

Executive Summary

“How is your thesis going?”

Ph.D. students’ perspectives on mental health and stress in academia

Publication

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Material & Data

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Contact Details

SustainAbility PhD Initiative

Email: sustainability.phd@posteo.de

Website: <http://sustainability-phd.com/>

Introduction and Objective

In this executive summary we present the main results of a survey that investigated the mental health of 589 Ph.D. students (~23% of the total number of Ph.D. students) at the University of Tübingen.

We analysed the respective data qualitatively and quantitatively to examine the current situation. Overall, the findings provide a better understanding of the underlying reasons and potential interventions required for advancing the mental health problems experienced by many Ph.D. students. Therefore, the results of this research can guide the development of effective strategies to support the mental health of Ph.D. students.

We summarize the key findings and implications on the first page of this report and present more detailed results on the upcoming pages.

Key findings

- Around one third of the Ph.D. students were above common cut-off values for depression and a majority report at least mild symptoms of anxiety.
- The reported level of stress was higher compared to a representative German community sample. Among PhD students, 76% reported that their stress level increased since the start of their Ph.D. and 35% reported that their mental health declined “plenty” or more.
- The reported causes for stress varied. Among the most frequently mentioned causes were workload & time pressure, self-perception, and job insecurity.
- Ph.D. students reported to work on average 12.1 unpaid extra hours on Ph.D.-related work per week. More than 80% of the Ph.D. students were worried about the lack of permanent or long-term contracts in academia.
- Supervision plays an important role for the mental health of Ph.D. students: Positive experiences with supervisors were related with better reported health, and negative experiences with lower reported health.

Implications

Based on the findings of our study we propose the following implications to improve the mental health situation of Ph.D. students at the University of Tübingen:

- Regular monitoring of Ph.D. students' mental health is crucial.
- There seems to be a general need/ demand for psychological services, as 20% have been diagnosed with a mental disorder at some point in their life.
- Improving the mental health of Ph.D. students is as complex as the reported causes for mental health issues. Based on the qualitative answers, improving the mental health status of Ph.D. students requires more supportive supervision, job security and better contracts, manageable workload, a service and support system and a decrease in the pressure to perform.

Method & Sample

- All Ph.D. students at the University of Tübingen (Germany) were invited to participate in the online survey. The questionnaire included single choice, multiple choice, and open-ended questions about topics such as **working conditions, job satisfaction, job insecurity, general health, stressors, and possible solutions**. The online questionnaire was sent to Ph.D. students' email addresses via mailing distribution lists and was active from **October to December 2021**.
- Overall, **589 Ph.D. students** (60.3% female, *mean age*= 28.8 years, 61.8 % German) out of a total of approx. 2552 enrolled Ph.D. students participated (**response rate: 23.1%**).
- The distribution of faculty affiliation of the participants was heterogeneous with shares of 61.8% Science, 12.4% Humanities, 11.7% Economics and Social Sciences. The Ph.D. students were at different stages of their Ph.D. ranging with a mean time of two and a half years (30.0 months) of Ph.D. progress.

Results

General Working Conditions

Working hours. Students reported to work on average 36.0 hours on Ph.D.-related work. 31.3% of the participants reported to work 45 hours or more (21.5% work 50 hours and more) per week. The average of the overall working hours per week (PhD related work + other work) was 44.1.

Type of Contract & Length. 65.5% reported to be temporarily employed, 12.1% got a scholarship, 7.6% were permanently employed, and 6.5% were not employed at all. The mean for total contract length of the temporary contracts was 34.3 months, with a range between two and 72 months. 10.5% of the participants had a contract for only 12 months or shorter. The percentage of employment was on average 63%, ranging from 10% to 100% of employment, whereby 100% correspond to a 39.5 h full-time job.

Regret & Conditions. The majority of students would start their Ph.D. again and did not regret having started their doctorate. In addition, most of the students (40.3%) were not sure whether the conditions in/at a different country/university would offer better conditions. 34.7% were convinced that the conditions would be better somewhere else.

Supervision. 57.1% of the Ph.D. students felt supported by their supervisor "most" or "all of the time". 55.7% felt comfortable when contacting the supervisor for support. 46.7% of the participants had never felt looked down, and 62.6% had never felt mistreated by their supervisor. 28.6% of the Ph.D. students answered feelings of degradation and 19.1% felt mistreated more than "some of the time".

