The background of the page is an abstract composition of thick, expressive brushstrokes. The top half is dominated by dark, almost black, teal and blue tones, with some lighter, shimmering highlights. The middle section transitions into a lighter, more vibrant teal and light blue, with visible vertical and diagonal strokes. The bottom half is a deep, rich green, also with visible brushwork and some lighter, shimmering areas. The overall effect is textured and dynamic, suggesting a sense of movement and depth.

2017 PhDnet survey report

PhDnet Survey 2017 Report

PhDnet

March 5, 2018

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Introduction

As of 2017, the Max Planck Society (MPS) counts in its ranks over 4500 doctoral researchers, who are the scientific backbone of the MPS. The Max Planck PhDnet, as the network of all MPS doctoral researchers, aims to improve interdisciplinary cooperation, optimize doctoral education and promote state-of-the-art research. This survey, as other PhDnet surveys in the past, was commissioned by the Steering Group of the PhDnet to obtain an in-depth understanding of the lived reality of being a doctoral researcher within the MPS.

The goal of this report is to convey the findings of the survey to the Steering Group, the MPS General Administration and the public; to keep those in leadership and supervision positions up-to-date on the situation of their doctoral researchers; and to make heard the voices of individuals from a wide array of backgrounds and scientific disciplines, both their praise and their misgivings.

The Survey focused on six central topics: demographics, working conditions, career perspectives, access to equal opportunities, funding and their awareness of other research networks. We obtained 2218 responses from 4525 requests and at least one answer from every Max Planck Institute of the Society (see Figure 1), which indicates that this survey offers a statistically representative picture of the status of doctoral researchers in the MPS.

Who are the doctoral researchers of the MPS? The first major section of this Report (Chapter 1—Demographics) reveals a shift in the demographics of the MPS: As of 2017, and for the first time, the majority of doctoral researchers of the MPS is non-German. The previous Survey Report¹, released in 2012, indicated that 60% of MPS doctoral researchers were German. In the current survey, this number is down to

¹2012.

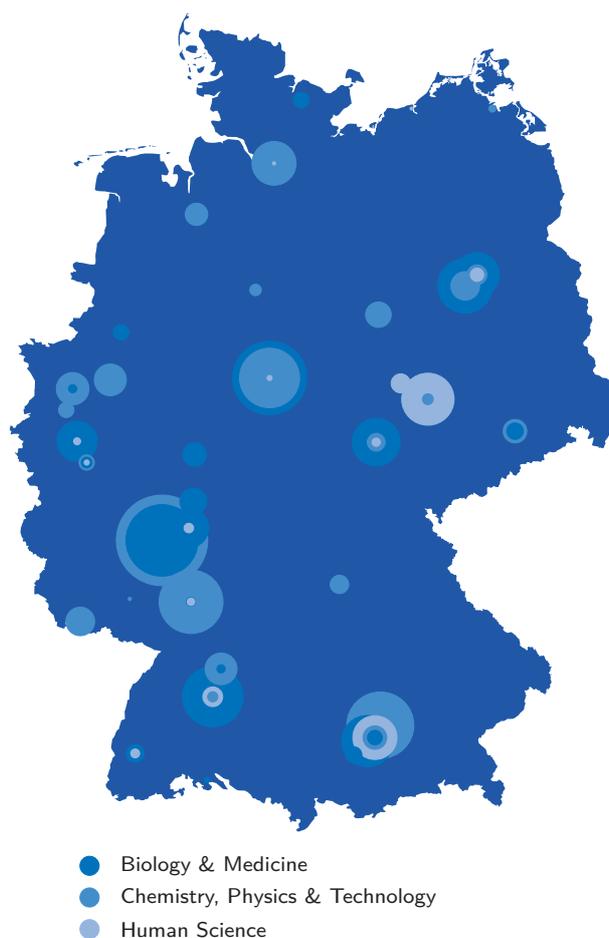


Figure 1: Distribution of responses from Max Planck doctoral researchers in Germany, color coded by section. Larger circles indicate more responses.

48%. This difference has been made up by an influx of researchers from the European Union (EU) and Asian countries, a change that speaks to the continued success of the MPS in attracting global talent at a competitive level.

Also in the majority are the numbers of doctoral researchers who identify as male (51%). The overall distribution of gender identity in 2017 is similar to that

in 2012, but disparities within sections are still clearly present. As was the case five years ago, two out of every three researchers in the CPT (Chemistry, Physics and Technology) section identify as male, and the previously balanced HS (Humanities) section now reports 61% of researchers identifying as female. Additionally, between 0.5% and 1% of MPS researchers identify as non-binary with regards to gender. This value matches those reported in studies on the number of non-binary people in society, typically between 0.3% and 0.5%^{2,3}. Because issues of gender are deeply connected to issues regarding equal opportunities, this situation must be carefully monitored in coming years.

With 84 institutes across Germany and abroad, the MPS is required to attend to a wide array of needs in order to provide researchers with high-quality, fair working conditions. We describe researchers' satisfaction with these conditions in the second section of the Report (Chapter 2—Working Conditions), along with key sub-components: supervision, working hours, holidays and parenthood support.

In broad terms, the doctoral researchers report a positive working environment within the MPS: four out of five doctoral researchers are generally satisfied with their working conditions, and seven out of ten are satisfied with their supervision. Researchers who meet with their supervisors on a daily or weekly basis tend to be the most satisfied, and those satisfied with supervision also tend to be satisfied with their projects. Yet, supervisor attention can be a rare commodity as each one is responsible for an average of seven doctoral researchers. Doctoral researchers rate their supervisors as highly proficient in their fields, although this is a double-edged sword as respondents also report concerns with their supervisors' lack of availability.

As was the case in 2012, doctoral researchers still struggle with work-life balance. Four out of five doctoral researchers work longer hours than they are contractually obliged to do, with an average of 47 hours per week. Also, 90% report having worked on weekends or public

holidays. Those dissatisfied with their supervision tend to report a greater work-life imbalance. Nevertheless, some do find time for other aspects of life: 8% of respondents report having children, despite a lack of significant parenthood support from their Institute. 50% of parents are dissatisfied with childcare facilities and child support given by their Institute.

In recent years, the global discussion over the lack of long-term career prospects in academia has continued to grow. Despite having a higher proportion of researchers continuing on to post-doctoral research positions, researchers at the MPS are not immune to career concerns. This is especially pronounced among German doctoral researchers: only one out of four believes a career in academia is viable for them, a number that is significantly lower among non-German doctoral researchers. This reflects the complete lack of a Mittelbau in German academia and subsequent shortage of feasible career options other than seeking a full professorship. The third section (Chapter 3—Career Perspectives) explores the researchers' expectations regarding their careers.

Generally, interest in remaining in academia is down compared to 2012, from 70% to 52%. As researchers progress through their project, their interest in pursuing a career in the private sector increases. By the end of their doctoral research, 36% are interested in a scientific research job and 19% in a non-scientific job, compared to 30% and 9% at the start of their project, respectively. German researchers, and those who have children, are more likely to want to continue working within Germany.

Why do researchers wish to stay in academia? 60% report that a strong desire to be of service to society is a major motivation. However, pushing them away from academia are the salaries and long working hours, the compatibility (or lack thereof) with starting a family and the lack of permanent positions. In fact, a worrying 81% find this lack of available positions to be a detriment to further career development.

Doctoral researchers often report having joined the MPS due its reputation for scientific excellence or due

²transgender.

³equal.

to the novel research output of a specific Institute; a commitment to maintaining this standard is likely key to continuing to attract talent.

In order to have a future career in academia, doctoral researchers must, naturally, first successfully conclude their projects. Almost half of the researchers report having thought about quitting at some point, with higher reports from those who have less frequent meetings with their supervisors. Why do these researchers consider quitting? Concerns about the availability of positions (57%) and their project's pressure (49%) are the most common sources of low morale.

Recent years have seen an increased interest in Open Access initiatives, in an effort to increase accessibility and reproducibility of scientific studies and work towards data transparency. The MPS administration has pledged support for Open Access. While half of doctoral researchers have published an article in a peer-reviewed journal, only 22% have published data on an Open Access platform. Our results suggest that doctoral researchers are often unaware of their supervisor's stance on Open Access, particularly in the BM (Biology & Medicine) section. While doctoral researchers are interested in Open Access, most of them (60%) do not know if their supervisor supports Open Access and associated practices.

This year's PhDnet Steering Group has been committed to identifying and addressing sources of discrimination within the MPS. The fourth section of the Report (Chapter 4—Discrimination) focuses on broader issues of the situation of discrimination towards researchers who identify as part of a minority group on the basis of nationality, ethnicity, sexuality, disability or religion as well as other potential sources of discrimination such as vectors of mental health issues.

While issues of discrimination due to gender identity are broadly discussed throughout the report, we would like to briefly highlight that most gender identity discrimination reports come from those identifying as female. For those who do identify as members of a minor-

ity groups, 39% report having felt discriminated against at their Institute.

When asked about mental health issues occurring after the start of their research, 6% report being diagnosed with a mental illness. Of these 6%, 85% indicate having sought treatment and 28% having felt discriminated against at their Institute due to their illness.

We also asked researchers to self-report on a series of symptoms linked to stress, as a broader measure of mental health status. Two out of three researchers have suffered from one of these symptoms, with supervision dissatisfaction being linked to a higher incidence of symptoms. Only four out of ten researchers who report these symptoms have sought out treatment, and those in later years of their project report a higher prevalence of at least one of the symptoms. Overall this survey shows that the majority of doctoral researchers suffer from the pressure associated with the job to a degree that they are unable to adequately deal with.

The institutes provide measures designed to help deal with the issues discussed in this section: for example, each Institute should have an Equal Opportunities (EO) officer, along with offering German-language courses to non-German researchers and facilitate access to medical counseling. Regarding EO officers, 65% of doctoral researchers are aware of one being present at their institute, and 58% indicate feeling welcome to approach the officer with their concerns. Most researchers don't know if their Institute can facilitate access to medical counseling, and 76% of non-German researchers report availability of German language courses.

The two main vectors of discrimination that doctoral researchers tend to face are their nationality (particularly non-German researchers) and their gender identity (particularly women). While the MPS has taken remarkable steps in their attempts to mitigate discrimination, this survey suggests that further efforts are required.

Finally, throughout this decade, the PhDnet has focused heavily on improving the contract situation of doctoral researchers. We explore this topic in depth in

the fifth section (Chapter 5—Funding) of our Report. In 2015, the MPS committed to placing incoming researchers on contracts, rather than stipends. Currently, 79% of doctoral researchers are funded through a contract, a significant increase from the 50/50 split observed in 2012. However, non-German researchers are still more likely to be on a stipend than German researchers (87% vs 72%).

Most contracted researchers are funded at 50% or 65% TVöD payment level, with the HS section having a lower income on average. This is followed by the BM section and finally the CPT section has the highest average income. Doctoral researchers who work the longest hours do not necessarily have the highest income. While there is a slight towards male identifying researchers in the high-income brackets, this is likely related to the high male-to-female ratio of the section with the highest average income: the CPT section.

While most doctoral researchers are satisfied with their salaries, those funded by stipends are less satisfied. Of the researchers funded through a contract, those at or under, 50% TVöD level are less satisfied. On the topic of benefits, and specifically the number of available holidays, a clear split emerged. While those with 30 days of holidays were very satisfied, researchers with only 20 available days tended to be dissatisfied (61%). Non-Germans were more likely to report this dissatisfaction, probably because they face longer travel times to their home countries to visit family. We find that an increase in the number of available days is likely to generate a strong increase in general satisfaction.

Science is, at its core, a social endeavour. The key to a strong scientific output lies not only in attracting talented and motivated researchers but in nurturing and respecting them as employees. Over the years, the MPS has demonstrated a commitment to the welfare of its doctoral researchers. Nevertheless, we present some suggestions drawn from the findings of this survey that will, we believe, help ensure that the MPS remains one of the top institutions for scientific research in Germany and the world.

We applaud the commitment of the Institutes to the MPS directives regarding the phasing-out of stipends, but new efforts are needed in order to improve working conditions of doctoral researchers. Therefore, we encourage MPS to continue promoting excellent working conditions by improving the current contract situation. We highly appreciate the excellent work environment and scientific facilities provided by the MPS but we would like to request the assurance that every supervisor has the time to meet regularly with their doctoral researchers. Supervisors should also be encouraged to structure projects around Open Access platforms, in order to increase OA output as the MPS is committed to doing. Supervisors should also receive mandatory training on leadership and project management to help them implement a healthy working culture. Equally important is preparing researchers for life outside of academia, as 48% report low interest in a career in public scientific research. Interest appears to be particularly low for German researchers. Emphasizing and maintaining the MPS' reputation for scientific excellence and the output of novel research are the keys to attracting doctoral researchers. Finally, a strong commitment to addressing and preventing discrimination, in particular for minority groups based on nationality or gender, is also vital.

On a final note, we would like to thank the 2017 Steering Group and the PhDnet workgroups, particularly the Secretary Workgroup, for their guidance and support, along with the members of previous Survey Groups for their assistance in constructing this year's survey. We would also like to show our appreciation to the MPS General Administration for their openness and especially to Ilka Schießler-Gäbler.

For any questions regarding the survey or this report, please contact Miguel Borges (miguel.borges@mpi.nl), Rafael Laso-Pérez (rlperez@mpi-bremen.de) or the 2018 PhDnet Steering Group (sg2018@phdnet.de)

Chapter 1

Demographics

The Max Planck Society (MPS) attracts researchers from a diverse set of backgrounds. Here we provide a brief demographic description of the doctoral researchers of the MPS. In total, 2218 (49% of the total 4525) doctoral researchers answered the survey, a 15% increase in participation from the previous general survey conducted in 2012.

Participants were asked to disclose their country of origin (see Figure 1.1 & 1.2), birth year (see Figure 1.3), the year they started their doctoral research (see Figure 1.4), and their gender identity (see Figure 1.6). Re-

sponses were grouped according to which section of the MPS the respective Max Planck Institute belongs to: BM (Biology & Medicine), CPT (Chemistry, Physics & Technology), or HS (Humanities).

Regarding nationality, respondents were grouped based on the distribution of responses in previous surveys (which focused on Germany, EU and Non-EU European countries, Australia, and any countries within Asia, Africa or the Americas). The majority of Max Planck doctoral researchers are German (48%), followed by Asian (including Russia) (21%) and non-German European (EU) (20%). Few researchers come from coun-

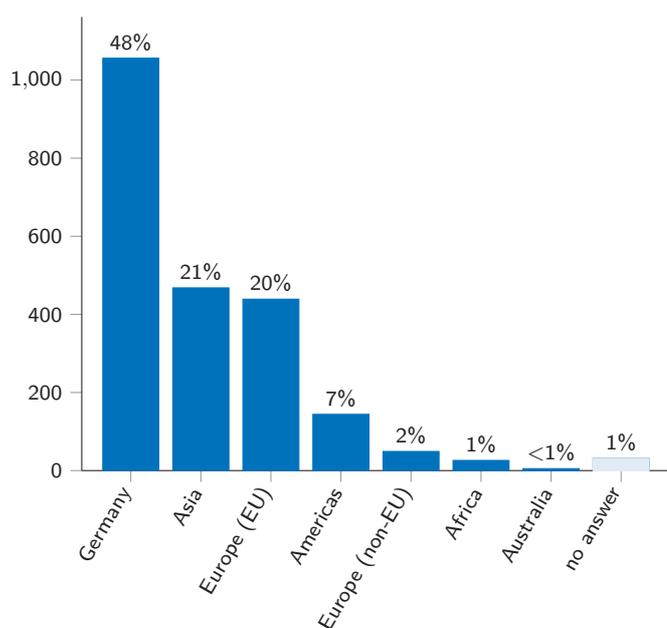


Figure 1.1: “What is your nationality? Should you have multiple nationalities, please select the one you feel best represents you.” Responses of non-German researchers grouped by continent, and EU membership where applicable. Y-axis shows the number of answers.

