% inside	% outside	% inside	% outside		
I expect my mental health to get worse	7.5	5.1	23.1	2.6	29.8	8.7	16.7	2
I expect no change in my mental health	26.1	19.9	48.2	41.7	30.4	21.5	29.2	16
I expect my mental health to improve	50	47.1	15.5	44.9	14.9	48.3	45.8	72
I don't know	16.4	27.9	13.3	10.8	25	21.5	8.3	10

Table A55. Expectations regarding mental health for a career within academia and outside academia – by graduate school

	BSS		EB		Hum		MS		FSE		SS	
	% in	% out	% in	% out	% in	% out	% in	% out	% in	% out	% in	% out
I expect my mental health to get worse	23.8	1.2	30.8	7.7	25.9	5.6	20.1	3.1	21.6	4	14.7	5.9
I expect no change in my mental health	45.2	39.8	46.2	25.6	31.5	24.1	45.3	37.1	34.3	26.9	44.1	41.2
I expect my mental health to improve	14.3	44.6	12.8	61.5	22.2	53.7	21	47.8	27.2	46.5	32.4	38.2
I don't know	16.7	14.5	10.3	5.1	20.4	16.7	13.6	12.1	16.8	22.5	8.8	14.7

Table A56. Expectations regarding mental health for a career within academia and outside academia – by type of contract

	Employed		External		Bursary		Scholarship		MD/PhD		Spare timers	
	% in	% out	% in	% out	% in	% out	% in	% out	% in	% out	% in	% out
I expect my mental health to get worse	24.4	3.8	17	0	7.8	3.1	20.4	6.6	14	6.1	29.2	0
I expect no change in my mental health	42.3	31.8	42.6	53.2	29.7	18.8	34.8	27.6	54	49	35.4	20
I expect my mental health to improve	18.4	48.8	21.3	29.8	53.1	68.8	24.9	44.8	26	38.8	18.8	70
I don't know	14.9	15.9	19.1	17	9.4	9.4	19.9	21	6	6.1	16.7	10

Table A57. Expectations regarding mental health for a career within academia and outside academia – by phase of the project

	Junior		Senior	
	Inside	Outside	Inside	Outside
I expect my mental health to get worse	18	4.7	25.1	3.7
I expect no change in my mental health	44.5	36.9	34.6	26.7
I expect my mental health to improve	21.4	40.9	24.8	56.2
I don't know	16.1	17.5	15.5	13.3

Career worries: frequency

Table A58. Frequency of career worries – by gender

	% men	% women
Never	5.7	4.3
Rarely	18.6	21
Sometimes	43.4	39.8
Often	27.8	24.8
All the time	4.6	10.1

Table A59. Frequency of career worries – by nationality

	% Asian	% Dutch	% European	% South-American
Never	7.4	5.4	4	0
Rarely	15.4	24.7	15	16
Sometimes	51.5	43.3	35.3	16
Often	20.6	22.7	35.3	38
All the time	5.1	4	10.4	30

Table A60. Frequency of career worries – by graduate school

	BSS	EB	Hum	MS	FSE	SS
Never	3.6	2.6	1.8	5.8	4.7	8.8
Rarely	31	20.5	21.8	20.3	17.1	23.5
Sometimes	44	35.9	38.2	38.4	44	47.1
Often	17.9	33.3	23.6	27	27.3	14.7
All the time	3.6	7.7	14.5	8.4	6.9	5.9

Table A61. Frequency of career worries – by type of contract

	Employed	External	Bursary	Scholarship	MD/PhD	Spare timers
Never	4.2	17	4.7	3.3	5.9	2
Rarely	19.7	27.7	14.1	19.2	27.5	16
Sometimes	43.6	27.7	39.1	44.5	33.3	30
Often	24.9	19.1	28.1	27.5	31.4	32
All the time	7.6	8.5	14.1	5.5	2	20

Table A62. Frequency of career worries – by phase of the project

	Junior	Senior
Never	5.9	4
Rarely	25.7	14
Sometimes	42.5	38.5
Often	21.1	32.4
All the time	4.9	11.2

Career worries: what type of worries

Table A63. Types of career worries – percentage by gender

	% men	% women
The high competition to obtain the job that I want	40	42
Being unsure if I am good enough for the kind of job I want	32	42
Not knowing what kind of career I want	32	40
The work/life balance in my future job	31	35
Having to move to another place for a new job	28	22
Feeling unprepared for the job that I want	23	24
Having to start a new job already while my PhD thesis isn't finished yet	20	24
Being insecure about my skills in writing application letters and/or doing job interviews	13	14

Table A64. Types of career worries – percentage by nationality

	% Asian	% Dutch	% European	% South-American
The high competition to obtain the job that I want	43	35	47	64
Being unsure if I am good enough for the kind of job I want	43	32	44	48
Not knowing what kind of career I want	21	39	47	32
The work/life balance in my future job	33	30	37	44
Having to move to another place for a new job	16	23	26	44
Feeling unprepared for the job that I want	23	18	29	44
Having to start a new job already while my PhD thesis isn't finished yet	15	23	25	26
Being insecure about my skills in writing application letters and/or doing job interviews	17	10	17	24

Table A65. Types of career worries – percentage by graduate school

	BSS	EB	Hum	MS	FSE	SS
The high competition to obtain the job that I want	45	36	45	39	43	26
Being unsure if I am good enough for the kind of job I want	31	38	31	40	41	26
Not knowing what kind of career I want	29	51	31	40	37	18
The work/life balance in my future job	30	31	18	37	33	18
Having to move to another place for a new job	20	28	15	25	25	18
Feeling unprepared for the job that I want	11	23	24	25	25	15
Having to start a new job already while my PhD thesis isn't finished yet	19	21	27	24	19	26
Being insecure about my skills in writing application letters and/or doing job interviews	10	18	18	15	15	6

Table A66. Types of career worries – percentage by type of contract

	Employed	External	Bursary	Scholarship	MD/PhD	Spare timers
The high competition to obtain the job that I want	40	19	36	52	51	42
Being unsure if I am good enough for the kind of job I want	40	21	38	42	29	36
Not knowing what kind of career I want	42	32	27	32	31	38
The work/life balance in my future job	31	21	41	34	53	42
Having to move to another place for a new job	26	11	25	25	24	20
Feeling unprepared for the job that I want	24	2	25	24	24	28
Having to start a new job already while my PhD thesis isn't finished yet	23	21	20	19	27	42
Being insecure about my skills in writing application letters and/or doing job interviews	14	6	14	15	12	14

Table A67. Types of career worries – percentage by phase of the project

	% junior	% senior
The high competition to obtain the job that I want	39	44
Being unsure if I am good enough for the kind of job I want	36	40
Not knowing what kind of career I want	32	43
The work/life balance in my future job	30	37
Having to move to another place for a new job	22	27
Feeling unprepared for the job that I want	19	28
Having to start a new job already while my PhD thesis isn't finished yet	14	32
Being insecure about my skills in writing application letters and/or doing job interviews	13	15

5. Support at the University

Hypothetically talking about mental health problems

Table A68. Statements about talking about (hypothetical) mental health problems – by gender

	Men		Women	
	Mean	SD	Mean	SD
If I were to experience mental health problems, I would know whom I could talk to at the university.	2.83	1.27	2.78	1.27
If I were to experience mental health problems, I would like to talk about it with someone at the university.	3.36	1.13	3.28	1.10
If I were to experience mental health problems, I would talk about this with my primary supervisor.**	3.23	1.23	2.95	1.19
My primary supervisor would act supportively if I told him/her I am experiencing mental health problems.*	3.98	.96	3.81	1.03
If I were to experience mental health problems, I would talk about this with my daily supervisor.*	3.60	1.15	3.41	1.21
My daily supervisor would act supportively if I told him/her I am experiencing mental health problems.	4.09	.93	3.97	1.03

Table A69. Statements about talking about (hypothetical) mental health problems – by nationality

	Asian		Dutch		European		South American	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
If I were to experience mental health problems, I would know whom I could talk to at the university.*	3.18	1.29	2.74	1.19	2.71	1.35	2.79	1.40
If I were to experience mental health problems, I would like to talk about it with someone at the university.*	3.57	1.02	3.10	1.11	3.44	1.07	3.76	1.09
If I were to experience mental health problems, I would talk about this with my primary supervisor.	3.27	1.09	3.09	1.22	2.90	1.21	2.96	1.31
My primary supervisor would act supportively if I told him/her I am experiencing mental health problems.	4.09	.79	3.85	1.02	3.87	1.02	3.73	1.14
If I were to experience mental health problems, I would talk about this with my daily supervisor.	3.51	1.04	3.52	1.17	3.45	1.22	3.27	1.42
My daily supervisor would act supportively if I told him/her I am experiencing mental health problems.	3.97	.98	4.03	.97	4.03	.97	3.86	1.38

Table A70. Statements about talking about (hypothetical) mental health problems – by graduate school

	BSS		FEB		Hum		MS		FSE		SS	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
If I were to experience mental health problems, I would know whom I could talk to at the university.*	3.23	1.20	3.08	1.30	2.94	1.19	2.57	1.25	2.82	1.29	3.15	1.23
If I were to experience mental health problems, I would like to talk about it with someone at the university.*	3.16	1.05	3.67	1.06	3.44	1.09	3.15	1.18	3.48	1.03	3.85	.93
If I were to experience mental health problems, I would talk about this with my primary supervisor.	3.05	1.22	2.97	1.29	3.10	1.17	2.99	1.23	3.13	1.21	3.27	1.18
My primary supervisor would act supportively if I told him/her I am experiencing mental health problems.	4.00	.97	3.77	.99	3.90	.96	3.83	1.03	3.93	.96	4.06	.98
If I were to experience mental health problems, I would talk about this with my daily supervisor.	3.57	1.23	3.28	1.28	3.51	1.14	3.50	1.22	3.45	1.15	3.90	.91
My daily supervisor would act supportively if I told him/her I am experiencing mental health problems.*	4.24	.87	3.72	1.09	3.95	1.15	3.99	.99	3.99	.96	4.55	.51

Table A71. Statements about talking about (hypothetical) mental health problems – by type of contract

	Employed		External		Bursary		Scholarship		MD/PhD		Spare timers	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
If I were to experience mental health problems, I would know whom I could talk to at the university.	2.75	1.25	2.71	1.31	2.95	1.36	3.01	1.29	2.55	1.16	2.60	1.18
If I were to experience mental health problems, I would like to talk about it with someone at the university.*	3.27	1.10	2.98	1.10	3.75	1.03	3.44	1.08	2.96	1.20	3.41	.96
If I were to experience mental health problems, I would talk about this with my primary supervisor.	2.97	1.24	3.07	1.13	3.15	1.12	3.14	1.17	3.14	1.17	2.98	1.27
My primary supervisor would act supportively if I told him/her I am experiencing mental health problems.	3.80	1.07	3.82	.84	4.04	.87	4.08	.87	3.85	.87	3.64	1.15
If I were to experience mental health problems, I would talk about this with my daily supervisor.	3.42	1.23	3.66	1.11	3.51	1.26	3.50	1.06	3.56	1.10	3.29	1.19
My daily supervisor would act supportively if I told him/her I am experiencing mental health problems.	3.97	1.05	4.05	.93	3.89	1.04	4.20	.77	3.91	.87	3.79	1.11