Frequency of Meetings. The mean of the frequency of the meetings with the supervisor was laying somewhere between having meetings once a month (2) and at least every three months (3). 18.2% reported meeting their supervisor only once every six months or less.

Job Satisfaction. Job satisfaction (sum score with *Min*=3, *Max*=15) was with 10.06 lower compared to 12.79 in a German sample of workers in small- and medium sized enterprises. The job satisfaction (mean) was 3.35 and lower compared to a sample of Ph.D. students in Belgium (3.9).

Job-Insecurity. Job insecurity was with a total sum score (*Min*=3, *Max*=15) of 8.76 higher compared to a German small- and medium sized enterprises sample (5.67). More than 80% of the Ph.D. students in our study were worried about the lack of permanent or long-term contracts in academia (*M* = 4.25, on a scale from 1 to 5, with 5 indicating a strong agreement regarding worries). Nevertheless, around half of the participants (54.5%) believed that having a Ph.D. would help them find a good job.

COVID-19. 41.9% of the participants stated that their general situation worsened due to the pandemic, while 28.5% stated that the pandemic affected but it neither worsened nor improved their situation. 33.5% of the participants stated that their responses in this study were “very likely” or “likely” to be affected by the pandemic.

Mental Health & Stress

Health. The mean of the sum score for Patient Health Questionnaire (PHQ-2) was 2.32 which is below the cut-off of 3 for major depression. Yet, 33.1% of the participants were above the cut-off. For the General Anxiety Disorder (GAD- 7), the sum score for the study's sample was 8.49. Cut points of 5 might be interpreted as mild, cut points of 10 as moderate and 15 as severe levels of anxiety, which implies a mild risk level for generalized anxiety with the suggestion of a follow-up examination in this sample.

Stress. The sum score for the Perceived Stress Scale (PSS) of 7.79 (with *Min* = 3, *Max* = 15) was above the total sum score compared to a representative British sample (6.11) and a representative German community sample (4.79 for PSS-4).

Therapy. When asking for mental disorders, we found that 19.9% of the participants (*n* = 99) had been diagnosed with a mental disorder at some point in their life and 15.5% (*n* = 77) reported that they are currently in psychotherapy.

Health of others. When asked “Do you know other Ph.D. students who are struggling?” 88.7% reported that they know at least *some* other Ph.D. students who are struggling.

Perceived Stress development. 76.4% reported that their stress level increased since the start of the Ph.D. 22.2% reported that their mental health declined “plenty” due to the Ph.D., 13.2% of the students reported that their mental health declined “severely”.

Relationships & Regression Analysis

For **depression**, statistically significant predictors were lower job satisfaction, lower life satisfaction, perceived stress and negative institutional support.

For **anxiety**, statistically significant predictors were (female) gender, lower life satisfaction, perceived stress and negative experiences of institutional support.

Open Answers

Causes of stress. The question “What is/are the cause(s) of your stress?” was answered by $n = 446$ participants. To cover the breadth of the responses, we built 18 categories with a quantitative analysis based on the mean rating frequency M calculated with two separate raters. The most frequently mentioned categories were *Workload & Time Pressure* ($M = 211$), *Self-Perception* ($M = 132.5$), *Job-Insecurity* ($M = 93$), *Social Integration & Interactions* ($M = 91$), and *Supervision Quality & Quantity* ($M = 88.5$).

Potential ways to improve the mental health status. When asked “What would need to change to improve your mental health status?”, the Ph.D. students’ responses ($n = 307$) included various topics, some addressing compensation and income-related aspects, others highlighting supportive supervision. Overall, the responses lead to twelve different categories. Most answers referred to *Supportive Supervision* ($M = 98.5$), followed by *Job Security/Contract* ($M = 59$), *Manageable Workload* ($N = 56.5$).

Ways to Improve the situation. Ph.D. students were also asked “What could be done to improve your situation?”. Based on the themes and topics mentioned in the responses ($n = 281$) we built eleven categories. The categories mentioned the most were *Job-Security & Compensation* ($M = 85.5$), followed by *Supportive Supervision* ($M = 68$), *Services and Support System* ($M = 39.5$), *Decrease Pressure to Perform* ($M = 39.5$), and *Manageable Workload* ($M = 36$).