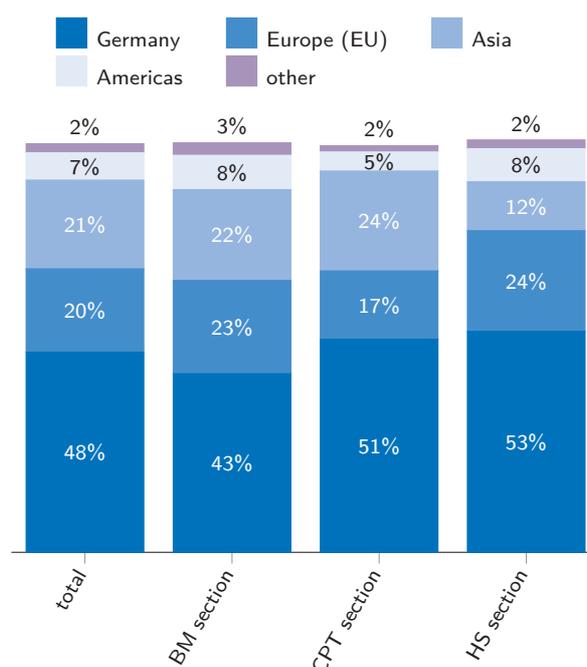


Figure 1.2: “What is your nationality? Should you have multiple nationalities, please select the one you feel best represents you.” Percentages grouped by section.

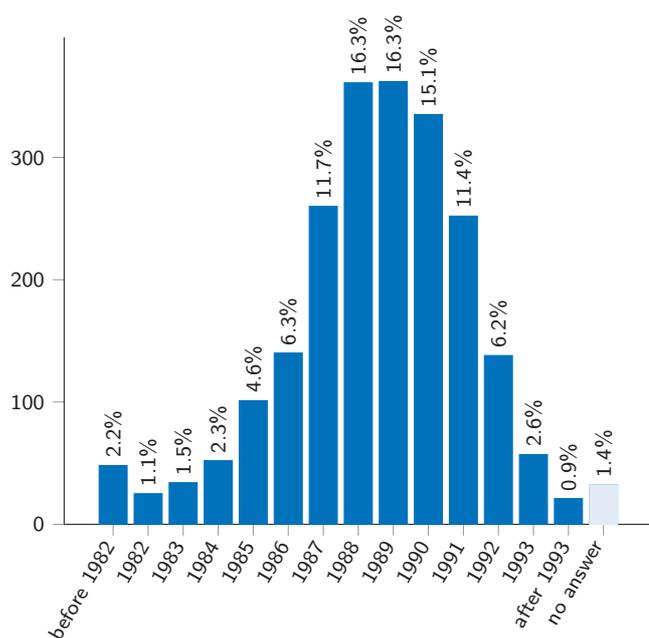


Figure 1.3: “What is your year of birth?” Y-axis show number of answers.

tries within Africa (1%) or from Australia (< 1%); this unfortunately prevents a detailed analysis of these two groups of doctoral researchers. Notably, in 2012, 60% of doctoral researchers were of German origin. Over the past 5 years, the MPS has successfully attracted more international researchers, with growth specifically being driven by researchers from Asian and EU countries.

On average, respondents were 29 years old. Most respondents (59%) started their doctoral research in 2015 or later and thus have yet to complete their third year. A small number of respondents (2%) report having started their research more than five years ago.

Of the total responses to this survey, the majority came from the CPT section (45%), followed by the BM section (40%) and finally the HS section (15%) (see Figure 1.5).

While overall there are slightly more doctoral researchers identifying as male (51%) than female (45%), this imbalance appears to arise solely from the CPT section (64% male, 32% female, 4% other—either genderqueer or no answer), see Figure 1.6. In the BM section researchers are 51% female, 45% male and 4% other, while in the HS section, 61% of researchers are female,

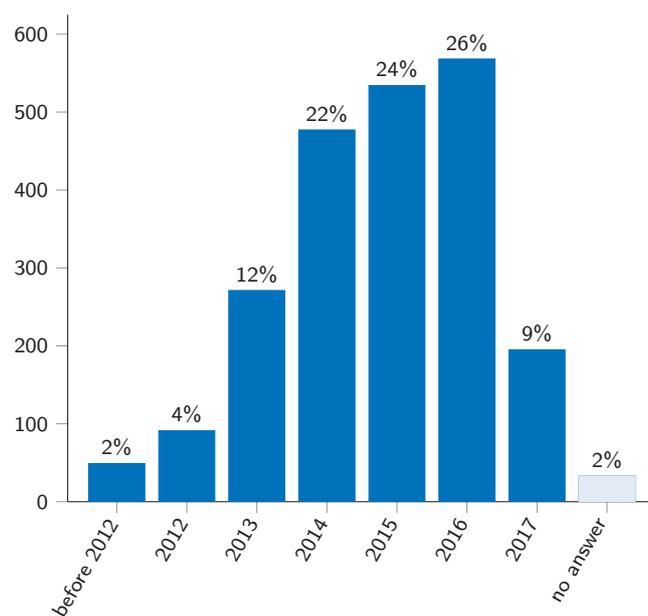


Figure 1.4: “When did you start your doctoral research?” Y-axis show number of answers.

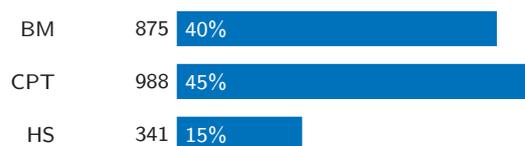


Figure 1.5: “To which section does your institute belong?”

36% male and 3% other. The 2012 PhDnet Survey reported a similar imbalance in the CPT section, however it also reported an almost equal distribution of male and female researchers in the HS section. Responses reporting a genderqueer identity (1%) or ‘Other’ gender identity (0.4%) are too few for in-depth analysis in many of the following sections, but still represent a proportion of MPS doctoral researchers.

Summary

- A total of 2218 doctoral researchers answered the survey; most come from Germany, Asia or EU countries, with an increase in the number of international researchers over the past five years.
- Most survey participants began their work at the Max Planck Society in 2015 or later, indicating this

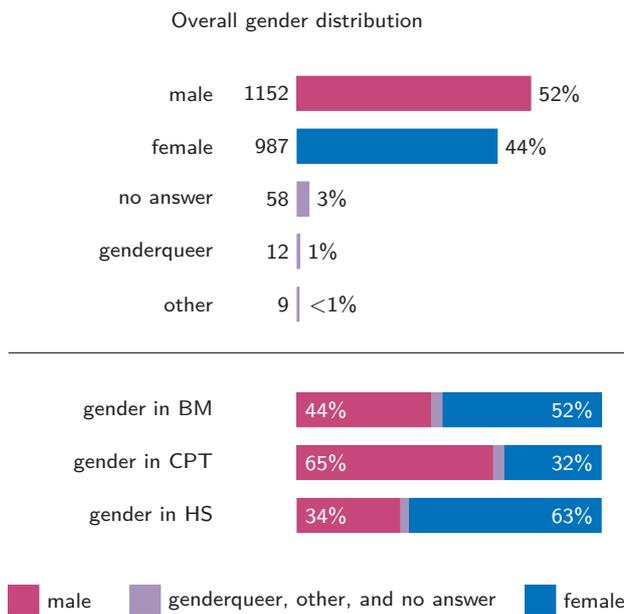


Figure 1.6: “To which gender identity do you most identify?”
Top: all responses; bottom: gender distribution per section.

survey reflects up-to-date practices regarding doctoral training.

- In the CPT section, there are twice as many male researchers as female researchers. In the HS section, the reverse trend is emerging. Only the BM section shows a distribution that is close to equal.

Chapter 2

Working Conditions

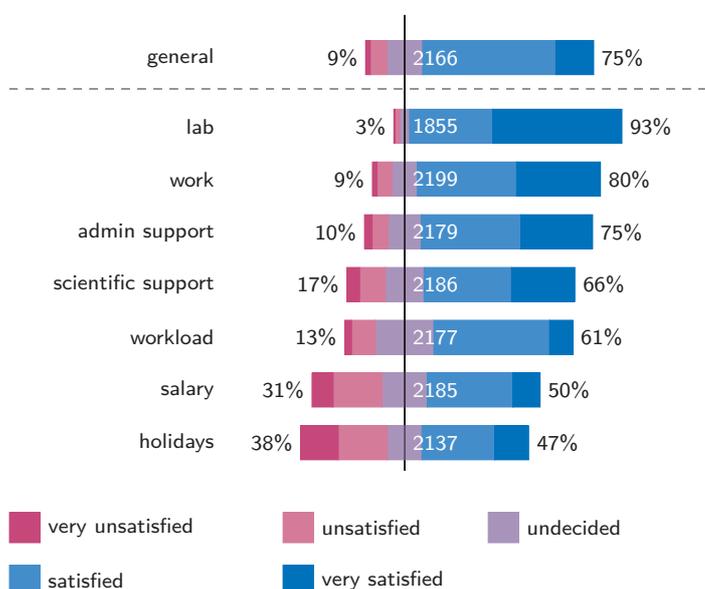


Figure 2.1: “Please rate your overall satisfaction with the following aspects of your PhD”. The black line indicates a reference point of neutral satisfaction (“undecided”); the ratio of responses stating “unsatisfied” or “very unsatisfied”, and “satisfied” or “very satisfied” is given by the percentages on either side of the bar.

In this chapter we investigate the working conditions for doctoral researchers in the MPS. The survey gathered data on a wide range of aspects of doctoral life (supervision, working hours, parenthood) and the degree to which researchers are satisfied with their working conditions.

2.1 Overall Satisfaction

In general, doctoral researchers are either “satisfied” (58%) or “very satisfied” (17%) with their doctoral research and working conditions. Specifically, 93% of re-

searchers are either “very satisfied” or “satisfied” with laboratory equipment and 80% are either “very satisfied” or “satisfied” with their work environment. Researchers also report high levels of satisfaction with the support they receive (both scientific and administrative) and with their general workload(see Figure 2.1).

However, many researchers report being unsatisfied with both their salary (31% reported being “unsatisfied” or “very unsatisfied”) and contractually available holidays (38% report being “unsatisfied” or “very unsatisfied”). This is explored further in Section 5.2 and 5.5, respectively.

2.2 Supervision

For the purposes of investigating the supervision conditions for doctoral researchers, the supervisor was defined as “the person that [participants] consider to be [their] primary research supervisor or advisor. This might not be [the] formal PhD supervisor” (see chapter 8—The Survey). Where the questionnaire was specifically concerning the “official Supervisor” of the participants, this was explicitly stated in the questions’ wording.

Doctoral researchers are, in general, satisfied with their supervision with 72% reporting being either “very satisfied” or “satisfied” (see Figure 2.2). Those respondents that meet with their supervisor on a more regular basis tend to report higher satisfaction with their supervision. Intuitively, doctoral researchers who had the option to choose their own supervisor reported a significantly higher level of satisfaction with their super-

vision. Interestingly, satisfaction with supervision decreases over time and CPT researchers are slightly more satisfied than average, while female researchers of all sections are slightly less satisfied than their male colleagues.

Generally, supervision satisfaction coincides with general satisfaction (see Figure 2.3), indicating that the quality of supervision is a very important factor in the experience of a doctoral researcher.

Supervision ratio

On average, official supervisors advise around 6 other researchers. 7% of doctoral researchers are in an ex-

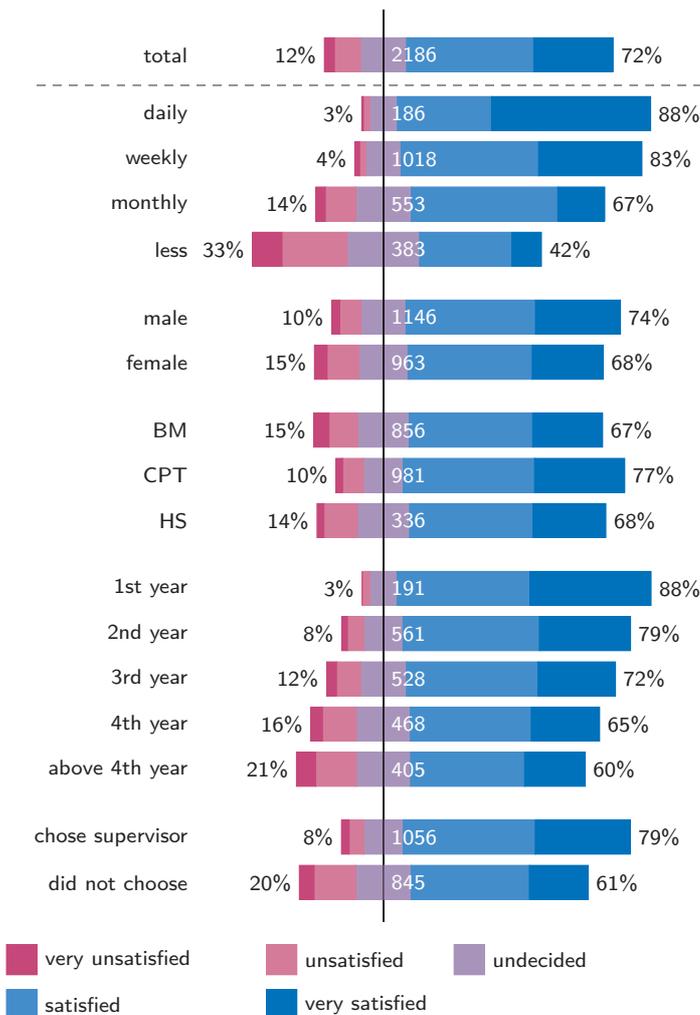


Figure 2.2: “Please rate your overall satisfaction with your PhD supervision” Responses grouped by: frequency of meeting with supervisors, gender, section, year of PhD, and option to choose supervisors.

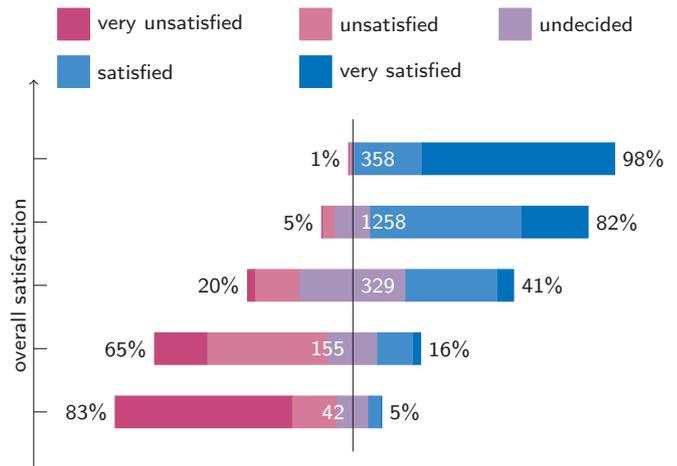


Figure 2.3: “Please rate your overall satisfaction with your PhD supervision”. Responses grouped by responses to the question “Please rate your overall satisfaction with the following aspects of your PhD: Overall satisfaction”.