Table A72. Statements about talking about (hypothetical) mental health problems – by phase of the project

	Junior		Senior	
	Mean	SD	Mean	SD
If I were to experience mental health problems, I would know whom I could talk to at the university.	2.83	1.30	2.74	1.25
If I were to experience mental health problems, I would like to talk about it with someone at the university.	3.29	1.12	3.34	1.09
If I were to experience mental health problems, I would talk about this with my primary supervisor.	3.07	1.18	3.04	1.26
My primary supervisor would act supportively if I told him/her I am experiencing mental health problems.***	4.00	.91	3.75	1.09
If I were to experience mental health problems, I would talk about this with my daily supervisor.	3.53	1.16	3.42	1.22
My daily supervisor would act supportively if I told him/her I am experiencing mental health problems.***	4.14	.89	3.88	1.08

Workshop and support group attendance and helpfulness

Table A73. Workshop and support group attendance, and ratings of helpfulness – by gender

Question	Gender	Yes	No	Don't remember/prefer not to say	Helpfulness of course or support group (1-5)
Have you ever attended workshops at the university about topics related to mental health?	Men	18.9	71.4	9.7	2.73 (.87)
	Women	24.2	67.3	8.5	2.87 (.78)
Have you ever attended the fortnightly support group?	Men	.3	96.8	3	4 (<i>n</i> = 1)
	Women	2.2	96.7	1.1	3.73 (<i>n</i> = 11)

Table A74. Interest in mental health workshops and support group – by gender

Question	Gender	No	Maybe	Yes
Interest in workshops	Men	35.6	44.4	20
	Women	22	52.2	25.9
Interest in support group	Men	58.6	33.1	8.2
	Women	45.2	44.8	10
Do you think the university should have a PhD student psychologist?	Men	8.9	24.3	66.8
	Women	6.1	15.2	78.7
If there was a PhD student psychologist, would you visit him/her?	Men	16.9	37.4	45.3
	Women	8.3	35.1	57.5

Table A75. Workshop and support group attendance, and ratings of helpfulness – by nationality

Question	Nationality	No	Yes	Don't remember/prefer not to say	Helpfulness of course or support group (1-5)
Have you ever attended workshops at the university about topics related to mental health?	Asian	72.1	16.9	11	2.83 (.98) (<i>n</i> = 23)
	Dutch	66.2	24.9	8.9	2.79 (.80) (<i>n</i> = 125)
	European	74	19.7	6.4	3 (.78) (<i>n</i> = 34)
	South American	68	22	10	2.91 (.53) (<i>n</i> = 11)
Have you ever attended the fortnightly support group?	Asian	92.6	1.5	5.9	3 (1.41) (<i>n</i> = 2)
	Dutch	97.4	1.6	1	4.13 (.84) (<i>n</i> = 8)
	European	97.7	1.2	1.2	4 (<i>n</i> = 1)
	South American	98	0	2	- (<i>n</i> = 0)

Table A76. Interest in mental health workshops and support group – by nationality

Question	Nationality	No	Maybe	Yes
Interest in workshops	Asian	9.8	54.5	35.7
	Dutch	36.7	47.8	15.5
	European	23.5	52.2	24.3
	South American	16.2	45.9	37.8
Interest in support group	Asian	17.7	59.2	22.4
	Dutch	62.6	29.1	4.7
	European	48.1	44.4	7.4
	South American	26.5	57.1	16.3
Do you think the university should have a PhD student psychologist?	Asian	2.2	14	83.8
	Dutch	10.9	20.1	69
	European	2.9	21.4	75.7
	South American	2	4	94
If there was a PhD student psychologist, would you visit him/her?	Asian	3.7	31.1	65.2
	Dutch	16.8	38.6	44.6
	European	7	33.7	59.3
	South American	6.1	28.6	65.3

Table A77. Workshop and support group attendance, and ratings of helpfulness – by graduate school

Question	Graduate school	No	Yes	Don't remember/prefer not to say	Helpfulness of course or support group (1-5)
Have you ever attended workshops at the university about topics related to mental health?	BSS	59.5	29.8	10.7	2.88 (.73) (n = 25)
	EB	64.1	17.9	15.4	2.57 (.79) (n = 7)
	Hum	60	32.7	7.3	3 (.97) (n = 18)
	MS	69.6	21.7	8.6	2.78 (.71) (n = 78)
	SE	75.6	17.1	7.3	2.87 (.88) (n = 47)
	SS	55.9	32.4	11.8	3.18 (.98) (n = 11)
Have you ever attended the fortnightly support group?	BSS	97.6	2.4	0	3.50 (.71) (n = 2)
	EB	100	0	0	-
	Hum	89.1	7.3	3.6	4.75 (.50) (n = 4)
	MS	97.2	.8	1.7	2.67 (1.16) (n = 3)
	SE	97.8	.7	1.5	4 (n = 1)
	SS	94.1	2.9	2.9	4 (n = 1)

Interest in workshops and support group

Table A78. Interest in mental health workshops and support group – by graduate school

Question	Graduate school	No	Maybe	Yes
Interest in workshops	BSS	29	45.4	25.4
	EB	36.7	43.3	20
	Hum	22.2	55.6	22.2
	MS	31.8	47.7	20.6
	SE	22.6	50	27.4
	SS	36.4	36.4	27.3
Interest in support group	BSS	57.7	37.2	5.1
	EB	60.1	31.2	7.9
	Hum	34.7	44.9	20.4
	MS	53.2	37.3	9.5
	SE	46.4	44.9	8.7
	SS	60	30	10
Do you think the university should have a PhD student psychologist?	BSS	9.5	41.7	48.8
	EB	12.8	25.6	61.5
	Hum	5.5	21.8	72.7
	MS	9.5	16.4	74.1
	SE	2.9	19.3	77.8
	SS	17.6	17.6	64.7
If there was a PhD student psychologist, would you visit him/her?	BSS	9.5	41.7	48.8
	EB	15.4	25.6	59
	Hum	9.4	49.1	41.5
	MS	15.1	37.5	47.4
	SE	8.9	31	59.5
	SS	8.8	35.3	55.9

Table A79. Workshop and support group attendance, and ratings of helpfulness – by type of contract

Question	Type	No	Yes	Don't remember/p refer not to say	Helpfulness of course or support group (1-5)
Have you ever attended workshops at the university about topics related to mental health?	Employed	65.8	25.4	8.9	2.88 (.76) (n = 120)
	External	76.6	14.9	8.5	2.86 (.38) (n = 7)
	Bursary	70.3	15.6	14.1	3 (.82) (n = 10)
	Scholarship	67.6	25.8	6.6	2.81 (.95) (n = 47)
	MD/PhD	80.4	11.8	7.8	2.67 (.52) (n = 6)
	Spare time	64	18	18	2.67 (1.12) (n = 9)
Have you ever attended the fortnightly support group?	Employed	96.2	1.9	1.9	4.13 (.99) (n = 8)
	External	97.9	0	2.1	-
	Bursary	96.9	1.6	1.6	4 (n = 1)
	Scholarship	97.3	1.1	1.6	3 (.00) (n = 2)
	MD/PhD	100	0	0	-
	Spare time	100	0	0	-

Table A80. Interest in mental health workshops and support group – by type of contract

Question	Type	No	Maybe	Yes
Interest in workshops	Employed	28.7	48	23.3
	External	39.5	50	10.5
	Bursary	14	50	36
	Scholarship	18.7	52.2	29.1
	MD/PhD	40.9	43.2	15.9
	Spare time	23.1	48.7	28.2
Interest in support group	Employed	54.7	36.1	9.2
	External	53.3	35.6	11.1
	Bursary	39.3	49.2	11.5
	Scholarship	33	54.5	12.5
	MD/PhD	66	31.9	2.1
	Spare time	47.9	43.8	8.3
Do you think the university should have a PhD student psychologist?	Employed	7.2	20.5	72.3
	External	8.5	27.7	63.8
	Bursary	4.7	9.4	85.9
	Scholarship	3.3	17	79.7
	MD/PhD	17.6	9.8	72.5
	Spare time	4	14	82
If there was a PhD student psychologist, would you visit him/her?	Employed	11.6	35.4	53
	External	24.4	46.7	28.9
	Bursary	4.7	29.7	65.6
	Scholarship	6.7	31.7	61.2
	MD/PhD	18.4	40.8	40.8
	Spare time	10	40	50

Table A81. Workshop and support group attendance, and ratings of helpfulness – by phase of the project

Question	Phase	No	Yes	Don't remember/prefer not to say	Helpfulness of course or support group (1-5)
Have you ever attended workshops at the university about topics related to mental health?	Junior	71.7	20.4	7.9	2.86 (.84) (n = 101)
	Senior	66	23.8	10.2	2.79 (.81) (n = 102)
Have you ever attended the fortnightly support group?	Junior	96.4	1.2	2.4	3.20 (.84) (n = 5)
	Senior	97.2	1.6	1.1	4.14 (1.07) (n = 7)

Table A82. Interest in mental health workshops and support group – by phase of the project

Question	Phase	No	Maybe	Yes
Interest in workshops	Junior	24.2	50.3	25.5
	Senior	31.6	47.5	20.9
Interest in support group	Junior	47.2	42.6	10.2
	Senior	53.6	38	8.4
Do you think the university should have a PhD student psychologist?	Junior	8.3	20.4	71.3
	Senior	6.3	16.6	77.2
If there was a PhD student psychologist, would you visit him/her?	Junior	11.5	36.8	51.7
	Senior	12.4	35	52.6

6. Questions to PhD students who have experienced or are experiencing mental health problems

Table A83. Experience of mental health problems during the PhD (%) – by gender

	% men	% women
No, I have never experienced mental health problems that affected my work	61.1	48.7
Yes, I have experienced mental health problems	26.4	34.2
Yes, I am currently experiencing mental health problems	12.5	17.1

Table A84. Experience of mental health problems during the PhD (%) – by nationality

	% Asian	% Dutch	% European	% South American
No, I have never experienced mental health problems that affected my work	59.4	56.7	46.9	37.5
Yes, I have experienced mental health problems	32.8	28.7	32.1	41.7
Yes, I am currently experiencing mental health problems	7.8	14.6	21	20.8

Table A85. Experience of mental health problems during the PhD (%) – by graduate school

	% BSS	% EB	% Hum	% MS	% SE	% SS
No, I have never experienced mental health problems that affected my work	61	50	44.4	54.3	52.9	58.8
Yes, I have experienced mental health problems	23.2	26.3	35.2	31.7	32.8	23.5
Yes, I am currently experiencing mental health problems	15.9	23.7	20.4	14	14.3	17.6

Table A86. Experience of mental health problems during the PhD (%) – by type of contract

	% employed	% external	% bursary	% scholarship	% MD/PhD	% spare time
No, I have never experienced mental health problems that affected my work	53.4	57.8	40.7	55.2	68	34
Yes, I have experienced mental health problems	29.8	28.9	40.7	30.8	20	50
Yes, I am currently experiencing mental health problems	16.8	13.3	18.6	14	12	16

Table A87. Experience of mental health problems during the PhD (%) – by phase of the project

	% junior	% senior
No, I have never experienced mental health problems that affected my work	63.4	42.3
Yes, I have experienced mental health problems	24.2	38.9
Yes, I am currently experiencing mental health problems	12.4	18.8