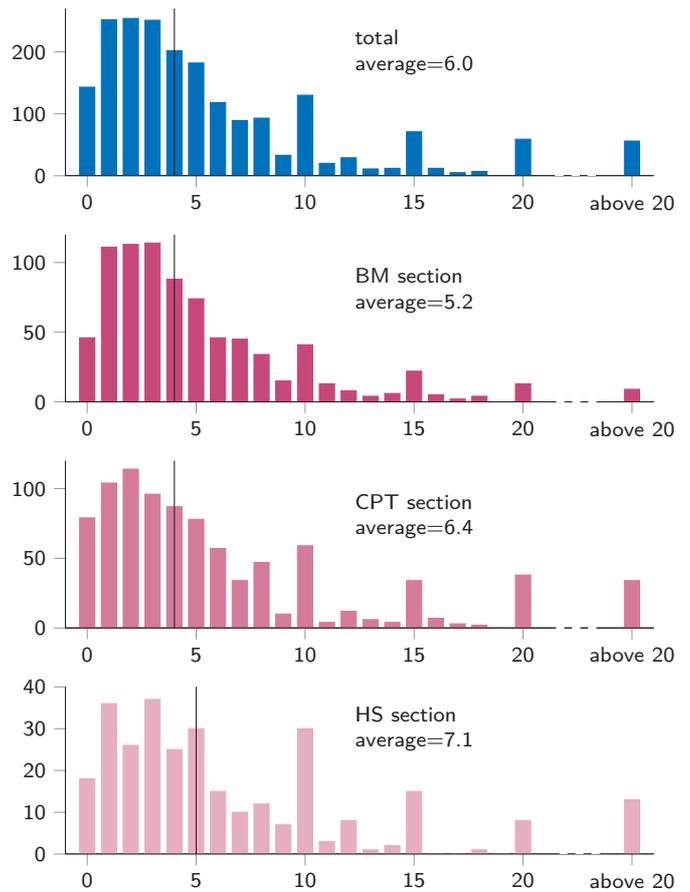


Figure 2.4: “How many other doctoral researchers does your official supervisor have?” It should be noted that the number reported does not include the respondents themselves. Medians are indicated by the vertical lines.

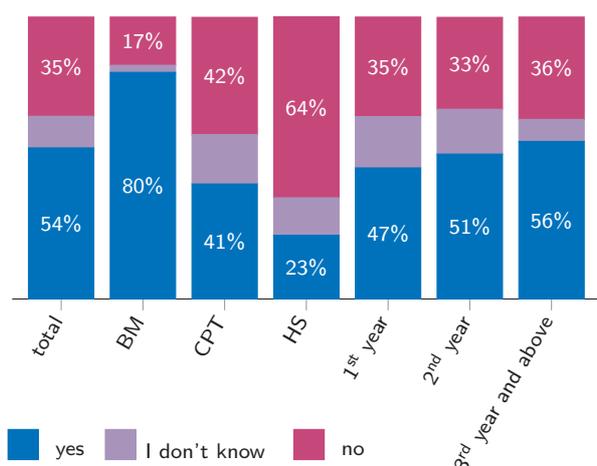


Figure 2.5: “Do you have a thesis committee?” Responses grouped by section and length of doctoral research project so far.

clusive supervision situation while, one fifth of doctoral students have to compete for their official supervisor’s time with at least nine other PhD students (see Figure 2.4).

Groups with more doctoral researchers per official supervisor are somewhat more common in the HS section, while in the BM section doctoral researchers share their supervisor with only five others on average. These differences are, however, statistically significant.

Thesis committee

The majority of doctoral researchers (54%) report having access to a board of advisors in the form of a thesis committee. Within the survey, a thesis committee was defined as “consisting of several internal and/or external people who give advice and supervision about the results and future steps of the thesis work. This committee meets usually once a year” (see chapter 8—The Survey).

About a third of participants (35%) are certain that they don’t have a thesis committee. While thesis committees are not more or less common for researchers who started their doctoral research recently (see Figure 2.5), doctoral researchers in the BM section are a lot more likely to have a thesis committee than researchers in other sections. Thesis committees appear to be rather

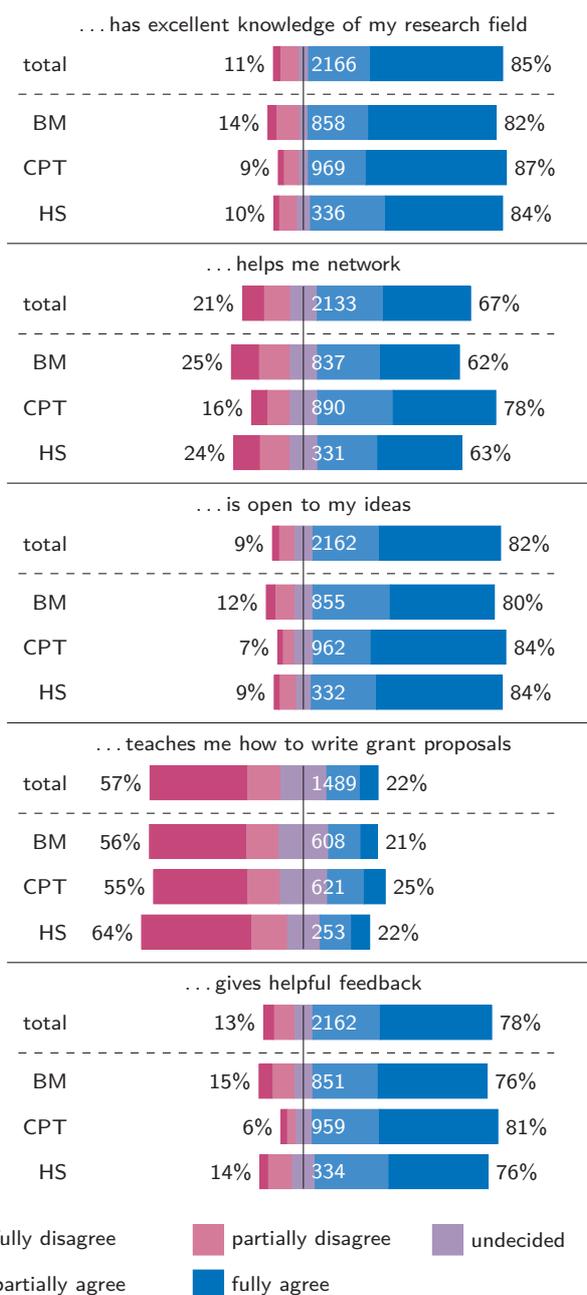


Figure 2.6: “Please rate how much the following applies to your supervisor: My supervisor ...”. Answers also grouped by section.

uncommon at institutes of the CPT section that have their research focus on mathematics or computer science, as well as in the HS sector. Only 23% of HS participants report having a thesis committee.

Supervisor competencies

Supervisors are in general judged quite favorably by their doctoral researchers (see Figure 2.6 & 2.7). In

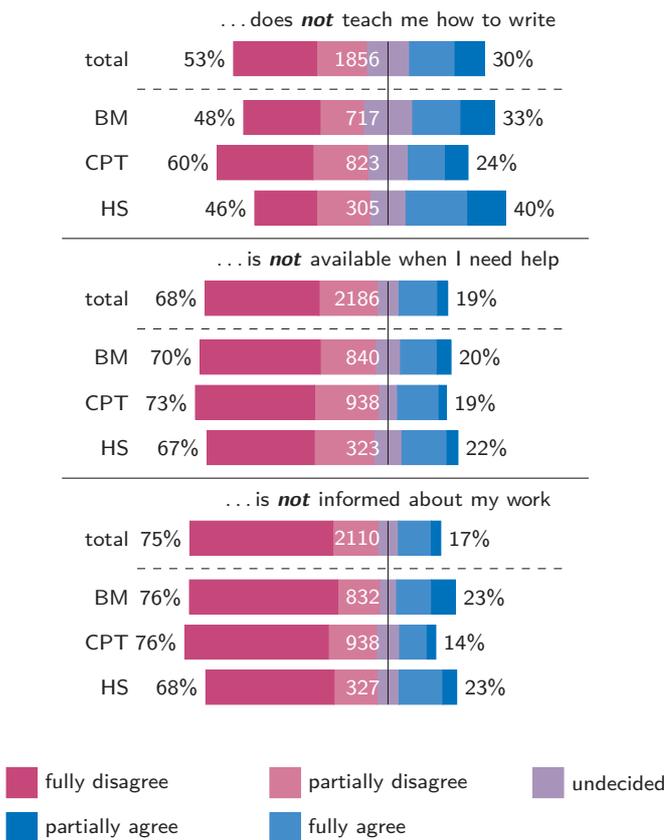


Figure 2.7: “Please rate how much the following applies to your supervisor: My supervisor ...”. Please note that these questions were phrased negatively.

order to keep this section in line with previous surveys, some questions were phrased negatively; for ease of representation positive and negatively phrased questions are presented in two separate figures. The main issue emerging here seems to be that supervisors do not teach grant proposal writing, however an argument can be made that this is simply a feature of the MPS system which does not require doctoral researchers to acquire their own funding.

While no major differences were found between sections, CPT researchers appear to evaluate their supervisors slightly more positive. This is also in agreement with the generally higher level of satisfaction with supervision in the CPT section.

2.3 Thoughts about Quitting

Thoughts about quitting the doctoral studies are not uncommon (see Figure 2.8) and appear to occur for a variety of, most likely overlapping, reasons (see Figure 2.9). Remarkably, more frequent meetings with supervisors lead to fewer thoughts of quitting. Researchers in

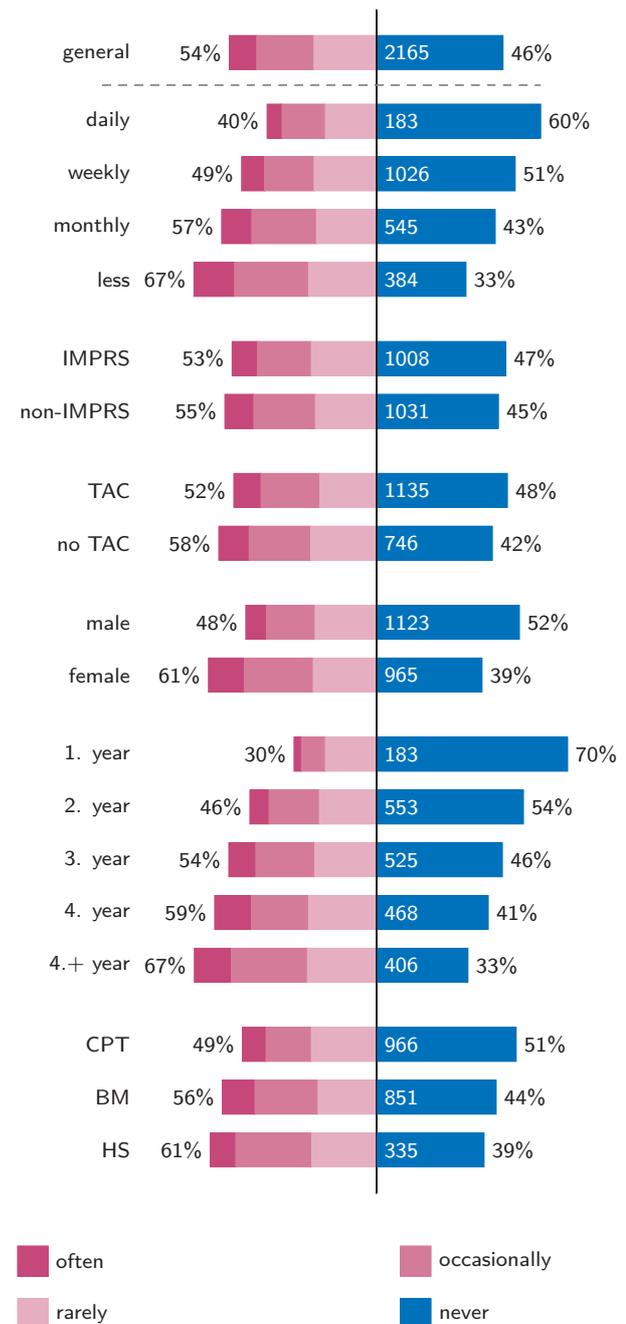


Figure 2.8: “Have you ever thought about giving up your PhD?” Responses grouped by frequency of supervisor meetings, IMPRS membership, existence of a thesis committee, gender identity, stage of PhD and section.

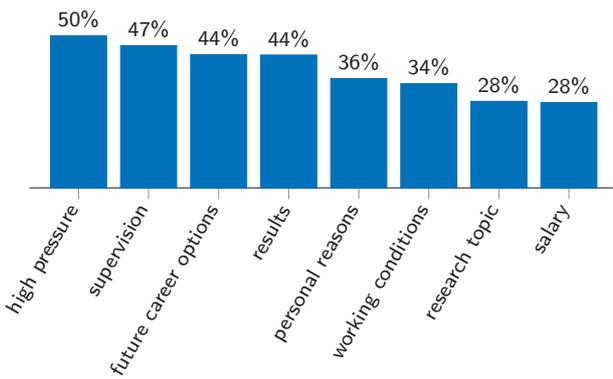


Figure 2.9: “Why did you think about giving up your PhD?” Responses from participants who indicated that they think about quitting their doctoral research “occasionally” or “often” (N=669). Multiple answers possible.

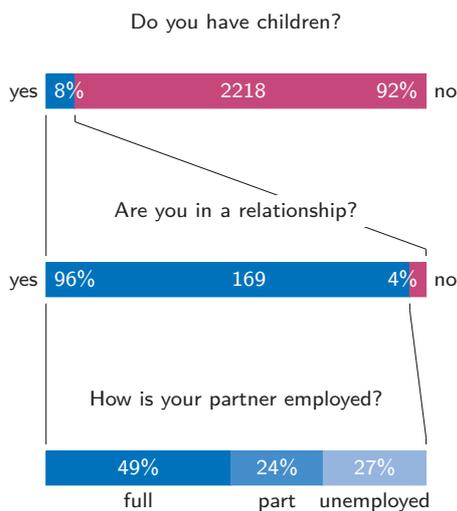


Figure 2.10: “Do you have children or are you currently expecting at the moment?”, “Are you in a relationship?”, “What is your partner’s employment status?”

later stages of their PhD report thinking about quitting more frequently as do female researchers (as compared to male researchers). Researchers from the CPT section are more likely to never think about quitting. Neither belonging to an IMPRS nor having a thesis committee appears to reduce thoughts of quitting the doctoral studies. Additional efforts should be made to attempt to increase the frequency of supervisor meetings and to maintain this frequency as doctoral researchers get to the later stages of their project.

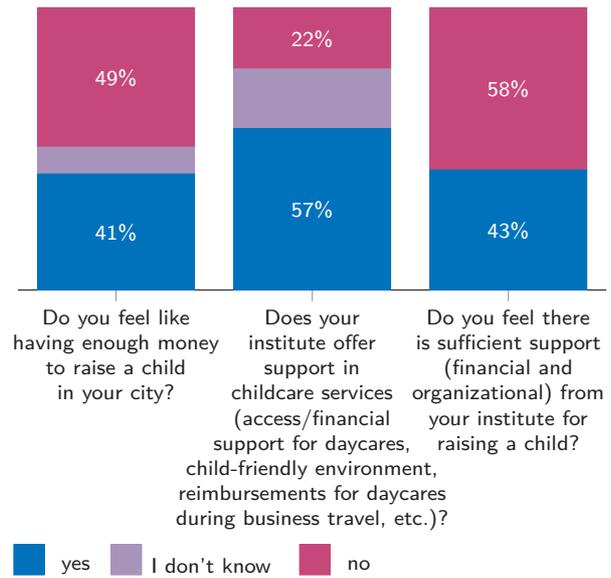


Figure 2.11: Responses concerning childcare support represented as percentage of responses from parents. Full questions on x-axis.

2.4 Parenthood

A small percentage (8%) of doctoral researchers report being parents (see Figure 2.10). Of these, a small minority (4%) are single parents. This is in line with the percentage of all students in Germany having children (6%, with 10% of these single parents)¹.

Researchers with children tend to work shorter hours and only 56% report working at an institute that of-

¹children.

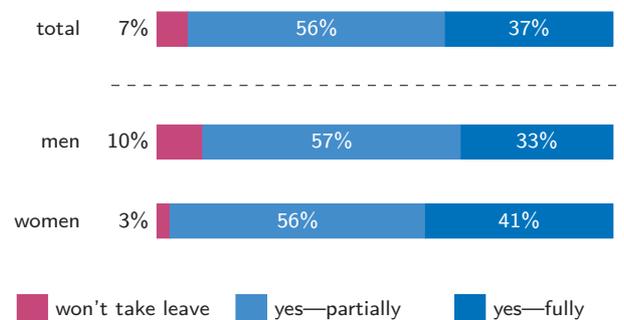


Figure 2.12: “If you are or were to have children during your doctoral research, would you take parental leave?” Responses presented as total and grouped by gender identity. Participants who responded to the question “To which gender identity do you most identify?”. “Genderqueer”, “Other” or “I don’t want to answer this question” were not taken into account for this analysis due to low sample size.