Talking about mental health problems

Table A88. Talking about mental health problems (%) – by gender

	% Men	% Women
No	20	19
Yes, to my supervisor	41.9	47
Yes, to a colleague/colleagues	51.4	59.7
Yes, to the confidential advisor	6.1	6.4
Yes, to my PhD coordinator or mentor	8.8	6.8
Yes, to someone from the Student Support and Career Services	2.1	4.4
Yes, to someone from the AMD	16.9	11
Yes, to someone else	12.2	9.3

Table A89. Talking about mental health problems (%) – by nationality

	% Asian	% Dutch	% European	% South American
No	21.2	17.8	17.4	30
Yes, to my supervisor	46.4	50.2	36.8	40
Yes, to a colleague/colleagues	53.8	61.2	52.3	43.3
Yes, to the confidential advisor	1.8	4.9	13.8	3.3
Yes, to my PhD coordinator or mentor	0	8.9	8	6.7
Yes, to someone from the Student Support and Career Services	0	4.7	3.5	3.3
Yes, to someone from the AMD	7.1	15.6	14.9	13.3
Yes, to someone else	17.9	6.2	10.3	16.7

Table A90. Talking about mental health problems (%) – by graduate school

	% BSS	% EB	% Hum	% MS	% SE	% SS
No	9.4	21.1	20	19.4	21.3	28.6
Yes, to my supervisor	63.6	42.1	50	41.1	42.5	53.3
Yes, to a colleague/colleagues	62.5	52.6	63.3	64.4	50.8	35.7
Yes, to the confidential advisor	15.2	10.5	0	4.8	6.3	6.7
Yes, to my PhD coordinator or mentor	12.1	31.6	0	1.2	7.1	26.7
Yes, to someone from the Student Support and Career Services	6.3	0	13.3	3.1	3.3	0
Yes, to someone from the AMD	15.2	15.8	16.7	7.7	14.2	0
Yes, to someone else	9.1	10.5	3.3	11.9	9.4	13.3

Table A91. Talking about mental health problems (%) – by type of contract

	% employed	% external	% bursary	% scholarship	% MD/PhD	% spare time
No	16.4	21.1	28.6	24.7	18.8	18.2
Yes, to my supervisor	50	57.9	38.9	37	27.8	30.3
Yes, to a colleague/colleagues	60.3	52.6	37.1	51.9	68.8	63.6
Yes, to the confidential advisor	7.1	0	5.6	3.7	0	15.2
Yes, to my PhD coordinator or mentor	9.4	5.3	5.6	7.4	0	3
Yes, to someone from the Student Support and Career Services	4.7	0	2.9	3.9	6.3	0
Yes, to someone from the AMD	17.4	5.3	2.8	4.9	0	24.2
Yes, to someone else	7.1	10.5	22.2	12.3	22.2	0

Table A92. Talking about mental health problems (%) – by phase of the project

	% junior	% senior
No	27	14.6
Yes, to my supervisor	36.2	51
Yes, to a colleague/colleagues	51.7	60.3
Yes, to the confidential advisor	3.8	7.8
Yes, to my PhD coordinator or mentor	6.5	7.8
Yes, to someone from the Student Support and Career Services	3.4	3.8
Yes, to someone from the AMD	4.9	18.8
Yes, to someone else	9.2	11

Help outside the university

Table A93. Help outside the university – by gender

	% men	% women
No	62.1	50.5
Yes, from my GP	11.4	12.1
Yes, from a psychologist or therapist	28.6	31.9
Yes, from someone else	9.3	12.5

Table A94. Help outside the university – by nationality

	% Asian	% Dutch	% European	% South American
No	63.5	53.3	54.7	53.3
Yes, from my GP	13.5	11.7	11.6	16.7
Yes, from a psychologist or therapist	19.2	30.8	33.7	40
Yes, from someone else	15.4	9.3	8.1	16.7

Table A95. Help outside the university – by graduate school

	% BSS	% EB	% Hum	% MS	% SE	% SS
No	43.8	47.4	46.7	56.9	63.1	42.9
Yes, from my GP	6.3	5.3	13.3	11.9	12.3	14.3
Yes, from a psychologist or therapist	43.8	31.6	33.3	31.3	22.1	35.7
Yes, from someone else	9.4	26.3	6.7	10.6	10.7	7.1

Table A96. Help outside the university – by type of contract

	% employed	% external	% bursary	% scholarship	% MD/PhD	% spare time
No	49.1	47.4	65.7	68.8	62.5	60.6
Yes, from my GP	13.1	10.5	11.4	10.4	6.3	3
Yes, from a psychologist or therapist	33.6	36.8	28.6	16.9	25	30.3
Yes, from someone else	13.6	5.3	8.6	9.1	18.8	6.1

Table A97. Help outside the university – by phase of the project

	% junior	% senior
No	66.1	47.7
Yes, from my GP	7.5	14.2
Yes, from a psychologist or therapist	22.4	35.6
Yes, from someone else	8	13.8

7. Burnout and work engagement

Table A98. Means and standard deviations of the different factors of burnout and engagement – by gender

	Men (<i>n</i> = 371)		Women (<i>n</i> = 553)	
	Mean	SD	Mean	SD
Exhaustion	3.50	1.12	3.59	1.15
Cynicism	3.56	1.41	3.65	1.41
Professional efficacy	5.17	.79	5.08	.77
Vigour	4.20	1.06	4.12	.94
Dedication	4.88	1.02	4.83	.98

No significant differences.

Table A99. Means and standard deviations of the different factors of burnout and engagement – by gender – by nationality

	Asian (<i>n</i> = 136)		Dutch (<i>n</i> = 503)		European (<i>n</i> = 173)		South-American (<i>n</i> = 50)	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Exhaustion*	3.60	.99	3.43 ^a	1.11	3.68	1.27	3.97 ^b	1.04
Cynicism*	3.34 ^a	1.24	3.60 ^a	1.36	3.95 ^b	1.55	3.76	1.63
Professional efficacy	5.08	.78	5.12	.73	5.04	.83	5.12	.99
Vigour*	4.34 ^b	.79	4.13	.95	4.01 ^a	1.12	4.09	1.07
Dedication	4.80	.90	4.90	.94	4.83	1.24	4.85	.99

*^{abd} If groups have a different letter, their means differ significantly from each other.

Table A100. Means and standard deviations of the different factors of burnout and engagement – by graduate school

	BSS (<i>n</i> = 84)		FEB (<i>n</i> = 39)		Hum (<i>n</i> = 55)		MS (<i>n</i> = 359)		FSE (<i>n</i> = 275)		SS (<i>n</i> = 34)	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Exhaustion	3.46	1.19	3.63	1.18	3.52	1.13	3.47	1.13	3.65	1.08	3.41	1.32
Cynicism	3.46	1.27	4.10	1.38	3.54	1.41	3.65	1.42	3.61	1.44	3.38	1.35
Professional efficacy	5.18	.72	5.01	.85	5.20	.66	5.12	.79	5.25	.81	5.12	.77
Vigour	4.05	.95	4.03	1.18	4.22	.88	4.18	.97	4.15	.95	4.13	1.17
Dedication	4.99	.97	4.69	1.02	4.89	.92	4.84	.96	4.83	1.02	4.92	1.09

No significant differences.

Table A101. Means and standard deviations of the different factors of burnout and engagement – by type of contract

	Employed (n = 473)		External (n = 47)		Bursary (n = 64)		Scholarship (n = 182)		MD/PhD (n = 51)		Spare time (n = 50)	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Exhaustion*	3.57	1.16	3.04	1.00	4.00	.97	3.53	1.03	3.30	1.11	4.33	1.14
Cynicism*	3.69	1.44	3.15	1.48	3.81	1.37	3.33	1.21	3.69	1.26	4.43	1.52
Professional efficacy	5.11	.76	5.26	.79	5.06	.92	5.10	.75	5.12	.76	4.93	.91
Vigour*	4.10	1.00	4.49	.94	4.16	1.12	4.19	.85	4.37	1.00	3.67	1.04
Dedication*	4.82	1.02	5.21	1.02	4.67	1.01	4.94	.86	4.92	.87	4.33	1.12

Note. Significant differences:

Exhaustion: employed significantly higher than external, but significantly lower than spare timers.

External significantly lower than employed, bursary and spare timers.

Bursary significantly higher than external and MD/PhD students.

Scholarship students lower than spare timers.

MD/PhD students lower than bursary students and spare timers.

Spare timers significantly higher than employed, external, scholarship, and MD/PhD students.

Cynicism: employed higher than scholarship and spare timers.

External higher than spare timers.

Scholarship lower than employed and spare timers.

Spare timers lower than employed, external, scholarship.

Professional efficacy: no significant differences.

Vigour: spare timers lower than external, scholarship and MD/PhD.

Dedication: spare timers lower than employed, external, scholarship, MD/PhD.

Table A102. Means and standard deviations of the different factors of burnout and engagement – by phase of the project

	Junior		Senior	
	Mean	SD	Mean	SD
Exhaustion***	3.34	1.08	3.80	1.15
Cynicism***	3.23	1.26	4.05	1.44
Professional efficacy*	5.17	.73	5.03	.82
Vigour***	4.29	.91	3.98	1.05
Dedication***	5.03	.87	4.63	1.09

8. General self-efficacy, work-life balance and work-life conflict, and imposter syndrome

Table A103. Means and standard deviations of self-efficacy, work-life balance, work-life conflict, and imposter syndrome – by gender

	Men		Women	
	Mean	SD	Mean	SD
Self-efficacy**	3.80	.56	3.69	.59
Work/life balance	3.10	.96	3.18	.97
Work/life conflict	3.07	.87	3.02	.91
Imposter syndrome***	2.99	.72	3.22	.79

Table A104. Means and standard deviations of self-efficacy, work-life balance, work-life conflict, and imposter syndrome – by nationality

	Asian		Dutch		European		South American	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Self-efficacy	3.64	.57	3.78	.52	3.67	.64	3.66	.79
Work/life balance	3.15	.80	3.27	.97	3.03	.99	2.90	1.09
Work/life conflict	3.00	.77	2.96	.91	3.11	.87	3.22	.99
Imposter syndrome	3.03	.66	3.09	.77	3.26	.76	3.27	.85

Note: Significant differences:

Balance: European lower than Dutch.

Imposter: European higher than Asian.

Table A105. Means and standard deviations of self-efficacy, work-life balance, work-life conflict, and imposter syndrome – by graduate school

	BSS		FEB		Hum		MS		FSE		SS	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Self-efficacy	3.79	.56	3.83	.64	3.75	.57	3.74	.60	3.67	.56	3.86	.47
Work/life balance	3.14	1.12	3.10	.94	3.22	.99	3.18	1.00	3.15	.92	3.28	.78
Work/life conflict	2.96	.96	3.07	.87	3.09	.82	2.98	.95	3.10	.79	2.89	.87
Imposter syndrome	3.04	.75	3.27	.77	3.27	.83	3.08	.80	3.14	.74	3.05	.77

Note. No significant differences.

Table A106. Means and standard deviations of self-efficacy, work-life balance, work-life conflict, and imposter syndrome – by type of contract

	Employed		External		Bursary		Scholarship		MD/PhD		Spare timers	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Self-efficacy	3.74	.56	3.84	.59	3.62	.66	3.69	.61	3.82	.52	3.71	.51
Work/life balance*	3.26	.98	2.78	.93	2.76	.98	3.19	.85	3.33	.89	2.49	.95
Work/life conflict*	2.95	.90	3.20	.70	3.33	.86	3.01	.87	2.94	.85	3.62	.75
Imposter syndrome	3.14	.78	2.92	.83	3.17	.77	3.22	.73	3.09	.76	3.22	.77

Note: Significant differences:

Balance: employed higher than external, bursary, spare time.

Bursary lower than scholarship and MD/PhD.

Scholarship higher than spare timers.

MD/PhD higher than spare timers.

Conflict: employed lower than bursary and spare timers.

Scholarship lower than spare timers.

MD/PhD lower than spare timers.

Table A107. Means and standard deviations of self-efficacy, work-life balance, work-life conflict, and imposter syndrome – by phase of the project

	Junior		Senior	
	Mean	SD	Mean	SD
Self-efficacy	3.76	.56	3.70	.59
Work/life balance**	3.23	.91	3.04	1.02
Work/life conflict***	2.93	.86	3.17	.91
Imposter syndrome	3.14	.79	3.13	.77

9. Sociodemographic and lifestyle characteristics

Structural activities in addition to the PhD

Table A108. Structural activities in addition to the PhD – by gender (%)

	No	Yes, I have another job	Yes, I am in the board of an organization or actively involved in an organization	Yes, I am actively involved in a political party	Yes, I do volunteer work	Yes, I am an informal caregiver for a relative or other person ('mantelzorger')	Yes, I am a (semi-) professional athlete or musician	Other
Men	69.5	13.7	11.9	0.5	3.8	0.8	3.2	5.1
Women	68.5	10.5	9.4	0.4	6.3	2.7	3.1	7.6

Table A109. Structural activities in addition to the PhD – by nationality (%)

	No	Yes, I have another job	Yes, I am in the board of an organization or actively involved in an organization	Yes, I am actively involved in a political party	Yes, I do volunteer work	Yes, I am an informal caregiver for a relative or other person ('mantelzorger')	Yes, I am a (semi-) professional athlete or musician	Other
Dutch	64.0	16.7	11.5	0.8	7.2	2.4	3.4	6.6
European	72.8	8.7	8.7	0	2.9	0.6	4.0	6.9
Asian	77.9	2.2	6.6	0	2.9	2.2	2.2	6.6
South American	82.0	2.0	8.0	0	0	2.0	2.0	8.0

Table A110. Structural activities in addition to the PhD – by graduate school (%)

	No	Yes, I have another job	Yes, I am in the board of an organization or actively involved in an organization	Yes, I am actively involved in a political party	Yes, I do volunteer work	Yes, I am an informal caregiver for a relative or other person ('mantelzorger')	Yes, I am a (semi-) professional athlete or musician	Other
BSS	66.7	16.7	6.0	1.2	7.1	0	3.6	3.6
FEB	76.9	10.3	7.7	0	2.6	5.1	0	7.7
Hum	60.0	12.7	20.0	0	7.3	1.8	1.8	12.7
GSMS	66.6	14.8	10.0	0	4.2	2.2	4.2	6.7
GSSE	77.8	5.1	8.4	0	4.4	1.5	2.5	5.1
SS	50.0	17.6	20.6	5.9	17.6	5.9	0	8.8

Table A111. Structural activities in addition to the PhD – by type of contract (%)

	No	Yes, I have another job	Yes, I am in the board of an organization or actively involved in an organization	Yes, I am actively involved in a political party	Yes, I do volunteer work	Yes, I am an informal caregiver for a relative or other person ('mantelzorger')	Yes, I am a (semi-) professional athlete or musician	Other
Employed	78.6	5.3	7.8	0.4	3.8	0.6	3.0	4.2
External	17.0	68.1	21.3	0	21.3	6.4	4.3	10.6
Bursary	70.3	7.8	7.8	0	1.6	1.6	1.6	10.9
Scholarship	75.3	3.3	15.4	0.5	7.7	1.1	3.3	1.6
MD/PhD	54.9	13.7	11.8	0	0	2.0	2.0	17.6
Spare time	48.0	28.0	10.0	2.0	4.0	8.0	6.0	12.0

Table A112. Structural activities in addition to the PhD – by phase (%)

	No	Yes, I have another job	Yes, I am in the board of an organization or actively involved in an organization	Yes, I am actively involved in a political party	Yes, I do volunteer work	Yes, I am an informal caregiver for a relative or other person ('mantelzorger')	Yes, I am a (semi-) professional athlete or musician	Other
Junior	70.4	10.3	11.1	0.6	6.3	1.2	3.2	4.5
Senior	66.4	14.0	10.0	0.2	4.2	2.8	3.0	9.3

Relationship/marital status

Table A113. Relationship/marital status – by gender (%)

	Single	In a relationship of < 6 months	In a relationship of > 6 months	Married	Prefer not to say	Other
Men	29.6	4.6	41.5	22.4	1.1	0.8
Women	26.8	4.5	50.1	16.3	0.5	1.8

Table A114. Relationship/marital status – by nationality (%)

	Single	In a relationship of < 6 months	In a relationship of > 6 months	Married	Prefer not to say	Other
Dutch	25.6	5.0	53.9	13.3	0.8	1.4
European	27.7	5.8	48.6	14.5	0.6	2.9
Asian	35.3	1.5	28.7	32.4	1.5	0.7
South American	22.0	4.0	48.0	26.0	0	0

Table A115. Relationship/marital status – by graduate school (%)

	Single	In a relationship of < 6 months	In a relationship of > 6 months	Married	Prefer not to say	Other
BSS	21.4	7.1	50.0	17.9	0	3.6
FEB	25.6	5.1	38.5	30.8	0	0
Hum	21.8	3.6	45.5	25.5	1.8	1.8
GSMS	23.7	4.7	53.5	16.7	0.3	1.1
GSSE	36.0	3.6	39.6	17.5	1.5	1.8
SS	26.5	2.9	44.1	26.5	0	0

Table A116. Relationship/marital status – by type of contract (%)

	Single	In a relationship of < 6 months	In a relationship of > 6 months	Married	Prefer not to say	Other
Employed	27.7	5.7	49.7	14.2	0.8	1.9
External	10.6	2.1	42.6	40.4	4.3	0
Bursary	20.3	4.7	34.4	39.1	0	1.6
Scholarship	39.6	3.8	43.4	11.0	1.1	1.1
MD/PhD	23.5	3.9	64.7	5.9	0	2.0
Spare time	22.0	4.0	48.0	24.0	2.0	0

Table A117. Relationship/marital status – by phase (%)

	Single	In a relationship of < 6 months	In a relationship of > 6 months	Married	Prefer not to say	Other
Junior	30.4	4.9	48.4	14.0	1.2	1.2
Senior	24.9	4.2	44.8	23.5	0.7	1.9

Children

Table A118. Do you have children? (%) – by gender

	No	Yes	Prefer not to say
Men	82.4	16.8	0.8
Women	88.4	11.4	0.2

Table A119. Do you have children? (%) – by nationality

	No	Yes	Prefer not to say
Dutch	86.9	12.7	0.4
European	91.3	8.1	0.6
Asian	77.9	22.1	-
South American	90.0	10.0	-

Table 120. Do you have children? (%) – by graduate school

	No	Yes	Prefer not to say
BSS	91.7	8.3	-
FEB	79.5	20.5	-
Hum	76.4	23.6	-
GSMS	86.6	13.2	0.3
GSSE	89.5	9.8	0.7
SS	73.5	26.5	-

Table A121. Do you have children? (%) – by type of contract

	No	Yes	Prefer not to say
Employed	91.5	8.0	0.4
External	42.6	55.3	2.1
Bursary	73.0	27.0	-
Scholarship	91.2	7.7	1.1
MD/PhD	94.1	5.9	-
Spare time	84.0	16.0	-

Table A122. Do you have children? (%) – by phase of the project

	No	Yes	Prefer not to say
Junior	90.0	9.1	0.8
Senior	81.8	18.2	-

Sleep

Table A123. On average, how many hours do you sleep per night on weekdays? (%) – by gender

	Less than 6 hours	6 to 7 hours	7 to 8 hours	More than 8 hours	Don't know
Men	6.2	40.2	45.6	7.8	0.3
Women	6.3	34.4	49.2	9.8	0.4

Table A124. On average, how many hours do you sleep per night on weekdays? (%) – by nationality

	Less than 6 hours	6 to 7 hours	7 to 8 hours	More than 8 hours	Don't know
Dutch	2.8	31.0	54.9	11.1	0.2
European	9.2	38.7	44.5	7.5	-
Asian	6.6	50.7	36.8	5.1	0.7
South American	14.0	42.0	36.0	8.0	-

Table A125. On average, how many hours do you sleep per night on weekdays? (%) – by graduate school

	Less than 6 hours	6 to 7 hours	7 to 8 hours	More than 8 hours	Don't know
BSS	4.8	28.6	53.6	13.1	-
FEB	2.6	28.2	59.0	10.3	-
Hum	7.3	32.7	49.1	7.3	3.6
GSMS	5.8	37.9	48.5	7.8	-
GSSE	6.2	38.9	46.5	8.4	-
SS	8.8	38.2	44.1	8.8	-

Table A126. On average, how many hours do you sleep per night on weekdays? (%) – by type of contract

	Less than 6 hours	6 to 7 hours	7 to 8 hours	More than 8 hours	Don't know
Employed	4.7	34.2	51.4	9.3	0.4
External	4.3	40.4	36.2	19.1	-
Bursary	20.3	46.9	29.7	3.1	-
Scholarship	6.0	35.2	51.1	7.7	-
MD/PhD	2.0	41.2	43.1	13.7	-
Spare time	8.0	50.0	34.0	8.0	-

Table A127. On average, how many hours do you sleep per night on weekdays? (%) – by phase of the project

	Less than 6 hours	6 to 7 hours	7 to 8 hours	More than 8 hours	Don't know
Junior	5.7	37.0	48.6	8.5	0.2
Senior	7.2	36.6	46.4	9.3	0.5

Sports

Table A128. Do you do sports? (%) – by gender

	No	Yes, on average one hour per week	Yes, on average 2 hours per week	Yes, on average 3 hours per week	Yes, on average 4 or more hours per week	Prefer not to say
Men	24.3	15.9	22.4	18.3	18.6	0.5
Women	16.5	20.8	23.9	21.7	16.8	0.4

Table A129. Do you do sports? (%) – by nationality

	No	Yes, on average one hour per week	Yes, on average 2 hours per week	Yes, on average 3 hours per week	Yes, on average 4 or more hours per week	Prefer not to say
Dutch	16.5	15.9	25.6	21.3	20.5	0.2
European	15.0	22.0	22.5	23.7	16.8	-
Asian	25.7	22.8	22.8	16.2	11.0	1.5
South American	36.0	28.0	14.0	14.0	6.0	2.0