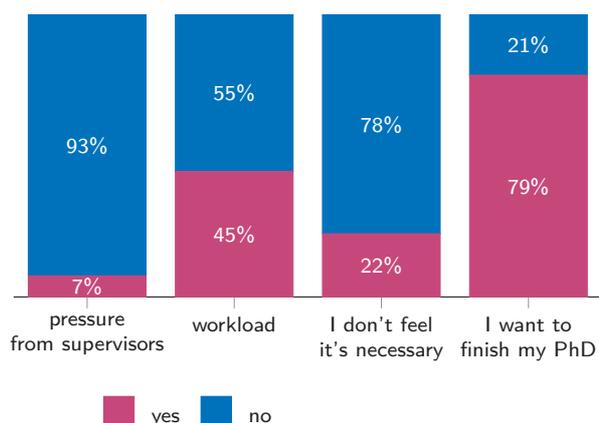


Figure 2.13: “Why would/have you not take/taken the full parental leave?”

fers childcare. Unfortunately, 41% of researchers with children report not having enough money to raise their child and 50% report working at an institute that offers insufficient support (financial or otherwise) to doctoral researchers with children (see Figure 2.11). There is no difference in the distribution of salaries between researchers with and without children, either for total income or for the method of funding. Researchers with children are more likely to have an extension already but are also more likely to receive less and shorter extensions than researchers without children.

Half of doctoral researchers without children report wanting children but feeling it is not the right time dur-

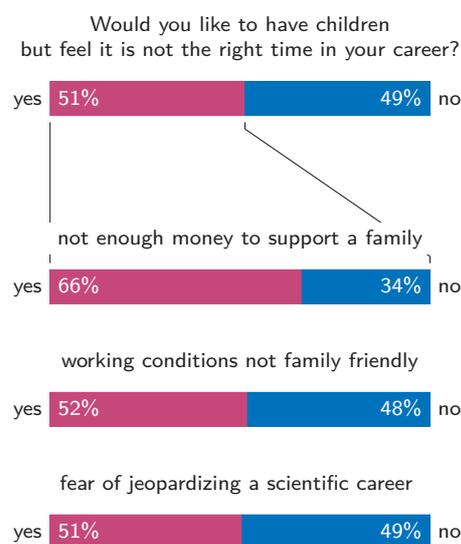


Figure 2.14: “Would you like to have children but feel it is not the right time in your career? If yes, what are the reasons?”

ing their doctoral research. The reasons for this are cited as: not enough money (66%), working conditions are not family friendly (52%) and not wanting to jeopardize their career (51%) (see Figure 2.14) (NB: multiple answers were allowed for this question). Researchers who want children are also concerned about living in a foreign country and having no future job security. There is no correlation between wanting children but not feeling able to have them and workload, salary or gender identity.

Of the researchers that do have or would consider having children during their doctoral thesis, 37% reported that they either have taken or would take full parental leave during their doctoral studies; a further 56% would take partial leave (see Figure 2.12). Only 7% said that they either have not taken or would not take parental leave. There is little difference between researchers identifying as male or female, however male researchers were more likely to take no parental leave at all. Researchers who have or would not take full parental leave cite wanting to finish their PhD and their workload as the reasons for not taking full parental leave. 22% report considering full parental leave to be unnecessary, however an alarming 7% cite supervisor pressure as a reason for not taking full parental leave (see Figure 2.13).

Summary

- Most doctoral researchers are satisfied with their project (75%). In particular, they are satisfied with lab equipment (93%), administrative and scientific support (75% and 66%, respectively), and their workload (61%). They express higher levels of dissatisfaction in regards to salary (31% dissatisfied) and holidays (38% dissatisfied).
- Doctoral researchers tend to be satisfied with their supervision (72%), especially those who meet their supervisors more frequently (at least once a week). This satisfaction with supervision decays over time (88% in 1st year vs. 60% after 4th year), and is linked to overall satisfaction with the project: those

who reported high levels of satisfaction with their supervision, also tended to be satisfied with their project.

- One fifth of the doctoral researchers share their supervisor with at least nine other researchers. On average, supervisors are responsible for seven doctoral researchers each.
- Half of all doctoral researchers have access to a Thesis Advisory Committee (80% in BM, slightly under half in CPT and only 23% in GSH.)
- Doctoral researchers generally consider their supervisors to be highly knowledgeable about their field (85% agree), but most often complain about their unavailability (68%).
- Only 8% of researchers are parents. They tend to work fewer hours, with 57% reporting access to childcare via their Institute. 49% of these researchers report not having enough funds to support their child. Of the researchers without children, 51% reporting wanting to have children but not feeling able to do so due to: lack of funds (66%), unsupportive working conditions (52%) and feeling like their careers would suffer (51%).

Chapter 3

Career Perspectives

In this chapter we discuss how the career of a doctoral researcher in the MPS develops, with a focus on future plans and perspectives, the attractiveness of the MPS for doctoral research and the scientific output of doctoral researchers in the MPS.

3.1 Career Plans

While a large number of respondents (52%) stated that they would like to continue working in academia (i.e. public scientific research), only 37% believe they will still be doing so in ten years' time. The least popular job prospect is the public non-scientific sector; only 7% of respondents find it attractive. A large number of doctoral researchers do not yet know what they want to do (22%) or what they might actually be doing (34%) ten years from now (see Figure 3.1).

There are no substantial changes in career perspectives between early and late years of the doctoral studies, but a number of small trends (see Figure 3.2). The amount of researchers undecided about their future jobs decreases somewhat towards the later stages of the doctoral studies. However, one in five doctoral researchers in their third year or later have still not made up their mind about their future career. nearly a third of senior doctoral researchers cannot predict what they will be doing ten years from now.

While researchers' desire to work in scientific research, along with their belief they can do so in the future, does not decline measurably across the course of the doctoral studies, more advanced students are more willing to take

private non-scientific jobs. The percentage of doctoral researchers willing to spend their future in this private sector rises from 9% in first-year to 19% in researchers beyond their second year. One in five senior doctoral researchers believe they could see themselves working in the private non-scientific sector in ten years.

Pursuing a career in Germany (see Figure 3.3) appears to be a viable option for many doctoral researchers (52%). Only 13% are certain they want to leave Germany after graduation. While males and females are

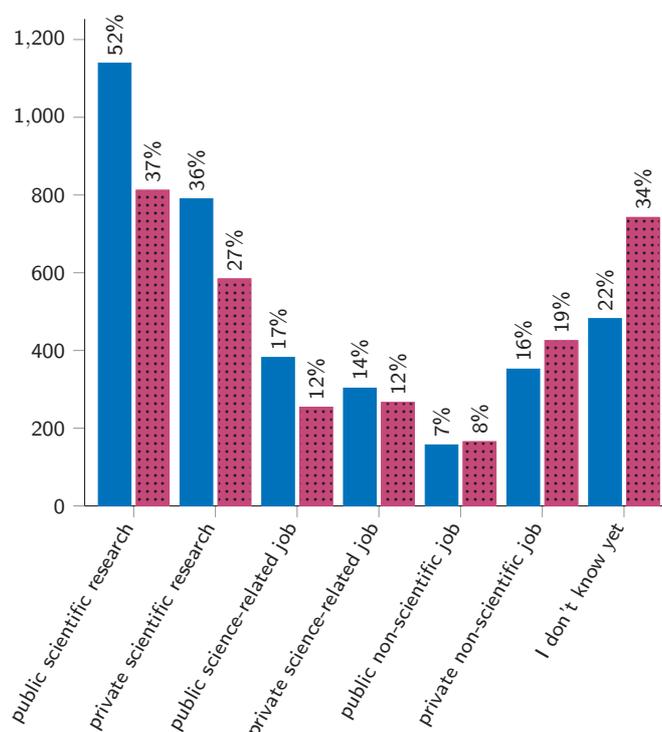


Figure 3.1: “Where would you like to work in the future (next 10 years)?”, and “Where do you think you will work in the future (next 10 years)?” (dotted). Multiple answers possible.

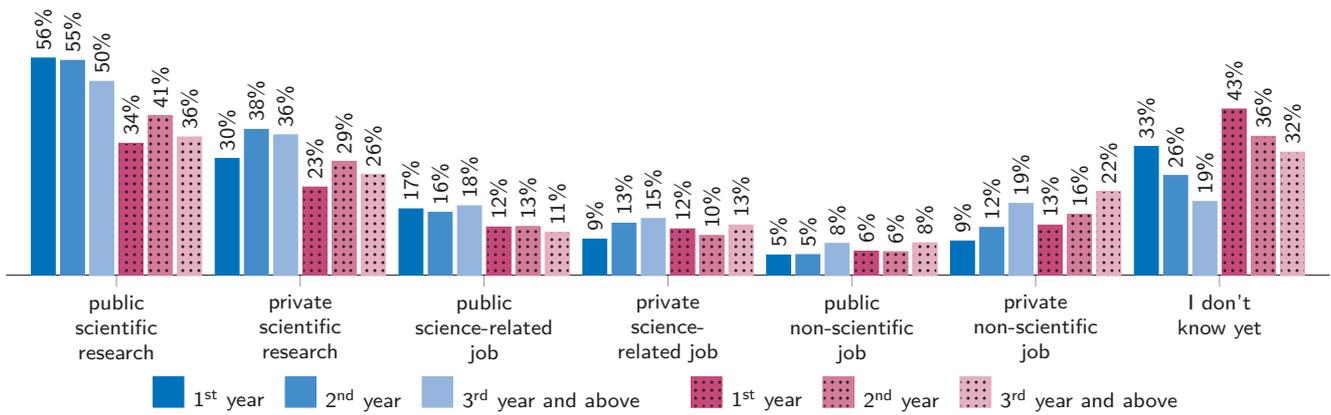


Figure 3.2: “Where would you like to work in the future (next 10 years)?”, and “Where do you think you will work in the future (next 10 years)?”. Percentage of total responses grouped by year of PhD. Multiple answers possible.

equally likely to want to stay in Germany and there is no large difference between the three sections, nationality plays a larger role. Most German researchers (71%) want to stay in Germany and only 4% are planning to leave their country of origin. Of researchers from other EU countries, roughly a quarter plan to pursue a career in Germany, another quarter plan to leave the country and the remaining half is undecided. A compelling factor in whether or not a researchers plans to stay in Germany appears to be parenthood; doctoral researchers with children are most likely to want to stay.

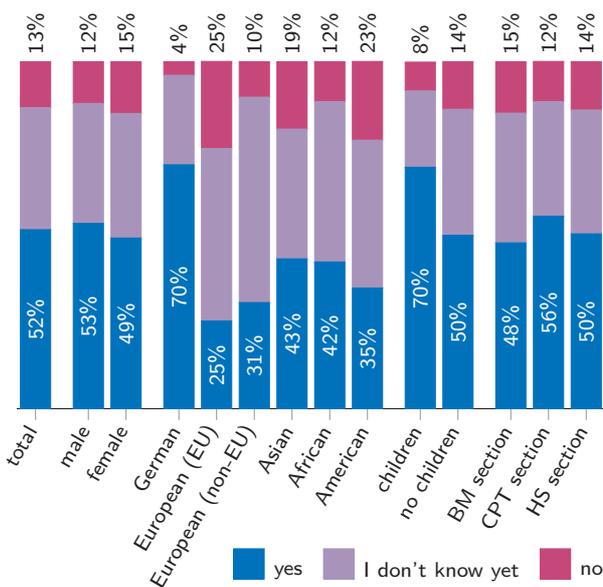


Figure 3.3: “Do you intend to pursue a career in Germany?”. Percentage of total responses grouped by gender, nationality, section and parenthood.

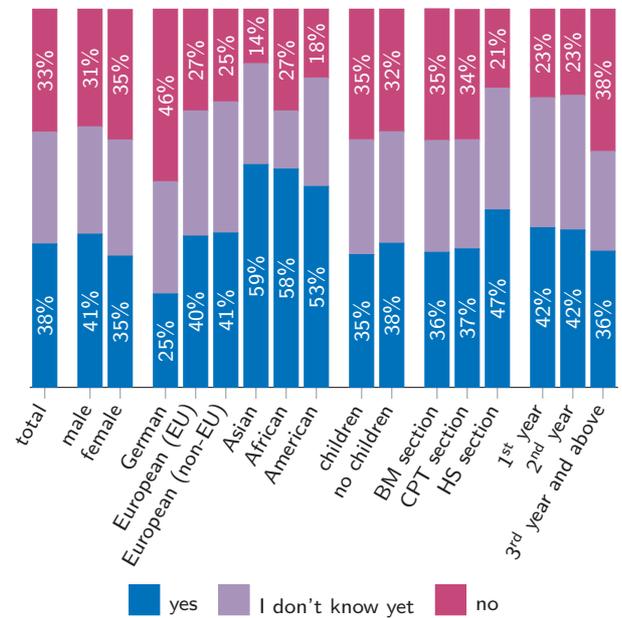


Figure 3.4: “Do you intend to pursue a career in academia (aspiring to a professorship or other permanent research position) after finishing your doctoral research?”. Percentage of total responses grouped by gender, nationality, section and parenthood.

There are differences between sections; CPT students are more likely to want to pursue a career in Germany (56% compared to 50% and 48% for BM and HS respectively).

Approximately a third of doctoral researchers (33%) intend to leave academia after graduating while 38% intend to stay in academia (see Figure 3.4). Women are slightly less likely to aspire to professorship or a permanent research position (35% vs 41% among men), while parenthood does not appear to exert a big influence on

this aspect of planning a future career. A closer look, however, shows that mothers are significantly less likely to want to pursue an academic career (26%) than fathers (41%).

Progression through the doctoral studies does not greatly discourage those already determined to stay in academia (42% in the 1st year, 42% in the 2nd year, 36% for researchers beyond). However, a large number of researchers who had not previously made up their mind decide to pursue a different career path at later stages of their doctoral studies (38% compared to 23% in both the 1st and 2nd year).

Among all doctoral researchers, those from Asian and American countries are least likely to want to leave academia (14% and 18% respectively). In fact, more than half of researchers from non-European countries are determined to continue with academic research. On the other hand, only 25% of German doctoral researchers regard an academic career as attractive enough to pursue; 46% aspire to join other fields. Of female doctoral researchers from Germany, only 22% want to stay in academia, while for male researchers that percentage is 27%.

3.2 Attractiveness of Academia

The aspects considered the most attractive about academic research are the possibility to serve and better society, teaching opportunities, and mobility (i.e. chance to live and work in different locations). Salaries in academia, compatibility with parenthood, compatibility with a partner's career plans, and the need to apply for funding were considered unattractive by more than half of respondents. Most unattractive appears to be the infrequent availability of permanent positions, judged negatively by 83% of doctoral researchers (see Figure 3.5).

Exclusively taking into account responses from doctoral researchers who are planning to leave academia, this trend remains largely the same although all given factors appear to be evaluated a bit more negatively (see Figure 3.6). More than 90% of doctoral researchers

planning to leave academia evaluate the availability of permanent positions in academic research as unattractive. The aspect of academic research judged most favorably, the chance to be of service to society, is only considered attractive by half of these researchers.

3.3 Why Join the MPS?

Of the suggested reasons for joining the MPS for doctoral studies, the most common answers were the MPS' scientific excellence (71%) and an interest in the research of a given institute (61%) (see Figure 3.7). About one in five doctoral researchers joined the MPS because of the prospect of a structured PhD program, and only 15% of doctoral researchers state that pay and benefits offered by doctoral research with the MPS were a factor for choosing the MPS.