Table A130. Do you do sports? (%) – by graduate school

	No	Yes, on average one hour per week	Yes, on average 2 hours per week	Yes, on average 3 hours per week	Yes, on average 4 or more hours per week	Prefer not to say
BSS	14.3	23.8	25.0	11.9	25.0	-
FEB	20.5	20.5	23.1	25.6	10.3	-
Hum	21.8	16.4	30.9	25.5	5.5	-
GSMS	18.1	19.2	23.1	21.7	17.8	-
GSSE	23.3	17.8	19.3	22.5	15.6	1.5
SS	20.6	14.7	23.5	17.6	23.5	-

Table A131. Do you do sports? (%) – by type of contract

	No	Yes, on average one hour per week	Yes, on average 2 hours per week	Yes, on average 3 hours per week	Yes, on average 4 or more hours per week	Prefer not to say
Employed	19.5	18.0	23.9	21.1	17.3	0.2
External	19.1	17.0	34.0	14.9	14.9	-
Bursary	29.7	23.4	18.8	18.8	9.4	-
Scholarship	17.0	19.8	23.6	20.3	18.1	1.1
MD/PhD	11.8	15.7	17.6	29.4	25.5	-
Spare time	22.0	20.0	28.0	12.0	18.0	-

Table A132. Do you do sports? (%) – by phase of the project

	No	Yes, on average one hour per week	Yes, on average 2 hours per week	Yes, on average 3 hours per week	Yes, on average 4 or more hours per week	Prefer not to say
Junior	18.4	18.8	21.5	21.5	19.0	0.8
Senior	21.4	18.2	24.9	19.3	15.9	0.2

Alcohol

Table A133. On average, how often do you drink alcohol (i.e. have at least one alcoholic drink)? (%) – by gender

	Never	Once every month or less	Two to four times every month	Two to three times every week	Four or more times every week	Prefer not to say
Men	11.4	13.0	35.7	29.2	10.3	0.5
Women	13.4	20.4	37.8	22.8	5.1	0.5

Table A134. On average, how often do you drink alcohol (i.e. have at least one alcoholic drink)? (%) – by nationality

	Never	Once every month or less	Two to four times every month	Two to three times every week	Four or more times every week	Prefer not to say
Dutch	8.0	15.3	38.4	29.6	8.2	0.6
European	4.0	15.0	39.9	31.8	8.7	0.6
Asian	36.3	29.6	27.4	5.2	1.5	-
South American	10.0	10.0	42.0	30.0	8.0	-

Table A135. On average, how often do you drink alcohol (i.e. have at least one alcoholic drink)? (%) – by graduate school

	Never	Once every month or less	Two to four times every month	Two to three times every week	Four or more times every week	Prefer not to say
BSS	15.5	17.9	34.5	25.0	4.8	2.4
FEB	5.3	21.1	39.5	23.7	10.5	-
Hum	7.3	18.2	41.8	23.6	7.3	1.8
GSMS	11.1	16.2	37.3	26.7	8.4	0.3
GSSE	12.7	16.4	39.6	25.1	5.5	0.7
SS	14.7	26.5	26.5	20.6	11.8	-

Table A136. On average, how often do you drink alcohol (i.e. have at least one alcoholic drink)? (%) – by type of contract

	Never	Once every month or less	Two to four times every month	Two to three times every week	Four or more times every week	Prefer not to say
Employed	10.1	18.8	37.2	25.2	7.6	1.1
External	10.6	21.3	31.9	29.8	6.4	-
Bursary	32.8	17.2	28.1	18.8	3.1	-
Scholarship	11.6	17.1	41.4	22.2	7.7	-
MD/PhD	9.8	7.8	39.2	39.2	3.9	-
Spare time	10.0	10.0	32.0	34.0	10.0	4.0

Table A137. On average, how often do you drink alcohol (i.e. have at least one alcoholic drink)? (%) – by phase of the project

	Never	Once every month or less	Two to four times every month	Two to three times every week	Four or more times every week	Prefer not to say
Junior	10.9	18.8	37.7	24.7	7.9	-
Senior	14.3	15.9	36.4	25.7	6.3	1.4

Table A138. How much do you drink on a typical day that you drink alcohol? (%) – by gender

	1 or 2 glasses	3 or 4 glasses	5 or 6 glasses	7, 8 or 9 glasses	10 glasses or more	Prefer not to say
Men	50.6	35.7	9.8	2.7	0.9	0.3
Women	68.9	26.1	3.3	0.6	-	1.0

Table A139. How much do you drink on a typical day that you drink alcohol? (%) – by nationality

	1 or 2 glasses	3 or 4 glasses	5 or 6 glasses	7, 8 or 9 glasses	10 glasses or more	Prefer not to say
Dutch	60.9	29.8	7.1	1.5	0.2	0.4
European	61.4	32.5	3.0	0.6	1.2	1.2
Asian	74.4	19.8	2.3	2.3	-	1.2
South American	42.2	46.7	8.9	2.2	-	-

Table A140. How much do you drink on a typical day that you drink alcohol? (%) – by graduate school

	1 or 2 glasses	3 or 4 glasses	5 or 6 glasses	7, 8 or 9 glasses	10 glasses or more	Prefer not to say
BSS	67.6	26.8	2.8	1.4	-	2.4
FEB	61.1	27.8	11.1	-	-	-
Hum	74.5	17.6	-	3.9	-	3.9
GSMS	57.4	32.3	7.2	2.2	-	0.9
GSSE	61.7	31.7	5.4	0.4	0.4	0.4
SS	48.3	48.3	3.4	-	-	-

Table A141. How much do you drink on a typical day that you drink alcohol? (%) – by type of contract

	1 or 2 glasses	3 or 4 glasses	5 or 6 glasses	7, 8 or 9 glasses	10 glasses or more	Prefer not to say
Employed	61.2	28.7	7.3	1.2	0.2	1.4
External	73.8	26.2	-	-	-	-
Bursary	55.8	30.2	11.6	-	-	2.3
Scholarship	59.4	33.8	2.5	3.8	0.6	-
MD/PhD	47.8	39.1	10.9	2.2	-	-
Spare time	64.4	26.7	6.7	-	-	2.2

Table A142. How much do you drink on a typical day that you drink alcohol? (%) – by phase of the project

	1 or 2 glasses	3 or 4 glasses	5 or 6 glasses	7, 8 or 9 glasses	10 glasses or more	Prefer not to say
Junior	61.6	31.6	4.8	1.6	0.2	0.2
Senior	61.3	27.8	7.4	1.4	0.5	1.6

Table A143. How often do you drink more than 6 glasses of alcohol on one day? (%) – by gender

	Never	Less than once a month	Once per month	Once per week	Two to three times per week	Prefer not to say	I don't know/remember
Men	21.6	37.7	23.7	14.0	0.9	0.3	1.8
Women	46.2	34.5	12.6	5.0	-	0.2	1.5

Table A144. How often do you drink more than 6 glasses of alcohol on one day? (%) – by nationality

	Never	Less than once a month	Once per month	Once per week	Two to three times per week	Prefer not to say	I don't know/remember
Dutch	34.0	35.1	19.9	9.5	0.6	0.2	0.6
European	36.7	33.7	18.1	8.4	-	0.6	2.4
Asian	54.0	33.3	4.6	2.3	-	-	5.7
South American	17.8	44.4	15.6	20.0	-	-	2.2

Table A145. How often do you drink more than 6 glasses of alcohol on one day? (%) – by graduate school

	Never	Less than once a month	Once per month	Once per week	Two to three times per week	Prefer not to say	I don't know/remember
BSS	47.9	33.8	12.7	4.2	-	1.4	-
FEB	45.9	32.4	16.2	5.4	-	-	-
Hum	56.9	37.3	2.0	3.9	-	-	-
GSMS	29.8	37.6	19.7	11.0	0.3	-	1.6
GSSE	32.9	39.6	16.7	7.5	0.4	0.4	2.5
SS	34.5	27.6	20.7	17.2	-	-	-

Table A146. How often do you drink more than 6 glasses of alcohol on one day? (%) – by type of contract

	Never	Less than once a month	Once per month	Once per week	Two to three times per week	Prefer not to say	I don't know/remember
Employed	36.0	36.7	17.4	8.2	0.5	0.5	0.7
External	61.9	23.8	7.1	2.4	-	-	4.8
Bursary	20.9	51.2	16.3	7.0	-	-	4.7
Scholarship	36.3	36.3	13.8	10.0	0.6	-	3.1
MD/PhD	21.7	26.1	30.4	21.7	-	-	-
Spare time	33.3	31.1	24.4	6.7	-	2.2	2.2

Table A147. How often do you drink more than 6 glasses of alcohol on one day? (%) – by phase of the project

	Never	Less than once a month	Once per month	Once per week	Two to three times per week	Prefer not to say	I don't know/remember
Junior	35.5	37.3	15.7	9.3	0.2	-	2.0
Senior	37.8	34.0	17.9	8.2	0.5	0.5	1.1

Table AUDIT1. Percentage of at/risk drinkers according to AUDIT/C criteria (high threshold) / by gender

	% men	% women
Not an at-risk drinker	90.3	68.1
At risk drinker	9.7	31.9

Table AUDIT2. Percentage of at/risk drinkers according to AUDIT/C criteria (high threshold) / by nationality

	% Asian	% Dutch	% European	% South American
Not an at-risk drinker	88.8	75.8	74.1	72.7
At risk drinker	11.3	24.2	25.9	27.3

Table AUDIT3. Percentage of at/risk drinkers according to AUDIT/C criteria (high threshold) / by graduate school

	% BSS	% EB	% Hum	% MS	% SE	% SS
Not an at-risk drinker	76.8	83.3	76.6	72.9	79.9	82.8
At risk drinker	23.2	16.7	23.4	27.1	20.1	17.2

Table AUDIT4. Percentage of at/risk drinkers according to AUDIT/C criteria (high threshold) / by type of contract

	% employed	% external	% bursary	% scholarship	% MD-PhD	% spare time
Not an at-risk drinker	75.8	90	80	75.2	68.9	82.9
At risk drinker	24.2	10	20	24.8	31.1	17.1

Table AUDIT5. Percentage of at/risk drinkers according to AUDIT/C criteria (high threshold) / by phase

	% junior	% senior
Not an at-risk drinker	76.4	77.9
At risk drinker	23.6	22.1

Significant life events

Table A148. In the last 12 months, did you experience one or more of the following life events? Multiple answers are possible. (%) – by gender

	Men	Women
Death of someone close to you	18.9	15.0
Severe problems in personal relationships	21.3	24.1
Financial problems	12.4	13.7
Severe illness of yourself or someone close to you	21.8	23.1
Being in the process of buying a house	10.5	12.7
Getting married	6.5	4.3
Expecting a child	8.1	4.0
None of these events	34.8	34.4
Prefer not to say	1.6	1.6
Other, namely	4.6	9.2

Table A149. In the last 12 months, did you experience one or more of the following life events? Multiple answers are possible. (%) – by nationality

	Dutch	European	Asian	South American
Death of someone close to you	15.5	17.3	16.2	18.0
Severe problems in personal relationships	18.7	26.0	30.9	32.0
Financial problems	5.6	17.3	19.1	30.0
Severe illness of yourself or someone close to you	24.9	17.9	18.4	28.0
Being in the process of buying a house	15.7	6.4	8.1	4.0
Getting married	3.8	6.9	7.4	8.0
Expecting a child	7.2	1.7	5.9	2.0
None of these events	38.2	36.4	27.9	24.0
Prefer not to say	1.2	0.6	2.9	-
Other, namely	6.8	6.4	6.6	16.0