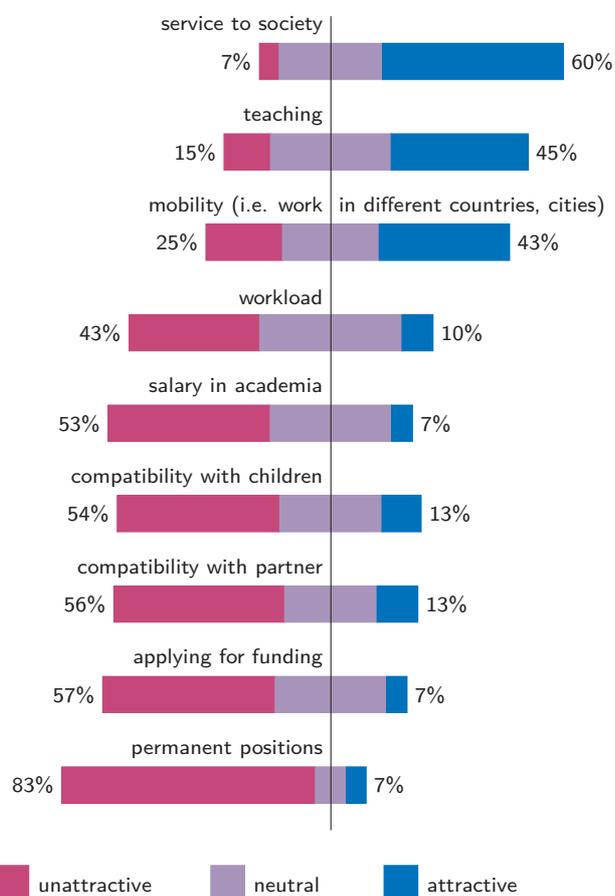


Figure 3.5: "How do you judge the following aspects of an academic research career?" ($N = 2218$).

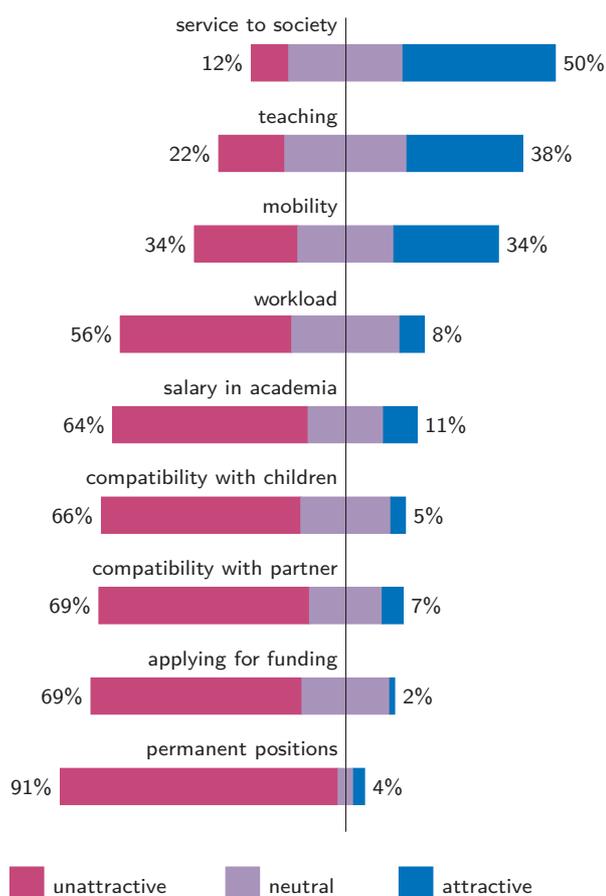


Figure 3.6: “How do you judge the following aspects of an academic research career?”. Responses from participants who do not intend to pursue a career in academic research only.

Additional information provided in the survey’s comment boxes suggests that many doctoral researchers chose the city they wanted to pursue their PhD in before deciding on a suitable institution. Many responses also state that dissatisfaction with the universities gave the incentive to search for a PhD position at an extra-university institution. These results show that the key to attracting doctoral researchers is the Society’s reputation for scientific excellence and the output of novel research.

3.4 Scientific Output

About half of the current doctoral researchers in the MPS have at some point in their scientific career successfully submitted an article to a peer-reviewed journal (see Figure 3.8). The most common type of contribu-

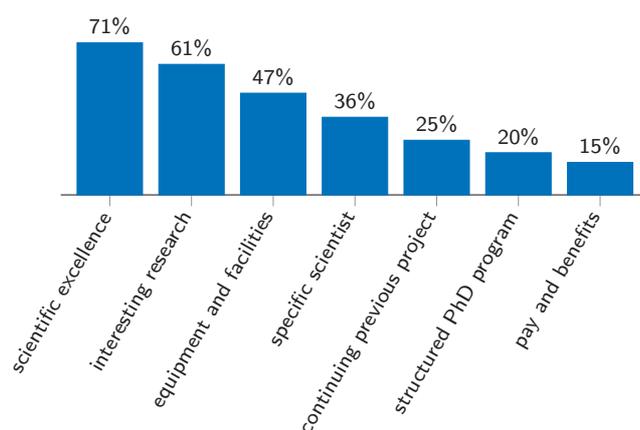


Figure 3.7: “Why did you start your work on your doctoral thesis at the Max Planck Society?” Percentage of total responses. Multiple answers possible.

tion to academia occurs in the form of posters and talks at conferences (79% and 60% of respondents, respectively). Less than one in ten doctoral researchers have contributed a chapter to a specialist book and even fewer have submitted a patent application (3%).

While many doctoral researchers in their first year report contributions to conferences in the form of posters (66%) and talks (42%), more than a third have already published a journal article. It is likely that most of this scientific output is related to research activities prior to the start of the PhD, such as Master’s theses. Most additional scientific output is produced by doctoral researchers after their second year.

The MPS co-founded the international Open Access movement and has for years consistently supported Open Access publishing. About two thirds of Max Planck doctoral researchers support the idea of Open Science; only 7% reject the notion of publishing their findings on an Open Access platform. Currently, only 13% of respondents have data that they would like to publish openly if they got help in finding an appropriate way to do so. The majority of respondents does not know whether their supervisor supports Open Access publishing (62%), but 30% report that their supervisor does (see Figure 3.9).

Across the different sections, researcher’s stances towards Open Science are quite similar. Respondents from

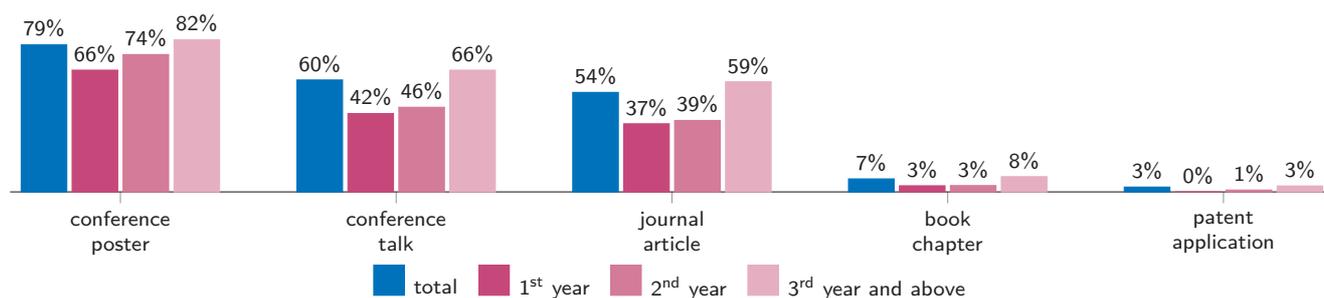


Figure 3.8: “Which of the following types of scientific output have you published so far during your doctoral research?” Percentage of affirmative answers grouped by year of PhD. Multiple answers possible.

the BM section are less likely to already have published findings on an Open Access platform than CPT or HS researchers (16% compared with 25% or 24% respectively). BM researchers are also slightly more likely to not know about their supervisor’s opinion (65% compared to 60% each in CPT and HS). CPT supervisors are more likely to support (33%) Open Science compared to BM (26%) and HS (29%) supervisors, while supervisors in the HS section seem to be most likely to reject the idea (11% vs 9% in BM and 7% in CPT).

Ensuring a commitment to Open Science will require increased efforts to include it into the framework of doctoral training from the very start. Additionally, supervisors must not only be aware of Open Science practices, but actively encourage doctoral researchers to engage in them.

Summary

- A slight majority (52%) of doctoral researchers reporting wanting to stay in academia, down from over 70% in 2012, but only 37% believe they will be doing so ten years from now.
- As researchers progress in their projects, their plans for the future and their expectations remain relatively stable. The largest changes manifest in an increased interest in going into the private sector (30% to 36% for scientific research positions, 9% to 19% for non-scientific jobs) and a decreased interest in public scientific research (56% to 50%). By the end of their project, 1 out of 5 doctoral researchers is interested in obtaining a position in the private sector.

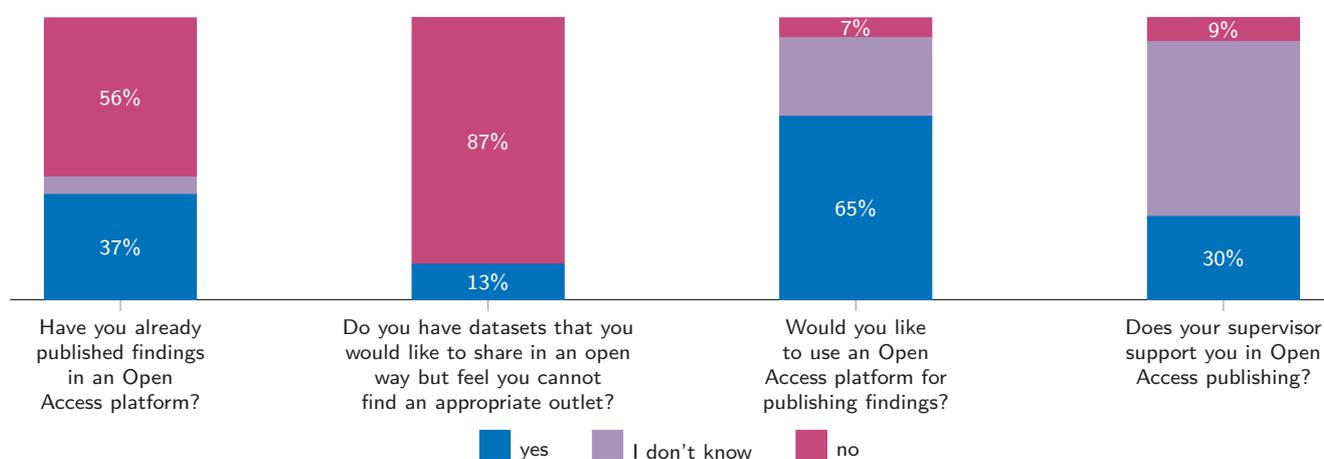


Figure 3.9: Responses concerning Open Access publishing represented as percentage of total responses. Full questions on x-axis. For the question on the far left, only respondents who reported already having published an article in a peer-reviewed journal were taken into account.

- Researchers with a German background, and those who already have children, express a higher interest in remaining in Germany once they finish their project (70% each).
- Of those researchers wanting to remain in academia, those identifying as female are less likely to want so, when compared to those identifying as male (35% vs 41%). While parents are not less likely to want to pursue an academic career, mothers are less likely than fathers (26% vs 41%). Non-European researchers are more likely to wish to stay in academia: more than 50% want to do so.
- Regarding academia, more than 50% found the salaries, compatibility with having a family, the need to apply for funding and the lack of permanent positions to be unattractive (81% found this last point unattractive). In 2012, most doctoral researchers were also apprehensive about this uncertain career path. The strongest reason for wanting to remain in academia was the opportunity to be of service to society (60%).
- When asked why they joined the MPS, 71% point to the Society's reputation for scientific excellence or a strong interest in specific institute (61%). Only 15% found the pay and benefits as an appealing factor.
- Half of the researchers have successfully submitted an article to a peer-reviewed journal, 79% have presented a poster at a conference and 60% have given a talk. Fewer than 3% have submitted a patent application.
- While two thirds of researchers support Open Science, only 21% have published findings on an Open Access platform. Researchers from the BM section are less likely to have done so (16%) and are more likely to report not knowing what their supervisor's stance on the topic is (65%).

Chapter 4

Equal Opportunities

In this chapter we investigate sources of inequality within the MPS. In the survey we asked doctoral researchers whether they identify as part of a minority group and how they experience research and work in the MPS. We also investigated the prevalence of mental and chronic health issues that arise during the doctoral research and how the MPS can both prevent this and provide for researchers affected.

4.1 Gender Equality

In previous and following sections we explore gender equality with regard to specific aspects of a doctoral researchers life e.g. funding, parenthood and satisfaction. In the following, we present comments from doctoral researchers that represent current attitudes and practices of gender equality in the MPS.

Comments

- This might be very subjective, but I have the feeling that the women in our group are not so much send to conferences abroad (i.e. not in Germany).
- I REALLY(!) appreciate the first two questions in this last block regarding assigned sex at birth and gender identity! Thank you so much for this! :)
- There is a “Team Mentoring Program” organized by the Equal Opportunities Office. But it is only meant for biologically female persons.
- My supervisor frequently makes inappropriate remarks resulting from lab member being

women/mothers. I think he is often unaware of the effect of his remarks, they are none the less insulting.

4.2 Mental Health

Mental Illness

A total of 104 (5%) doctoral researchers report they have been diagnosed with a mental illness, specifically during their project. Additionally, twenty respondents used the comment box to report having had mental issues, bringing the total number of doctoral researchers suffering or having suffered from mental health issues to 124 (6%). Mental health issues appear to be somewhat more prevalent in female than in male researchers. Most of those affected, however, did seek out medical treatment of their condition (85%).

Our analysis did not suggest any connection between mental health issues and working hours (46.5 h vs 47.1 h), amount of holidays, or year of PhD. The net income of doctoral researchers with mental health issues do not differ from those of researchers not afflicted (average of €1555.50 vs €1528.24).

Mental health issues are, however, more prevalent in doctoral researchers who are dissatisfied with their supervision or their working situation in general (see Figure 4.1). Doctoral researchers suffering from mental health issues tend to get shorter extensions, are less likely to have children, and are slightly more likely to be funded by stipends. While researchers with mental health issues appear to be equally distributed across

the sections, researchers from America are more likely to have received a diagnosis of mental illness, while researchers from Asia and European countries not part of the EU are less likely. Due to small sample size, data for African and Australian researchers cannot be considered representative.

Among those 104 doctoral researchers having received a diagnosis of mental illness, 29 (28%) have reported experiencing discrimination from their Max Planck Institute due to their condition.

It is important to bear in mind that these results do not take into account doctoral researchers suffering from undiagnosed mental illness, or diagnoses prior to the start of their work with the Society.

Stress-related symptoms

The survey further inquired about a number of symptoms related to stress and their prevalence among the Max Planck doctoral researchers: back pain, chronic fatigue, sleeplessness, depression, burnout, migraines, and eating disorders (see Figure 4.2). While self-reported and not necessarily requiring an official diagnosis, these

symptoms can be linked to burn-out syndrome which can have a severe impact on researchers' ability to work. Of these, back pain and sleeplessness are the most common symptoms among doctoral researchers, afflicting more than a third of respondents. Two in three researchers state that they are suffering from at least one of these symptoms while a quarter of the respondents report suffering from three or more of the symptoms. The proportion of researchers reporting at least one symptom matches the results from the 2012 Survey, however, the number of respondents suffering from more than three has increased (8% vs 13%).

It appears that doctoral researchers who are less satisfied with their supervision tend to report a larger number of stress-related symptoms (see Figure 4.3). There is some indication that stress-related symptoms coincide with thoughts of quitting the doctoral studies. Furthermore, older doctoral researchers and those further along in their studies report more health problems as well.

It should be noted that the data, while indicating a correlation between stress-related symptoms and supervision satisfaction in doctoral researchers, do not pro-

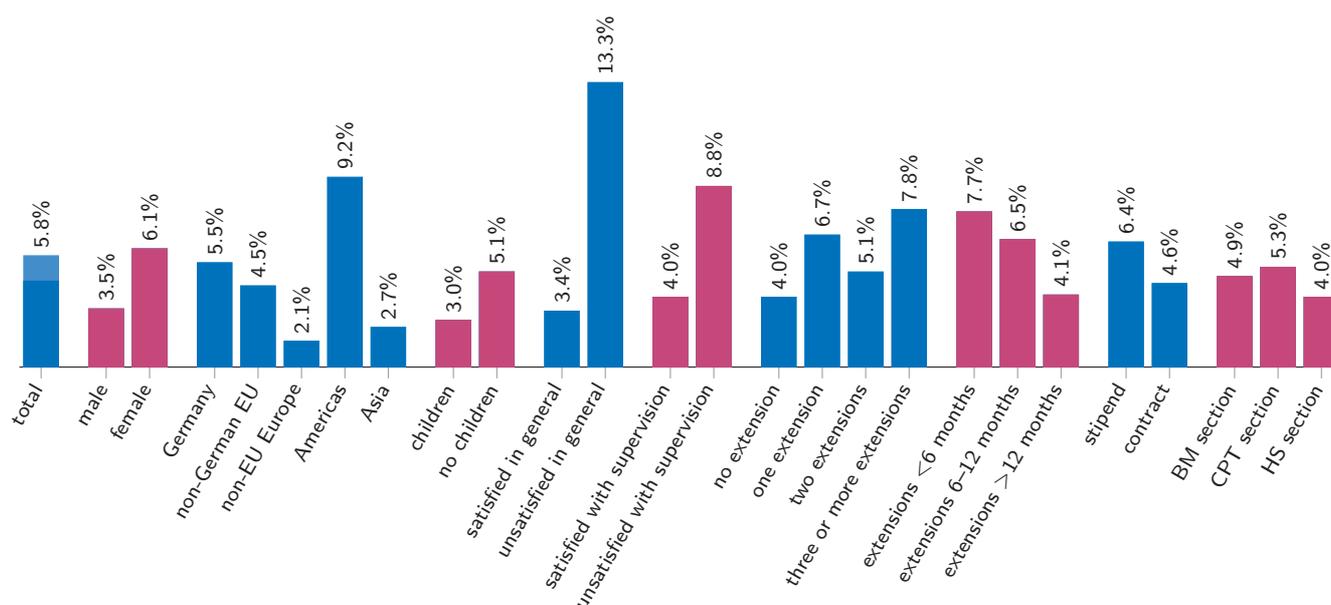


Figure 4.1: “Have you been diagnosed with a mental illness during your PhD?”—answers grouped by gender, nationality, parenthood, general satisfaction, satisfaction with supervision, number and length of extensions, type of funding, and section. Data for respondents with African or Australian nationality not included due to small sample size. Total number also contains [respondents that disclosed their condition in free text comments only](#).

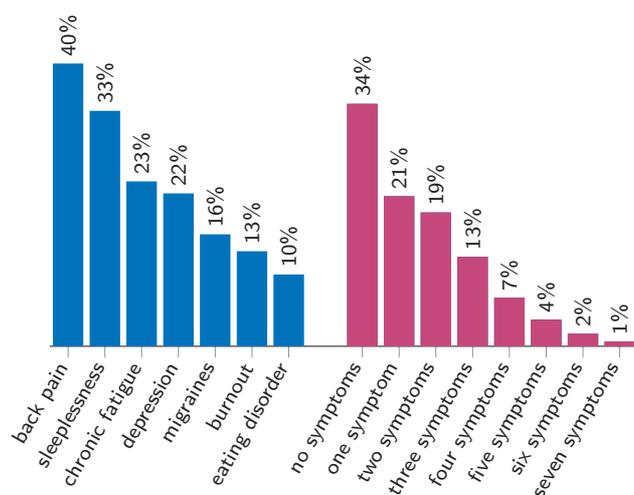


Figure 4.2: “During your doctoral research, have you had health problems with any of the following conditions?”. Multiple answers possible. Also included are percentages of respondents giving multiple affirmative answers to symptoms listed.

vide any evidence for a causal connection between the two.

Most of those afflicted with stress-related health problems state that their work is a significant contributor to these problems (65%), while many of the others claimed that they don’t know whether their work contributes (23%). However, only 42% of researchers reporting stress-related symptoms have sought treatment for their health issues. Some of the affected doctoral researchers respond that they have not told anyone about their problems (20%), and a small number (48 researchers, 4% of respondents) report that they have experienced discrimination after disclosing their condition. A substantial fraction of doctoral researchers (36%) also reports finding it difficult to take time off for health problems.

This indicates that for many Max Planck doctoral researchers, their work is a substantial source of stress and potential medical issues, but a significant proportion of researchers feel that they cannot address the resulting health problems in an adequate manner. In some cases, an attempt to broach the subject of their problems at work appears to lead to discrimination. Many doctoral researchers appear to feel compelled to ignore their symptoms instead of taking adequate measures to recuperate.

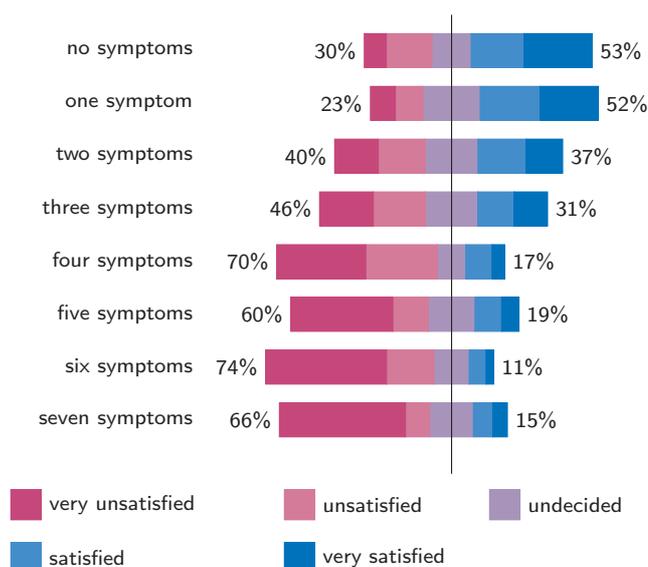


Figure 4.3: “During your doctoral research, have you had health problems with any of the following conditions?” Responses grouped by answer to “Please rate your overall satisfaction with your PhD supervision”.

In this survey, women were slightly more likely to report suffering from any of the given symptoms (74% of respondents suffering are female compared to 61% who are male)(see Figure 4.4). Doctoral researchers from non-EU European countries reported being affected by at least one symptom more often than respondents from other countries. The strongest relationship was found between the occurrence of stress-related symptoms and an expression of general dissatisfaction. Stipend-holders are somewhat more likely to develop health problems than researchers with a contract, while researchers working in the CPT section appear slightly less likely. Stress factors seem to be least prevalent in researchers that did not obtain any contract extensions.

A very clear correlation can be drawn between the occurrence of stress-related symptoms and the year that the doctoral research was started (see Figure 4.5). The prevalence of stress-related health problems rises during the first three years of doctoral research. New cases of stress-related symptoms do not appear to develop until after the fifth year. This could be due to third-year doctoral researchers accepting they will require an extension and not experiencing significantly more pressure until after the fifth year.

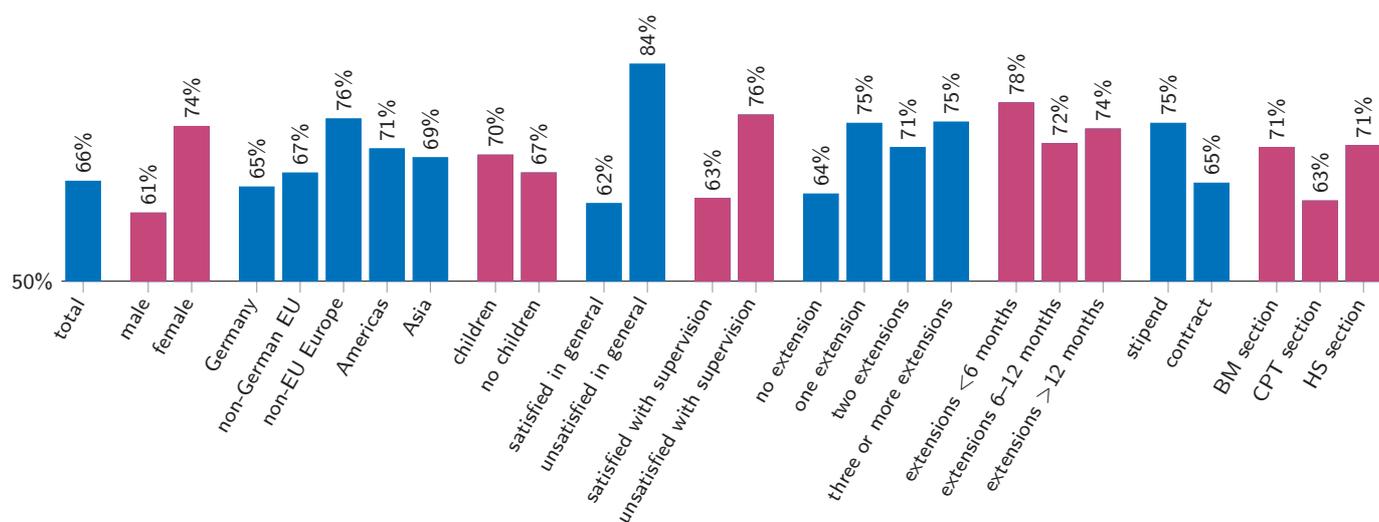


Figure 4.4: “During your doctoral research, have you had health problems with any of the following conditions?” Percentage of affirmative answers to any symptom grouped by gender, nationality, parenthood, general satisfaction, satisfaction with supervision, number and length of extensions, type of funding, and section. Responses from researchers with African or Australian nationality not included due to small sample size. In favor of a clear visualization, percentages above 50% are shown.

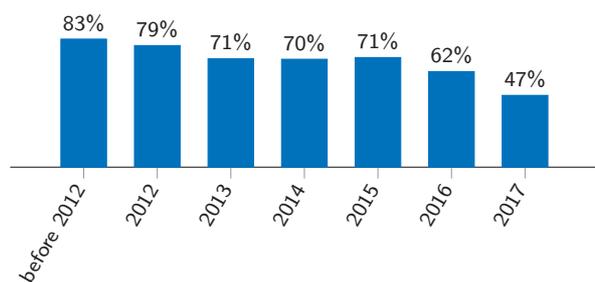


Figure 4.5: “During your doctoral research, have you had health problems with any of the following conditions?” Percentage of affirmative answers grouped by start year.

On the other hand, no connection was evident between reports of stress-related symptoms and net income (€1526.35 vs €1533.95), working hours (47.87 h vs 45.40 h), and number of holidays (22.56 d vs 22.23 d).

4.3 Minority Groups

The doctoral researchers of the MPS hail from a broad and diverse spectrum of scientific, cultural, and social backgrounds. It is not surprising that many of them identify as belonging to a minority group (see Figure 4.6).

By far the most abundant reason for doctoral researcher to identify as a minority is on basis of national-

ity or ethnicity. While feeling slightly underrepresented is naturally common in such a highly international working environment, a highly concerning 39% of researchers who identify as part of a minority on the basis of nationality also report feeling discriminated against because of this during their doctoral studies. Unfortunately, reports about discrimination on basis of gender are also quite common (132 respondents, 109 of them female). Interestingly, researchers also reported, via comments, that coming from a working class background is also a factor that makes them feel part of a minority group.

Importantly, it is possible that the prevalence of minority groups is underestimated by this survey. For example, 382 researchers (17%) report minority status on basis of nationality but in total 52% of students are not from Germany, and 21% (456 researchers) are from Asia. Equally, only 92 researchers (4%) report identifying as a minority based on sexuality, while the prevalence of people with a non-heterosexual orientation in the general population has been suggested to be much higher. As we ask researchers to self-identify, researchers who do not feel as if they are in the minority, but would technically be considered as part of a minority group, would not respond to this question.

In the following, we present comments from doctoral researchers that represent the general situation of minority groups in the MPS.

Comments: Nationality & Ethnicity

- There seems to be a conception that people from a certain nationality or ethnic group are more suitable for one kind of work and this kind of work only. Such prejudices are hard to overcome and tend to stunt a student's growth at times as one might not be encouraged to foray into a field of work that is not deemed suitable for her or him based on their ethnic group or nationality.
- Living in a foreign country can be alienating. There seems to be no international support for new employees of this institute to assist in getting settled in or to be liaison for international personnel seeking living accommodations, tax help, or setting up a bank account.
- There are no interactions between German and international students. This in the future may lower the performance of Max Planck Institutes.
- I occasionally feel that there is a bit of a language barrier in our work environments. People tend to

slip into the local language, leaving non-German speakers feeling outcast.

Comments: Religion

- Aggressive comments against people who are believers considering they are less intelligent.
- Many scientists at our institute are atheists and some of them at least imply that being religious is stupid and goes against science.
- About the religion, I think that among scientists, religion is not appreciated or is seen as a weakness.

Comments: Others

- In principle there is financial support for and access to German classes, but the amount of supported courses is not sufficient, and we need permission from the supervisor.
- I wish there was an obligatory course for new group leaders to teach them their responsibilities as a group leader, or an obligatory course for new directors how to teach the group leaders what their responsibilities are.
- I am reliant on a wheelchair and like to point out that [my MPI] really takes care of my situation - in

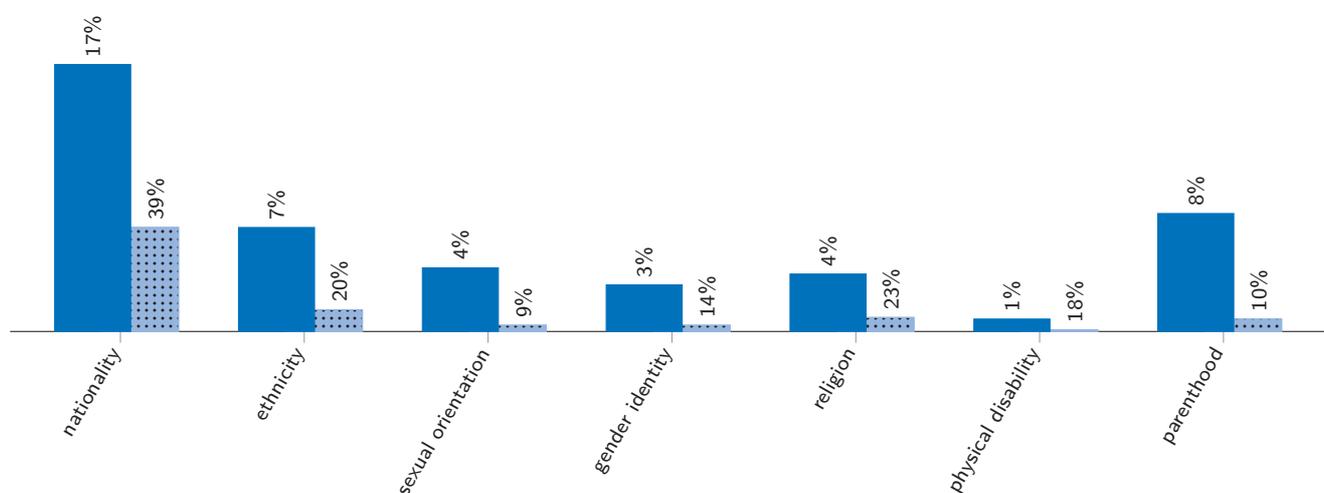


Figure 4.6: “Do you identify as part of a minority group based on the following grounds?” (percentages given of total number of respondents), “Have you ever felt discriminated against during your work at the Max Planck Society on the basis of:” (dotted, percentages given of those that identify as part of the minority). Multiple answers possible.

a positive way. [...] they try to give me the best conditions to focus on my research.

- I have chronic health problems that add a lot of stress to my situation and I don't really know who to contact and I don't feel supported regarding this...
- Usually there is some information emailed for various resources offered by the institute, in order to have a better working environment. But, at the same time, the high work load is the big hurdle for me to get to know about these facilities. And to avail any of these is even out of question, unfortunately.

4.4 Counseling Services

Equal Opportunities Office

The majority of respondents report being aware of an Equal Opportunities (EO) officer at their institute (65%), with 32% reporting that they do not know (32%), and only a small fraction (4%) reporting that their institute lacks such an official.