Table A150. In the last 12 months, did you experience one or more of the following life events?
Multiple answers are possible. (%) – by graduate school

	BSS	FEB	Hum	GSMS	GSSE	SS
Death of someone close to you	19.0	7.7	18.2	15.9	17.5	11.8
Severe problems in personal relationships	16.7	20.5	20.0	21.7	25.1	26.5
Financial problems	9.5	12.8	16.4	12.3	13.5	11.8
Severe illness of yourself or someone close to you	22.6	33.3	23.6	21.7	18.2	17.6
Being in the process of buying a house	22.6	15.4	3.6	16.4	5.1	11.8
Getting married	8.3	7.7	-	6.4	4.0	5.9
Expecting a child	2.4	7.7	7.3	7.5	3.3	17.6
None of these events	38.1	28.2	36.4	34.0	36.7	38.2
Prefer not to say	3.6	2.6	3.6	1.1	1.8	-
Other, namely	6.0	2.6	9.1	6.4	7.6	17.6

Table A151. In the last 12 months, did you experience one or more of the following life events?
Multiple answers are possible. (%) – by type of contract

	Employed	External	Bursary	Scholarship	MD/PhD	Spare time
Death of someone close to you	15.9	25.5	20.3	12.1	21.6	16.0
Severe problems in personal relationships	19.0	21.3	20.3	33.0	15.7	30.0
Financial problems	8.7	4.3	34.4	16.5	5.9	32.0
Severe illness of yourself or someone close to you	22.8	34.0	17.2	24.7	19.6	12.0
Being in the process of buying a house	14.6	12.8	4.7	7.1	11.8	10.0
Getting married	6.3	-	6.3	2.7	2.0	6.0
Expecting a child	5.9	8.5	6.3	2.7	7.8	8.0
None of these events	36.8	42.6	26.6	31.9	49.0	22.0
Prefer not to say	1.7	-	1.6	2.2	-	-
Other, namely	7.2	6.4	10.9	6.6	5.9	12.0

Table A152. In the last 12 months, did you experience one or more of the following life events? Multiple answers are possible. (%) – by phase of the project

	Junior	Senior
Death of someone close to you	13.4	20.3
Severe problems in personal relationships	25.5	20.0
Financial problems	11.3	15.6
Severe illness of yourself or someone close to you	21.9	23.8
Being in the process of buying a house	11.3	12.6
Getting married	4.3	6.1
Expecting a child	2.8	8.9
None of these events	38.7	29.8
Prefer not to say	1.8	1.4
Other, namely	6.9	7.9

Effect of event on work

Table A153. How much did this event or these events affect your work as a PhD student (e.g. increase in absent days or decrease in concentration and productivity)? (%) – by gender

	Not at all	Hardly	Somewhat	Quite a lot	Extremely
Men	13.0	22.5	38.1	21.6	4.8
Women	5.7	16.1	44.0	27.0	7.2

Table A154. How much did this event or these events affect your work as a PhD student (e.g. increase in absent days or decrease in concentration and productivity)? (%) – by nationality

	Not at all	Hardly	Somewhat	Quite a lot	Extremely
Dutch	8.6	15.2	41.3	29.0	5.9
European	8.7	22.3	42.7	19.4	6.8
Asian	13.8	25.5	39.4	17.0	4.3
South American	5.7	14.3	45.7	22.9	11.4

Table A155. How much did this event or these events affect your work as a PhD student (e.g. increase in absent days or decrease in concentration and productivity)? (%) – by graduate school

	Not at all	Hardly	Somewhat	Quite a lot	Extremely
BSS	6.3	14.6	52.1	20.8	6.3
FEB	11.1	11.1	33.3	40.7	3.7
Hum	3.0	6.1	51.5	30.3	9.1
GSMS	11.6	18.9	38.6	24.5	6.4
GSSE	8.0	23.3	42.3	20.9	5.5
SS	-	23.8	42.9	33.3	-

Table A156. How much did this event or these events affect your work as a PhD student (e.g. increase in absent days or decrease in concentration and productivity)? (%) – by type of contract

	Not at all	Hardly	Somewhat	Quite a lot	Extremely
Employed	9.4	18.2	42.3	23.1	7.0
External	3.7	14.8	37.0	33.3	11.1
Bursary	7.0	9.3	37.2	32.6	14.0
Scholarship	6.8	23.1	42.7	24.8	2.6
MD/PhD	23.1	11.5	34.6	30.8	-
Spare time	7.7	20.5	46.2	20.5	5.1

Table A157. How much did this event or these events affect your work as a PhD student (e.g. increase in absent days or decrease in concentration and productivity)? (%) – by phase of the project

	Not at all	Hardly	Somewhat	Quite a lot	Extremely
Junior	9.7	20.8	44.6	21.8	3.1
Senior	7.6	16.2	39.7	27.6	9.0

Talking about the event

Table A158. Have you talked to your supervisor about this? (%) – by gender

	No	Yes
Men	45.0	55.5
Women	41.2	58.8

Table A159. Have you talked to your supervisor about this? (%) – by nationality

	No	Yes
Dutch	32.5	67.5
European	49.3	50.7
Asian	59.6	40.4
South American	53.6	46.4

Table A160. Have you talked to your supervisor about this? (%) – by graduate school

	No	Yes
BSS	28.9	71.1
FEB	52.4	47.6
Hum	40.0	60.0
GSMS	40.7	59.3
GSSE	49.1	50.9
SS	50.0	50.0

Table A161. Have you talked to your supervisor about this? (%) – by type of contract

	No	Yes
Employed	37.7	62.3
External	27.3	72.7
Bursary	41.7	58.3
Scholarship	56.1	43.9
MD/PhD	52.9	47.1
Spare time	39.3	60.7

Table A162. Have you talked to your supervisor about this? (%) – by phase of the project

	No	Yes
Junior	48.8	51.2
Senior	36.7	63.3

Perceived support by supervisor

Table A163. Did/do you feel supported by your supervisor(s) in dealing with the life event(s)/problem(s)? (%) – by gender

	Not at all	Hardly	Somewhat	Quite a lot	Extremely
Men	2.4	8.5	23.2	35.4	30.5
Women	4.4	5.0	32.5	43.1	15.0

Table A164. Did/do you feel supported by your supervisor(s) in dealing with the life event(s)/problem(s)? (%) – by nationality

	Not at all	Hardly	Somewhat	Quite a lot	Extremely
Dutch	3.2	7.1	25.0	43.6	21.2
European	5.6	8.3	30.6	41.7	13.9
Asian	-	-	34.8	39.1	26.1
South American	-	-	46.2	30.8	23.1

Table A165. Did/do you feel supported by your supervisor(s) in dealing with the life event(s)/problem(s)? (%) – by graduate school

	Not at all	Hardly	Somewhat	Quite a lot	Extremely
BSS	-	7.4	33.3	48.1	11.1
FEB	10.0	-	20.0	50.0	20.0
Hum	5.6	11.1	27.8	38.9	16.7
GSMS	6.3	4.2	28.1	38.5	22.9
GSSE	1.8	3.5	24.6	43.9	26.3
SS	-	12.5	37.5	25.0	25.0

Table A166. Did/do you feel supported by your supervisor(s) in dealing with the life event(s)/problem(s)? (%) – by type of contract

	Not at all	Hardly	Somewhat	Quite a lot	Extremely
Employed	2.3	7.0	25.6	41.9	23.3
External	-	12.5	37.5	50.0	-
Bursary	4.8	-	23.8	42.9	28.6
Scholarship	-	-	36.1	44.4	19.4
MD/PhD	12.5	-	37.5	37.5	12.5
Spare time	11.8	11.8	47.1	23.5	5.9

Table A167. Did/do you feel supported by your supervisor(s) in dealing with the life event(s)/problem(s)? (%) – by phase of the project

	Not at all	Hardly	Somewhat	Quite a lot	Extremely
Junior	1.9	3.9	28.2	42.7	23.3
Senior	4.3	7.9	30.7	39.3	17.9

Diagnosis

Table A168. Have you ever officially been diagnosed with a mental disorder (e.g. depression, autism spectrum disorder, AD(H)D, personality disorder)? (%) – by gender

	No	Yes	Prefer not to say
Men	88.4	9.7	1.9
Women	85.5	11.8	2.7

Table A169. Have you ever officially been diagnosed with a mental disorder (e.g. depression, autism spectrum disorder, AD(H)D, personality disorder)? (%) – by nationality

	No	Yes	Prefer not to say
Dutch	87.6	11.0	1.4
European	81.5	15.0	3.5
Asian	89.7	7.4	2.9
South American	84.0	14.0	2.0

Table A170. Have you ever officially been diagnosed with a mental disorder (e.g. depression, autism spectrum disorder, AD(H)D, personality disorder)? (%) – by graduate school

	No	Yes	Prefer not to say
BSS	81.0	11.9	7.1
FEB	87.2	10.3	2.6
Hum	85.5	12.7	1.8
GSMS	89.7	9.2	1.1
GSSE	87.6	9.2	1.1
SS	79.4	17.6	2.9

Table A171. Have you ever officially been diagnosed with a mental disorder (e.g. depression, autism spectrum disorder, AD(H)D, personality disorder)? (%) – by type of contract

	Not	Yes	Prefer not to say
Employed	86.3	11.4	2.3
External	91.5	6.4	2.1
Bursary	90.6	7.8	1.6
Scholarship	85.1	13.3	1.7
MD/PhD	94.1	5.9	-
Spare time	82.0	14.0	4.0

Table A172. Have you ever officially been diagnosed with a mental disorder (e.g. depression, autism spectrum disorder, AD(H)D, personality disorder)? (%) – by phase of the project

	Not	Yes	Prefer not to say
Junior	87.2	10.3	2.4
Senior	86.0	11.9	2.1

Evenings

Table A173. In an average week, do you work in the evenings on weekdays after 6 PM? (%) – by gender

	No	Yes, on one or two evenings	Yes, on three or four evenings	Yes, on all five weekday evenings
Men	25.6	41.2	23.2	10.0
Women	39.1	37.1	17.0	6.9

Table A174. In an average week, do you work in the evenings on weekdays after 6 PM? (%) – by nationality

	No	Yes, on one or two evenings	Yes, on three or four evenings	Yes, on all five weekday evenings
Dutch	45.9	37.8	13.1	3.2
European	26.6	38.7	23.7	11.0
Asian	13.2	44.9	25.7	16.2
South American	18.0	40.0	24.0	18.0

Table A175. In an average week, do you work in the evenings on weekdays after 6 PM? (%) – by graduate school

	No	Yes, on one or two evenings	Yes, on three or four evenings	Yes, on all five weekday evenings
BSS	51.2	27.4	19.0	2.4
FEB	35.9	33.3	17.9	12.8
Hum	43.6	41.8	10.9	3.6
GSMS	33.1	41.2	18.9	6.7
GSSE	28.4	39.3	21.5	10.9
SS	32.4	47.1	14.7	5.9

Table A176. In an average week, do you work in the evenings on weekdays after 6 PM? (%) – by type of contract

	No	Yes, on one or two evenings	Yes, on three or four evenings	Yes, on all five weekday evenings
Employed	40.2	37.4	16.5	5.9
External	34.0	36.2	27.2	2.1
Bursary	12.5	40.6	29.7	17.2
Scholarship	28.6	41.8	20.3	9.3
MD/PhD	25.5	51.0	15.7	7.8
Spare time	28.0	30.0	32.0	10.0

Table A177. In an average week, do you work in the evenings on weekdays after 6 PM? (%) – by phase of the project

	No	Yes, on one or two evenings	Yes, on three or four evenings	Yes, on all five weekday evenings
Junior	53.8	38.5	7.7	-
Senior	32.4	36.1	22.8	8.6

Table A178. How long do you work on an average evening on which you work? (%) – by gender

	Less than an hour	One to two hours	Two to three hours	More than three hours
Men	9.4	51.4	30.1	9.1
Women	8.3	51.9	30.9	8.9

Table A179. How long do you work on an average evening on which you work? (%) – by nationality

	Less than an hour	One to two hours	Two to three hours	More than three hours
Dutch	12.9	52.6	29.0	5.5
European	5.5	53.5	35.4	5.5
Asian	8.5	50.8	24.6	16.1
South American	-	51.2	29.3	19.5

Table A180. How long do you work on an average evening on which you work? (%) – by graduate school

	Less than an hour	One to two hours	Two to three hours	More than three hours
BSS	7.3	43.9	46.3	2.4
FEB	4.0	44.0	36.0	16.0
Hum	9.7	51.6	35.5	3.2
GSMS	7.5	56.7	25.4	10.4
GSSE	11.7	49.2	30.5	8.6
SS	13.0	73.9	13.0	-

Table A181. How long do you work on an average evening on which you work? (%) – by type of contract

	Less than an hour	One to two hours	Two to three hours	More than three hours
Employed	12.7	52.7	28.6	6.0
External	3.2	51.6	41.9	3.2
Bursary	3.6	44.6	37.5	14.3
Scholarship	8.5	51.5	28.5	11.5
MD/PhD	5.3	65.8	21.1	7.9
Spare time	2.8	41.7	41.7	13.9

Table A182. How long do you work on an average evening on which you work? (%) – by phase of the project

	Less than an hour	One to two hours	Two to three hours	More than three hours
Junior	8.3	54.0	28.5	9.2
Senior	9.3	49.0	32.8	9.0

Table A183. Do you compensate for extra work hours in the evening, for instance by starting later in the morning or by taking longer breaks during the day? (%) – by gender

	Never	Rarely	Sometimes	Usually	Always
Men	18.5	25.1	36.4	14.9	5.1
Women	18.5	31.0	31.5	15.5	3.6

Table A184. Do you compensate for extra work hours in the evening, for instance by starting later in the morning or by taking longer breaks during the day? (%) – by nationality

	Never	Rarely	Sometimes	Usually	Always
Dutch	24.0	29.5	28.0	14.8	3.7
European	17.3	26.0	37.0	15.7	3.9
Asian	12.8	24.8	40.2	17.9	4.3
South American	9.8	34.1	34.1	12.2	9.8

Table A185. Do you compensate for extra work hours in the evening, for instance by starting later in the morning or by taking longer breaks during the day? (%) – by graduate school

	Never	Rarely	Sometimes	Usually	Always
BSS	14.6	29.3	31.7	24.4	-
FEB	8.3	25.0	50.0	12.5	4.2
Hum	9.7	12.9	51.6	19.4	6.5
GSMS	23.8	30.1	29.3	12.6	4.2
GSSE	19.8	29.4	33.0	13.7	4.1
SS	4.3	17.4	30.4	34.8	13.0

Table A186. Do you compensate for extra work hours in the evening, for instance by starting later in the morning or by taking longer breaks during the day? (%) – by type of contract

	Never	Rarely	Sometimes	Usually	Always
Employed	16.7	29.1	34.8	15.6	3.9
External	32.3	32.3	29.0	6.5	-
Bursary	19.6	17.9	35.7	21.4	5.4
Scholarship	11.6	24.8	38.8	19.4	5.4
MD/PhD	44.7	26.3	18.4	7.9	2.6
Spare time	11.1	38.9	36.1	8.3	5.6

Table A187. Do you compensate for extra work hours in the evening, for instance by starting later in the morning or by taking longer breaks during the day? (%) – by phase of the project

	Never	Rarely	Sometimes	Usually	Always
Junior	18.8	27.5	33.0	16.4	4.3
Senior	18.6	29.3	34.5	13.4	4.1

Weekend

Table A188. Do you work on an average weekend? (%) – by gender

	No	Yes, one to three hours	Yes, three to six hours	Yes, six to nine hours	Yes, more than nine hours
Men	33.2	34.8	21.0	8.1	3.0
Women	47.4	30.6	15.7	5.1	1.3

Table A189. Do you work on an average weekend? (%) – by nationality

	No	Yes, one to three hours	Yes, three to six hours	Yes, six to nine hours	Yes, more than nine hours
Dutch	52.3	29.0	13.3	4.0	1.4
European	33.5	36.4	20.8	8.1	1.2
Asian	25.0	39.7	22.8	8.8	3.7
South American	30.0	28.0	22.0	12.0	8.0

Table A190. Do you work on an average weekend? (%) – by graduate school

	No	Yes, one to three hours	Yes, three to six hours	Yes, six to nine hours	Yes, more than nine hours
BSS	56.0	25.0	10.7	8.3	-
FEB	51.3	25.6	17.9	2.6	2.6
Hum	40.0	30.9	18.2	5.5	5.5
GSMS	43.7	30.9	16.7	5.6	3.1
GSSE	37.5	37.5	17.5	6.5	1.1
SS	41.2	44.1	14.7	-	-

Table A191. Do you work on an average weekend? (%) – by type of contract

	No	Yes, one to three hours	Yes, three to six hours	Yes, six to nine hours	Yes, more than nine hours
Employed	51.4	29.0	14.8	4.0	0.8
External	29.8	42.6	14.9	8.5	4.3
Bursary	35.9	31.3	18.8	10.9	3.1
Scholarship	29.7	37.4	22.5	7.7	2.7
MD/PhD	33.3	33.3	19.6	7.8	5.9
Spare time	30.0	30.0	22.0	16.0	2.0

Table A192. Do you work on an average weekend? (%) – by phase of the project

	No	Yes, one to three hours	Yes, three to six hours	Yes, six to nine hours	Yes, more than nine hours
Junior	40.7	34.0	17.2	5.1	3.0
Senior	42.4	30.1	18.4	7.9	1.2

Vacation days

Table A193. How many of your vacation days did you use (and actually spend not working) in 2017? (%) – by gender

	All of them	Almost all of them	More than half of them	About half of them	Less than half of them	I don't remember	Prefer not to say	I was not yet working at the university in 2017
Men	6.2	18.6	15.5	22.1	23.0	4.9	0.9	8.8
Women	10.5	21.9	21.9	13.5	16.4	6.1	0.3	9.4

Table A194. How many of your vacation days did you use (and actually spend not working) in 2017? (%) – by nationality

	All of them	Almost all of them	More than half of them	About half of them	Less than half of them	I don't remember	Prefer not to say	I was not yet working at the university in 2017
Dutch	9.4	20.3	21.4	17.1	19.7	4.3	-	7.7
European	8.7	18.3	19.1	18.3	13.9	7.0	1.7	13.0
Asian	5.3	26.3	12.3	17.5	17.5	10.5	-	10.5
South American	12.5	25.9	-	6.3	43.8	-	-	12.5

Table A195. How many of your vacation days did you use (and actually spend not working) in 2017? (%) – by graduate school

	All of them	Almost all of them	More than half of them	About half of them	Less than half of them	I don't remember	Prefer not to say	I was not yet working at the university in 2017
BSS	5.5	17.8	24.7	12.3	24.7	6.8	-	8.2
FEB	-	25.8	25.8	12.9	29.0	-	-	6.5
Hum	14.3	17.9	25.0	21.4	10.7	-	-	10.7
GSMS	14.1	27.7	17.0	11.7	14.6	5.3	0.5	9.2
GSSE	5.2	16.3	18.0	25.0	19.8	5.2	0.6	9.9
SS	4.8	19.0	14.3	19.0	28.6	9.5	-	4.8

Table A196. How many of your vacation days did you use (and actually spend not working) in 2017? (%) – by type of contract

	All of them	Almost all of them	More than half of them	About half of them	Less than half of them	I don't remember	Prefer not to say	I was not yet working at the university in 2017
Employed	7.6	20.7	20.0	19.3	17.6	4.5	-	10.2
External	21.9	25.0	18.8	12.5	12.5	3.1	-	6.3
Bursary	16.7	16.7	8.3	16.7	25.0	-	8.3	8.3
Scholarship	10.0	30.0	-	10.0	25.0	15.0	-	10.0
MD/PhD	9.1	27.3	9.1	9.1	18.2	27.3	-	-
Spare time	9.1	6.1	21.2	12.1	36.4	6.1	6.1	3.0

Table A197. How many of your vacation days did you use (and actually spend not working) in 2017? (%) – by phase of the project

	All of them	Almost all of them	More than half of them	About half of them	Less than half of them	I don't remember	Prefer not to say	I was not yet working at the

								university in 2017
Junior	7.4	20.8	14.9	14.1	16.0	7.8	0.4	18.6
Senior	10.2	20.1	22.9	19.5	22.5	3.4	0.7	0.7

Emails

Table A198. Do you see incoming work emails on your phone? (%) – by gender

	No	Yes
Men	24.5	75.5
Women	37.8	62.2

Table A199. Do you see incoming work emails on your phone? (%) – by nationality

	No	Yes
Dutch	40.2	59.8
European	23.7	76.3
Asian	20.6	79.4
South American	24.0	76.0

Table A200. Do you see incoming work emails on your phone? (%) – by graduate school

	No	Yes
BSS	38.1	61.9
FEB	30.8	69.2
Hum	30.9	69.1
GSMS	40.1	59.9
GSSE	17.5	82.5
SS	32.4	67.6

Table A201. Do you see incoming work emails on your phone? (%) – by type of contract

	No	Yes
Employed	35.7	64.3
External	38.3	61.7
Bursary	26.6	73.4
Scholarship	24.7	75.3
MD/PhD	25.5	74.5
Spare time	32.0	68.0

Table A202. Do you see incoming work emails on your phone? (%) – by phase of the project

	No	Yes
Junior	29.6	70.4
Senior	36.4	63.6

Table A203. How often do you immediately read incoming work emails on your phone outside work hours? (%) – by gender

	Never	Rarely	Sometimes	Usually	Always
Men	-	7.5	22.1	42.9	27.5
Women	0.9	4.4	17.7	43.0	34.0

Table A204. How often do you immediately read incoming work emails on your phone outside work hours? (%) – by nationality

	Never	Rarely	Sometimes	Usually	Always
Dutch	0.7	6.3	18.3	49.8	24.9
European	0.8	9.1	18.2	35.6	36.4
Asian	-	0.9	21.3	38.9	38.9
South American	-	2.6	21.1	44.7	31.6

Table A205. How often do you immediately read incoming work emails on your phone outside work hours? (%) – by graduate school