Most respondents (58%) feel able to approach their institute's EO Officer with their concerns. While many do not have an opinion on this (34%), 9% of researchers do not feel comfortable approaching their designated EO officer.

Via comments, respondents also express dissatisfaction with the German regulations by which an EO Officer is elected by only female staff members. Researchers report that this makes it seem like the EO Officer is only responsible for (binary) gender issues. More efforts must be made on part of the MPS to change this perception of the EO Officer and ensure that all doctoral researchers who experience disadvantages or discrimination as part of a minority group are represented by the EO Officer.

Medical Counseling

The majority of PhD researchers (57%) do not know whether or not physical or medical counseling services

exist at their institute. A portion of researchers (15%) report that their institute does not offer any such services. Of the total 28% of researchers who report having access to a counseling service, most report a purely physical counseling service (46%) while a small fraction reports a purely mental counseling service (13%) and a large portion claims that counseling services for both physical and mental concerns are offered at their institute (41%).

Reports about the language in which medical counseling is offered in do generally agree that German and English are both covered (66%). A smaller fraction claim that counseling services at their institute operate only in German (17%) or in English (17%).

Of those respondents reporting that no medical counseling service is established at their institute, only 10% state that their institute offers instead help in finding an appropriate counseling service.

These results suggest that an additional effort should be made by the institutes to inform employees about counseling opportunities both at and outside of the workplace.

Comments: EO Office & Counseling

- Only women are allowed to run for our Equal Opportunities office and only woman are allowed to vote. Under this circumstances, I find the term "equal" to be very misleading.
- We need more regular counseling related to physical and mental health of PhD students along with career counseling. Regular health check ups should be considered a necessity for PhD students in general.
- Psychological support such as therapy should be provided since there are many cases of depression and / or other psychological disorders in PhD students.
- Very often, the pressure to get results is very high, resulting in working very long hours and consequently having burnout and sleeplessness. In my

case, it lead into anxiety issues and chronic fatigue. I needed the help of an specialist.

4.5 German Classes

Most Max Planck institutes appear to offer German classes for doctoral researchers joining from outside Germany (76%). Only a minor percentage of respondents report not having this option (5%); the remaining 19% state they do not know.

The classes offered are satisfactory, according to most participants (65%). Only one in six researchers (17%) was dissatisfied with the language courses.

No connection was found between foreign researchers taking German classes, their level of satisfaction with them and the occurrence of stress-related health problems.

Summary

- Of the Max Planck doctoral researchers, 6% report having been diagnosed with a mental illness since the start of their work or explicitly indicate mental health issues (1%). Most of the affected report having sought treatment (85%).
- No relationship between mental health issues and working hours, holidays, income, or stage of the PhD is suggested. Researchers reporting dissatisfaction with supervision are more likely to report mental health issues. They are less likely to get extensions, have children and more likely to be funded by stipends. 28% report feeling discriminated at their Institute due to their illness.
- Two out of three researchers report at least one of possible seven symptoms of stress, linked to burnout. While the proportion of researchers reporting at least one symptom matches that of the 2012 survey, the number of reports of at least three symptoms has increased (8% to 13%). Those dissatisfied with supervision tend to report more symptoms and 65% consider their work a significant contributor to these symptoms. Only 42% of researchers reporting these symptoms have sought out treatment and 20% indicate not having told anyone. 36% say they find it difficult to take time off to deal with health problems. 74% of those identifying as female are more likely to report at least one symptom, compared to 61% of those identifying as male. Researchers in later years of their project report a higher prevalence of one of these symptoms.
- Less than half (46%) of researchers have considered quitting at some point, with this number increasing for those at later stages of their project and being slightly higher for those identifying as female (52%, for males it is 39%). Those that met more frequently with their supervisors were less likely to have considered quitting (40% if daily, 67% if less than once per month). Of those that have considered quitting, the most prevalent reasons were linked to worries about their career (57%) and the pressure of their project (49%).
- Of those who identify as part of a minority group (gender, sexuality, disability, religion, nationality and ethnicity), 39% report having felt discriminated against. Most reports linked to gender discrimination are attributed to those identifying as female.
- About two third (65%) of researchers report being aware of an EO officer at their Institute, with 58% feeling able to approach the officer with their concerns. Some researchers feel uncomfortable that only those identifying as female can vote to elect the EO officer.
- Most researchers don't know if physical or medical counseling is offered at their Institute (57%), while 76% report their Institute makes German language courses available to non-German researchers. Two out of every three participants (65%) are satisfied with these courses.

Chapter 5

Funding and Work Hours

Recently, there have been changes in the way doctoral researchers of the MPS are funded and supported during their research. Most notably, since 2015 researchers should be financed by a contract rather than a stipend, which corresponds to a minimum of 50% of TVöD level 13. This change was one that PhDnet has been very active in promoting. In this chapter we investigate how researchers are funded within the MPS, how researchers support a living with their salary and to what extent researchers work outside of their contractually obligated hours.

5.1 Types of Funding

With the recent changes implemented by the MPS, the majority of doctoral researchers are now financed by contracts (79%) (see Figure 5.1 and 5.2). This is a dramatic increase from previous years (2009 and 2012) where the ratio of researchers funded by a contract to those funded by stipends was about 50/50.

The majority of contracted researchers are financed by either a TVöD (Tarifvertrag für den öffentlichen Dienst Bund - translated: Collective Wage Agreement for the Civil Service) contract (48%) or *Fördervertrag* (roughly translated: 'support contract')(40%) with only a small number of researchers (12%) citing other types of contract-based employment or not wanting to disclose this information (see Figure 5.1). Unlike the TVöD contract, which is a general employment contract with 30 days of holiday, the *Fördervertrag* is tailored for doctoral research. Researchers with a *Fördervertrag*

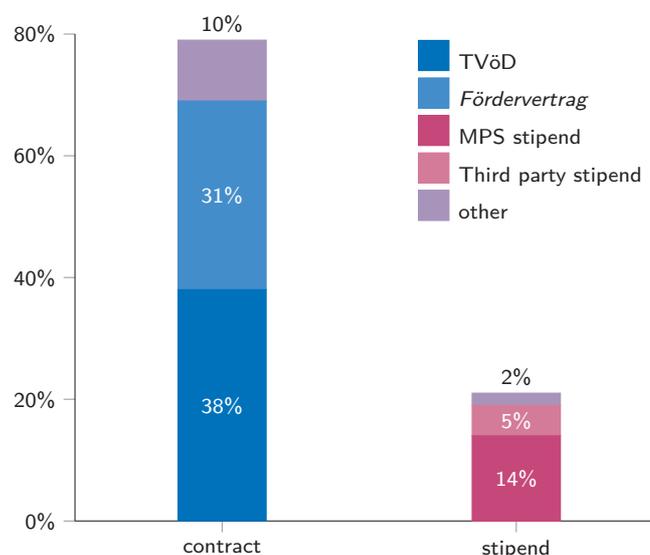


Figure 5.1: "How is your doctoral research financed?". "Other" category includes also "I don't know" and "I don't want to answer this question" answers

are funded and employed specifically for their scientific project and any activities a researcher is asked to carry out in this employment framework must serve their doctoral qualification. Through this the MPS wishes to protect researchers from being asked to carry out other activities that do not directly serve their doctoral qualification (e.g. teaching, administrative work). The *Fördervertrag* also comes with 20 days of holiday, the legal minimum for full-time employees in Germany. Type of contract does not appear to correlate with work hours spent on PhD vs total work hours, or with net income, which is disappointing. However, it must also be recognized that it seems that not all doctoral researchers are clear which contract they hold i.e. roughly 40% of researchers claim to have a TVöD contract but only 20%

of researchers report having 30 days of holiday available to them, see Figure 5.14. This discrepancy could be attributed to the similar payment system based on the TVöD levels for both contracts. Further efforts must be taken by the local institutes to clarify the different contracts to the doctoral researchers. Therefore, in the following, the only distinction made will be between contract and stipends.

The majority, about two thirds, of stipend holders are financed via a MPS stipend, with only 10% of doctoral researchers having a third party stipend or other source of income. Compared to the results of the surveys of 2009 and 2012 the share of stipend holders has gone down from 50% to 24%, due to the decision of the MPS to give contracts to all new doctoral researchers starting after 2015. This trend is also clearly visible in Figure 5.2, where the constant percentage of $\sim 33\%$ in 2011 through 2014 decreased to 21% in 2015 and even further for later years. These data indicate that institutes are complying with the new funding directives. Still, the percentage of stipend holders from doctoral researchers starting in 2016 (8%) and 2017 (4%) is not yet zero, but a very promisingly low. Unfortunately, opposing this trend, there are some institutes where still more than 50% of doctoral researchers are funded by a stipend. We believe this might be due to the directives in place prior to 2015 and we expect this to become less common in the future. Additionally, it should be noted that this survey may include responses from doctoral researchers affiliated with a Max Planck Institute whose research is funded by external, third-party stipends.

Non-Germans still appear more likely to hold a stipend (see Figure 5.3), which is disappointing. Interestingly, the BM section appears to have more stipends compared to the total average, while the CPT section has less.

90% of stipend holders were reportedly not given a choice concerning their source of funding, and 41% of stipend holders were not informed about health insurance or other implications of having a stipend; a further 43% were only partially informed (see Figure 5.4).

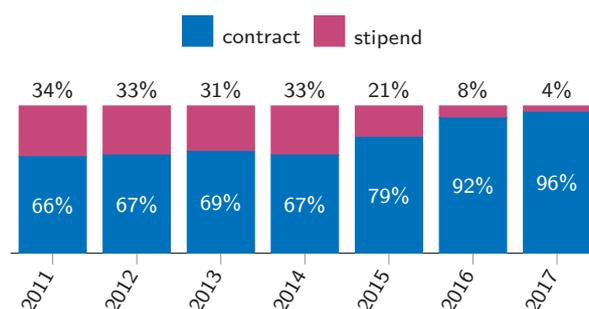


Figure 5.2: “How is your doctoral research financed?” Responses grouped by start year of PhD. Responses from students starting before 2011 were excluded from this analysis due to insufficient data. Responses stating “I don’t want to answer that question” or “I don’t know” were excluded for this analysis.

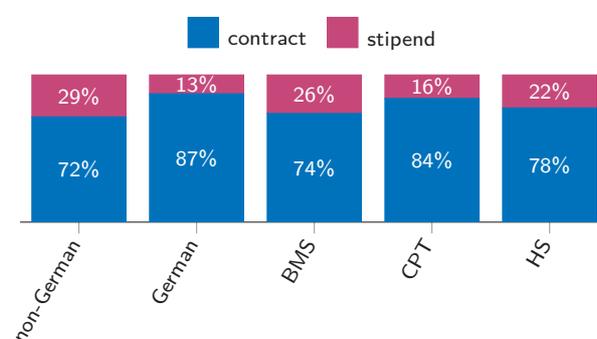


Figure 5.3: “How is your doctoral research financed?”, grouped by nationality and section.

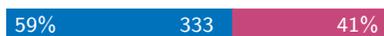
The minimum payment level that the MPS prescribes is 50% of salary group 13 level 1 of the TVöD, and it is at the discretion of each individual institute to award a recruitment bonus on top of this. The Society allows to grant a recruitment bonus (german: *Gewinnungszulage*) in specific cases to bring the total payment level over 50%, however, of the doctoral researchers financed by either a TVöD contract or *Fördervertrag*, more than half (54%) have a 50% contract. Only 26% of researchers have a 65% contract while 13% of researchers have a contract level greater than 65%. Importantly, there are differences between sections, with HS researchers more likely to hold a 50% or less contract and CPT researchers more likely to hold a contract greater than 65%. BM researchers seem to be more likely to have a contract between 65% or 50%.

In line with this, differences in total income (for both contract and stipend holders) are also significant be-

Did you get the option to choose between a contract and a stipend?



Were you informed about implications of a stipend?



Do you receive any of the following extras?



■ yes ■ no

Figure 5.4: Details about stipends answered by stipend holders. The answers for the second question were "Fully Informed" (7) and "Partially Informed" (191) are for visual reasons only shown as "Yes". Full questions for Top and Bottom plots included in the figure, Full question for Middle: plot "Have you been informed about your options concerning health insurances (i.e. difference between public and private health insurance, contractual limitations) and other implications of the stipend (pension, work obligations) before accepting it?"

tween sections. CPT researchers report the highest average income (€1700) with BM second (€1500) and HS reporting the lowest average income (€1300). Strikingly, three institutes from the HS section appear to have an average income of less than €1300. There appears to be no correlation between income and total work hours—more work does not appear to equal higher income.

There is a slight correlation between identifying as male and earning a high income salary (above €1800, see Figure 5.5), however this is most likely due to the fact that these high income responses mainly came from CPT doctoral researchers where there are twice as many male as female, or other, identifying researchers.

5.2 Subsistence on a Doctoral Salary

In general, doctoral researchers tend to believe that they are paid either the same as researchers in other institutions (30%) or less (29%) (see Figure 5.7). A further 28% does not know and 13% believe that they are paid more.

About half of researchers report being "satisfied" or "very satisfied" with their salary (see Figure 5.8). Researchers on a stipend were more likely to report being "unsatisfied" or "very unsatisfied" than those with a contract. When considering the TVöD level of payment researchers receive, higher wages correlate clearly with a higher degree of satisfaction.

On average, doctoral researchers spend between 20-50% of their income on rent. Although there is great variation in both average income and rent cost per city, there seems to be no correlation between the size of the city and the amount a doctoral researcher spends on rent. 19% of doctoral researchers received additional financial support (17% from partners, family or others) or have taken out a loan (2%) to support themselves during their research. Those who receive financial support are more likely to have a low income and be parents and/or stipend holders. Further, non-German doctoral researchers are more likely to receive additional financial support from others.

5.3 Funding Duration

One quarter of doctoral researchers reported receiving an initial stipend or contract for less than three years, 70% received funding for three years exactly, and 5% report having obtained a stipend/contract for a longer period of time. Researchers who started their project before 2015 are significantly more likely to have received a contract for less than three years, which is in line with the new contract regulations introduced by the MPS in 2015. Generally, contracts are more likely to be three years while stipends are more likely to be either one or four years.

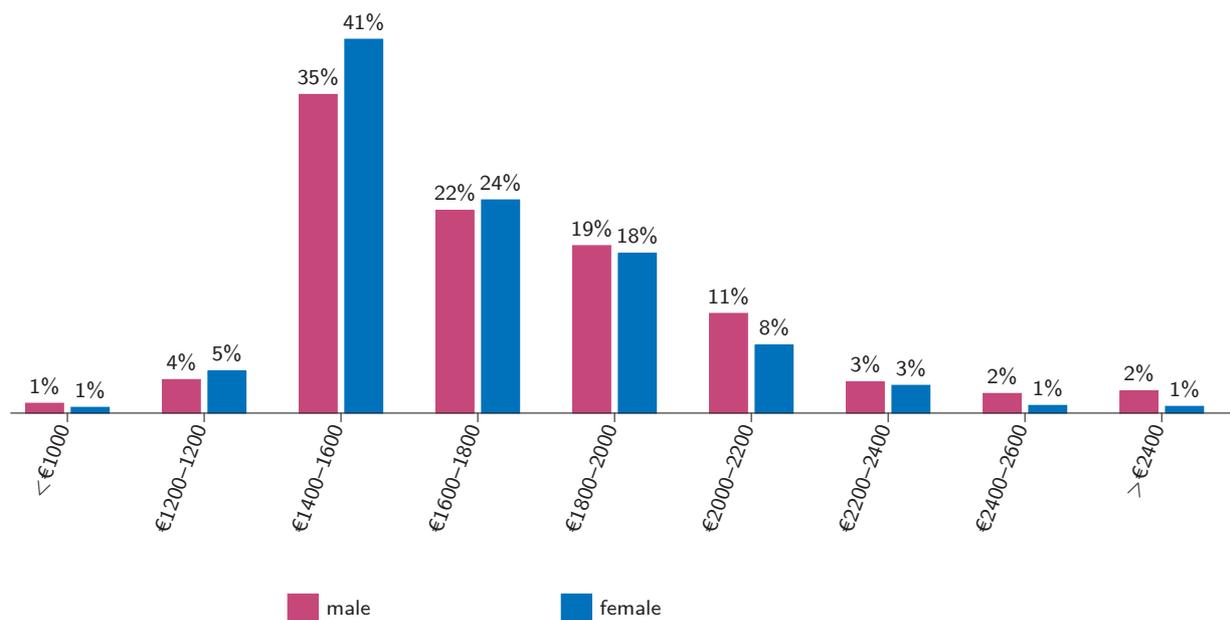


Figure 5.5: “Please specify the monthly net amount of money given to you for your doctoral research work” Responses grouped by male or female gender identity. N= 1107 (male) & N=946 (female) Percentages correspond to percentage of answer per gender.