	Never	Rarely	Sometimes	Usually	Always
BSS	1.9	3.8	17.3	55.8	21.2
FEB	-	3.7	11.1	40.7	44.4
Hum	2.6	5.3	23.7	42.1	26.3
GSMS	-	4.2	19.1	42.3	34.4
GSSE	0.4	6.2	21.1	43.2	29.1
SS	-	13.0	17.4	43.5	26.1

Table A206. How often do you immediately read incoming work emails on your phone outside work hours? (%) – by type of contract

	Never	Rarely	Sometimes	Usually	Always
Employed	0.3	7.9	18.8	43.1	29.9
External	3.4	13.8	20.7	41.4	20.7
Bursary	-	4.3	17.0	38.3	40.4
Scholarship	0.7	2.2	22.6	41.5	32.8
MD/PhD	-	-	13.2	36.8	50.0
Spare time	-	5.9	26.5	47.1	20.6

Table A207. How often do you immediately read incoming work emails on your phone outside work hours? (%) – by phase of the project

	Never	Rarely	Sometimes	Usually	Always
Junior	0.9	4.0	19.8	42.0	33.3
Senior	-	8.1	19.8	43.6	28.6

Table A208. How often do you immediately take action as a response to an email you receive outside of work hours (e.g. reply or do something that is asked in the email?) (%) – by gender

	Never	Rarely	Sometimes	Usually	Always
Men	0.8	20.1	34.7	37.1	7.3
Women	0.6	15.3	37.4	37.1	9.5

Table A209. How often do you immediately take action as a response to an email you receive outside of work hours (e.g. reply or do something that is asked in the email?) (%) – by nationality

	Never	Rarely	Sometimes	Usually	Always
Dutch	1.1	20.0	37.9	35.7	5.4
European	-	17.6	32.8	38.7	10.9
Asian	0.9	10.3	34.6	42.1	12.1
South American	-	13.5	43.2	27.0	16.2

Table A210. How often do you immediately take action as a response to an email you receive outside of work hours (e.g. reply or do something that is asked in the email?) (%) – by graduate school

	Never	Rarely	Sometimes	Usually	Always
BSS	2.0	18.4	44.9	34.7	-
FEB	-	11.5	23.1	46.2	19.2
Hum	-	22.9	34.3	34.3	8.6
GSMS	1.0	15.0	34.0	38.8	11.2
GSSE	0.5	19.3	34.4	38.7	7.1
SS	-	20.0	60.0	20.0	-

Table A211. How often do you immediately take action as a response to an email you receive outside of work hours (e.g. reply or do something that is asked in the email?) (%) – by type of contract

	Never	Rarely	Sometimes	Usually	Always
Employed	1.1	19.7	33.7	39.1	6.5
External	-	20.8	37.5	37.5	4.2
Bursary	-	11.1	35.6	44.4	8.9
Scholarship	-	18.8	36.8	32.3	12.0
MD/PhD	2.6	10.5	42.1	36.8	7.9
Spare time	-	15.6	43.8	37.5	3.1

Table A212. How often do you immediately take action as a response to an email you receive outside of work hours (e.g. reply or do something that is asked in the email?) (%) – by phase of the project

	Never	Rarely	Sometimes	Usually	Always
Junior	0.6	17.5	34.1	38.7	9.1
Senior	0.8	17.5	38.6	34.7	8.4

Table A213. Does checking your work email outside work hours affect your ability to relax and enjoy your free time? (%) – by gender

	Not at all	Hardly	Somewhat	Quite a lot	Extremely
Men	15.4	39.8	33.2	10.0	1.5
Women	6.4	34.4	39.9	15.0	4.3

Table A214. Does checking your work email outside work hours affect your ability to relax and enjoy your free time? (%) – by nationality

	Not at all	Hardly	Somewhat	Quite a lot	Extremely
Dutch	12.1	39.6	34.6	11.8	1.8
European	10.1	36.1	32.8	16.0	5.0
Asian	10.3	37.4	41.1	8.4	2.8
South American	8.1	18.9	59.5	8.1	5.4

Table A215. Does checking your work email outside work hours affect your ability to relax and enjoy your free time? (%) – by graduate school

	Not at all	Hardly	Somewhat	Quite a lot	Extremely
BSS	4.1	44.9	32.7	14.3	4.1
FEB	11.5	42.3	23.1	15.4	7.7
Hum	8.6	34.3	48.6	5.7	2.9
GSMS	10.2	35.4	36.4	14.1	3.9
GSSE	13.7	37.3	36.8	10.8	1.4
SS	10.0	30.0	40.0	20.0	-

Table A216. Does checking your work email outside work hours affect your ability to relax and enjoy your free time? (%) – by type of contract

	Not at all	Hardly	Somewhat	Quite a lot	Extremely
Employed	12.2	35.8	34.8	14.3	2.9
External	8.3	45.8	29.2	16.7	-
Bursary	6.7	24.4	64.4	4.4	-
Scholarship	10.5	41.4	36.1	9.8	2.3
MD/PhD	7.9	44.7	28.9	15.8	2.6
Spare time	6.3	40.6	34.4	9.4	9.4

Table A217. Does checking your work email outside work hours affect your ability to relax and enjoy your free time? (%) – by phase of the project

	Not at all	Hardly	Somewhat	Quite a lot	Extremely
Junior	10.6	38.7	36.0	12.1	2.7
Senior	10.4	34.7	38.2	13.1	3.6

Correlations

Table A218. Correlations between personality factors, GHQ symptoms and self-rated mental health and several measures of progress and satisfaction

	Extraversion	Neuroticism	Conscientiousness	Agreeableness	Openness	GHQ symptoms	Self-rated mental health PhD	Self-rated MH BSc/MSc
Extraversion	-							
Neuroticism	-.30**	-						
Conscientiousness	.18**	-.13**	-					
Agreeableness			.11**	-				
Openness	.22**		.12**	.15**	-			
GHQ symptoms	-.16**	.43**	-.12**			-		
MH PhD	.22**	-.49**	.14**			-.70**	-	
MH BSc/MSc	.18**	-.30**	.10**	.08*		-.09**	.25**	-
Workload	.06*	.11**	.21**		.10**	.19**	-.17**	
Complexity		.07*	.11**		.13**	.16**	-.12**	
<i>Progress</i>		-.16**	.07*		.08*	-.36**	.33**	
<i>Confidence finishing in time</i>		-.20**	.09**		.09*	-.34**	.30**	
<i>Satisfaction</i>	.14**	-.26**	.22**		.07*	-.49**	.49**	
<i>Satisfaction supervision</i>		-.12**				-.35**	.32**	-.09**
<i>Not considering quitting</i>		-.24**	.09**			-.43**	.43**	

Notes. Cells left blank represent nonsignificant correlations. Yellow cells represent medium correlations ($r < .30$). Green cells represent large correlations ($r < .50$). Factors in italics represent outcome factors.

* $p < .05$; ** $p < .01$

Table A219. Correlations between burnout, work engagement, self-efficacy, work-life balance and conflict, imposter syndrome, GHQ symptoms and several measures of progress and satisfaction

	Exhaustion	Cynicism	Professional efficacy	Vigour	Dedication	Self-efficacy	WL balance	WL conflict	Imposter
Exhaustion	-								
Cynicism	.58**	-							
Professional efficacy	-.45**	-.59**	-						
Vigour	-.59**	-.60**	.65**	-					
Dedication	-.52**	-.71**	.75**	.77**	-				
Self-efficacy	-.32**	-.33**	.67**	.44**	.48**	-			
WL balance	-.41**	-.14**	.16**	.19**	.16**	.16**	-		
WL conflict	.47**	.18**	-.12**	-.18**	-.13**	-.10**	-.70**	-	
Imposter	.40**	.38**	-.47**	-.40**	-.37**	-.49**	-.20**	.23**	-
<i>GHQ</i>	.61**	.44**	-.44**	-.48**	-.43**	-.35**	-.40**	.37**	.38**
<i>Progress</i>	-.40**	-.35**	.30**	.31**	.30**	.21**	.24**	-.23**	-.17**
<i>Confidence finishing in time</i>	-.39**	-.37**	.33**	.36**	.34**	.24**	.20**	-.21**	-.20**
<i>Satisfaction</i>	-.47**	-.50**	.57**	.51**	.59**	.40**	.23**	-.21**	-.26**
<i>Satisfaction supervision</i>	-.38**	-.40**	.34**	.34**	.38**	.14**	.21**	-.21**	-.12**
<i>Not considering quitting</i>	-.51**	-.54**	.44**	.47**	.51**	.27**	.18**	-.17**	-.27**

Notes. Cells left blank represent nonsignificant correlations. Yellow cells represent medium correlations ($r < .30$). Green cells represent large correlations ($r < .50$). Factors in italics represent outcome factors.

* $p < .05$; ** $p < .01$

Table A220. Correlations between sociodemographic and lifestyle questions, GHQ and several measures of progress and satisfaction

	Structural activities	Children	Sleep	Sports	Alcoholism	Event	Effect of event	Disorder	Negative effect of disorder
Structural activities	-								
Children	.21**	-							
Hours of sleep		-.20**	-						
Hours of sports		-.20**	.10**	-					
Alcoholism		-.16**		.15**	-				
Event	.09**	.10**	-.15**	-.07*		-			
Effect of event		.13**					-		
Disorder		-.08*						-	
Effect of disorder									-
<i>GHQ</i>			-.19**			.14**	.17**	.14**	.44**
<i>Progress</i>			.09**			-.14**	-.18**		-.32**
<i>Confidence finishing in time</i>			.07*			-.07*	-.13**	-.08*	-.29**
<i>Satisfaction</i>			.14**			-.12**	-.13**	-.09**	-.38**
<i>Satisfaction supervision</i>			.10**			-.09**	-.10**		
<i>Not considering quitting</i>			.09**			-.06*	-.17**	-.14**	-.42**

Notes. Cells left blank represent nonsignificant correlations. Yellow cells represent medium correlations ($r < .30$). Green cells represent large correlations ($r < .50$). Factors in italics represent outcome factors.

* $p < .05$; ** $p < .01$

Table A221. Correlations between questions related to working outside office hours, GHQ and several measures of progress and satisfaction

	Working in evening	How long	Compensate	Working on weekend	Vacation days uptake	Emails on phone	Reading emails	Taking action	Negative effect of checking email
Working in evening	-								
How long working in evening	.34**	-							
Compensate			-						
Working on weekend	.56**	.37**	-.10*	-					
Vacation days uptake	-.24**	-.18**		-.25**	-				
Emails on phone	.15**			.12**	-.12**	-			
Reading emails	.12**	.12*		.12**			-		
Taking action	.19**	.17**		.22**			.52**	-	
Negative effect of checking mail	.13**	.17**		.11**			.16**	.20**	-
<i>GHQ</i>	.16**	.13**		.13**	-.18**		.13**	.20**	.32**
<i>Progress</i>	-.12**	-.09**		-.08*	.13**	.13**		-.09*	-.09*
<i>Confidence finishing in time</i>					.11*	.09**			-.12**
<i>Satisfaction</i>	-.10**								
<i>Satisfaction supervision</i>	-.10**			-.07*					-.10*
<i>Not considering quitting</i>						-.09**			-.23**

Notes. Cells left blank represent nonsignificant correlations. Yellow cells represent medium correlations ($r < .30$). Green cells represent large correlations ($r < .50$).

* $p < .05$; ** $p < .01$