A concerning 32% of doctoral researchers do not know how their research would be funded if they exceed the initially allotted time. However, only 4% of researchers said they were certain their funding would not be renewed. 36% of doctoral researchers have received an extension of funding, and a further 34% expect to receive one (see Figure 5.9). Importantly, the majority of researchers who responded to our survey either have not (98%) or do not foresee (90%) working unpaid during their doctoral research (see Figure 5.10). It is important to keep in mind that researchers in earlier years of their PhD were more likely to respond to this survey, and that researchers who are working unpaid at the end of their doctoral research may be less likely to respond, or less likely to have been contacted in the first place. The true prevalence of unpaid work might therefore be hidden, supported by the fact that one in ten researchers expect to be working unpaid at some point.

Of the researchers who either have been or foresee being unpaid at some stage of the thesis, there was no consensus at which stage this occurs. Interestingly, researchers who work or expect to work unpaid are more likely to hold a stipend than a contract.

5.4 Working Hours

On average, doctoral researchers work 47 hours per week with 81% of researchers working more than their contractually obligated hours. This appears to be uncorrelated to the type of funding (contract vs stipend, TvÖD vs *Fördervertrag*, etc.). Interestingly, doctoral researchers who report being dissatisfied with the supervision they receive tend to work longer hours, as do doctoral researchers in later years (see Figure 5.11 & Figure 5.12).

Doctoral researchers spend on average 35 hours per week on their doctoral thesis and 12 hours on non-doctoral research related tasks. Researchers funded by a *Fördervertrag* spend an equal amount of their time on non-doctoral thesis related tasks as those funded by other means.

Overall, 61% of researchers report being either “satisfied” or “very satisfied” with their workload.

5.5 Extra Work Hours

The majority of doctoral researchers report either 20 (67%) or 30 (20%) days of holiday. A potentially con-

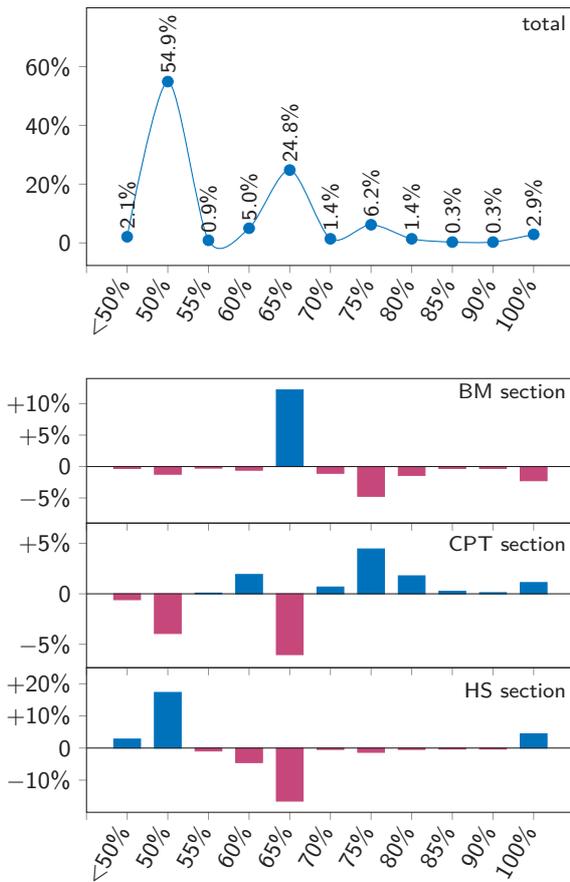


Figure 5.6: “What is the level of payment according to the TVöD levels?” Responses for doctoral researchers on a contract only. Top: total distribution over all sections. The three plots below show the difference to the total distribution for each section. For example, overall around 25% of doctoral researchers are paid 65% TVÖD. In the BM section this percentage is higher at around 35% and lower (at 20%) in the CPT section.

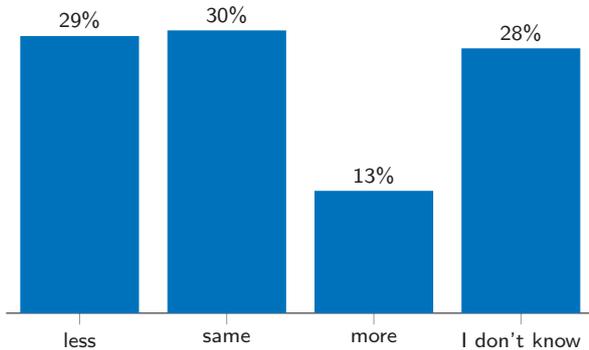


Figure 5.7: “Compared to the average salary, how are you paid in comparison to doctoral researchers from other local research institutions in your field of study?”

cerning 13% do not have any holidays specified in their contract/stipend terms, however this may be due to the fact that stipends do not typically specify this. The ma-

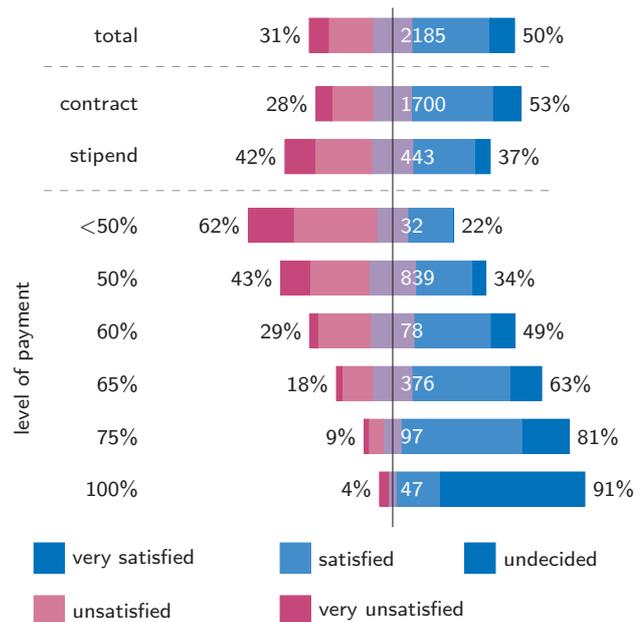


Figure 5.8: “Please rate your overall satisfaction with the following aspects of your PhD: Salary/benefits.” Top: total salary satisfaction; Middle: salary satisfaction vs funding method; Bottom: salary satisfaction vs level of payment according to TVöD (only shown for levels with upwards of 30 respondents.)

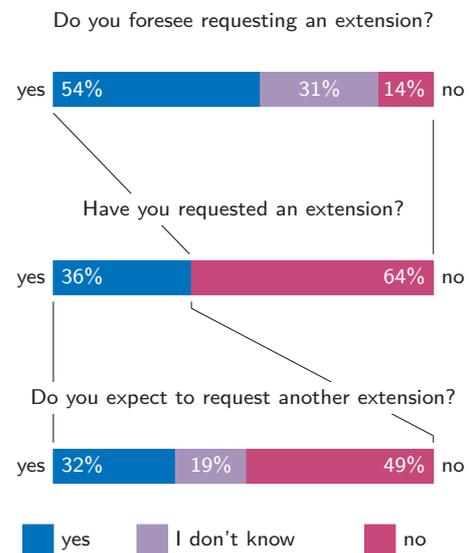


Figure 5.9: Extension of Funding. Full questions presented in the figure.

jority of doctoral researchers seem to take all or more than half of the holidays available to them (see Figure 5.13). 47% of researchers report being “satisfied” of “very satisfied” with their holidays, while 38% report being “unsatisfied” or “very unsatisfied” (see Figure 5.14). Of researchers who have 30 days of holiday available to

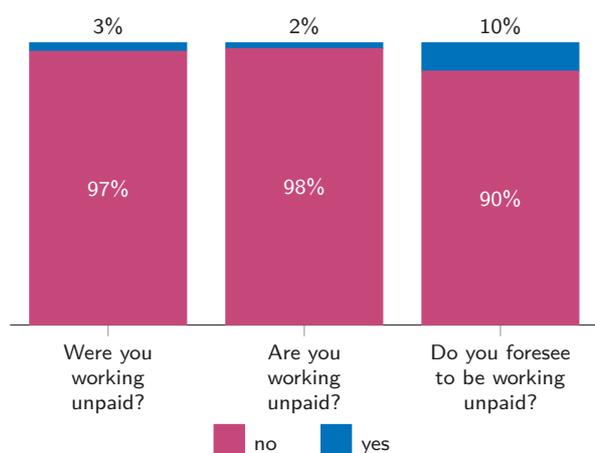


Figure 5.10: “Are you, were you or do you foresee to be, working unpaid for your doctoral research?”

them, 91% report being “satisfied” or “very satisfied”, while researchers with 20 days are much more likely to be ‘Unsatisfied’ or “very unsatisfied”. German researchers are more likely to be satisfied with their holidays, as are parents. There is little correlation between how many holidays were taken and how satisfied researchers are with the amount of holidays available to them, save to say that researchers who take all of their holidays are slightly more likely to report being “unsatisfied” or “very unsatisfied” with their holidays. Most likely, researchers with 20 days of holiday are overrepresented in the group of researchers who took all of their holidays. Further, in the comments, researchers have reported that 20 days of holiday is not enough.

80% of researchers feel free to take all holidays that are available to them. Of the 20% who did not, most cite high workload or pressure from supervisors as the reason they do not feel free to take their holidays (see Figure 5.15).

An overwhelming majority (90%) of researchers have worked on weekends or during public holidays (see Figure 5.16), mostly citing experimental demands (52%) or a high workload (69%); 16% claim they work better on weekends and 14% feel pressure from their supervisor to work on weekends or public holidays. Researchers who were more advanced in their projects, and BM researchers are more likely to work on weekends, which can be explained by experimental demands and time

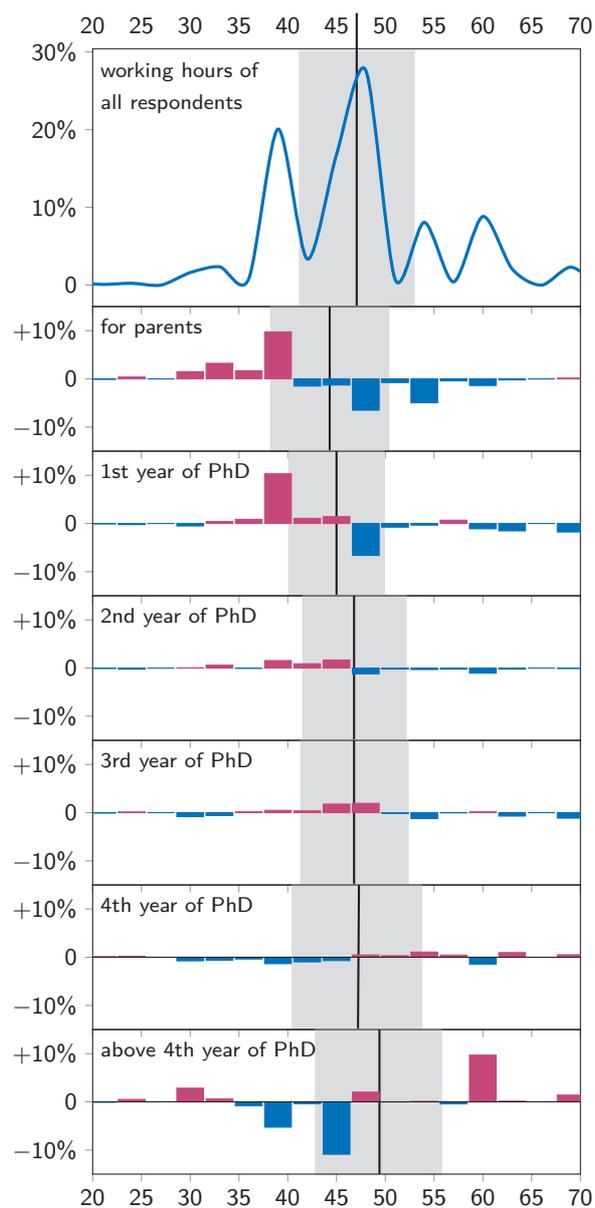


Figure 5.11: “How many hours do you work per week?” Top: total responses binned (3h) to show the overall distribution of working hours. The Y-axis reports percentage of total responses. Bar plots: each plot shows how the overall likelihood to work these hours changes when taking into account different aspects of a doctoral researcher's studies i.e. whether they have children or which year of their doctoral studies they are in. The black line corresponds to the average working hours, the grey area shows the 1σ standard deviation.

pressure. CPT researchers seem less likely to work on weekends or during public holidays (see Figure 5.17).

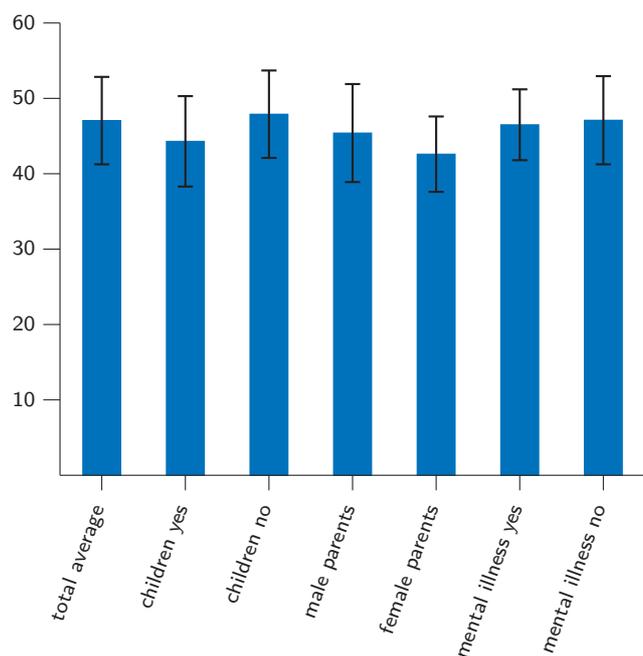


Figure 5.12: “How many hours do you work per week?” Mean working hours and standard deviation, grouped by parenthood and male or female gender identity

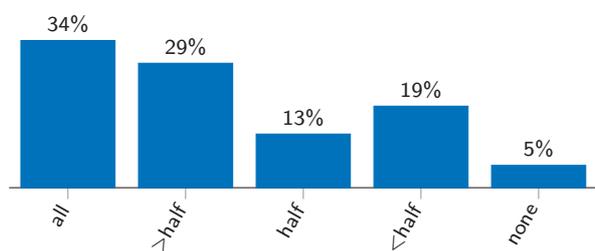


Figure 5.13: “What percentage of the holidays you are entitled to have you taken in the past year?”

Summary

- In 2017, 79% of doctoral researchers are funded by a contract, a dramatic increase from the nearly 50/50 split observed in 2012. Non-German researchers are more likely to still hold a stipend (87% vs 72%). A total of 14 Institutes still finance at least half of their researchers via stipends. 90% of stipend holders were not given a choice and 41% were not fully informed of the consequences of holding a stipend.
- Almost half of the doctoral researchers funded by a contract report to have a TVöD contract, while 40% mentioned to have a *Fördervertrag*. However, these numbers must be taken cautiously since there

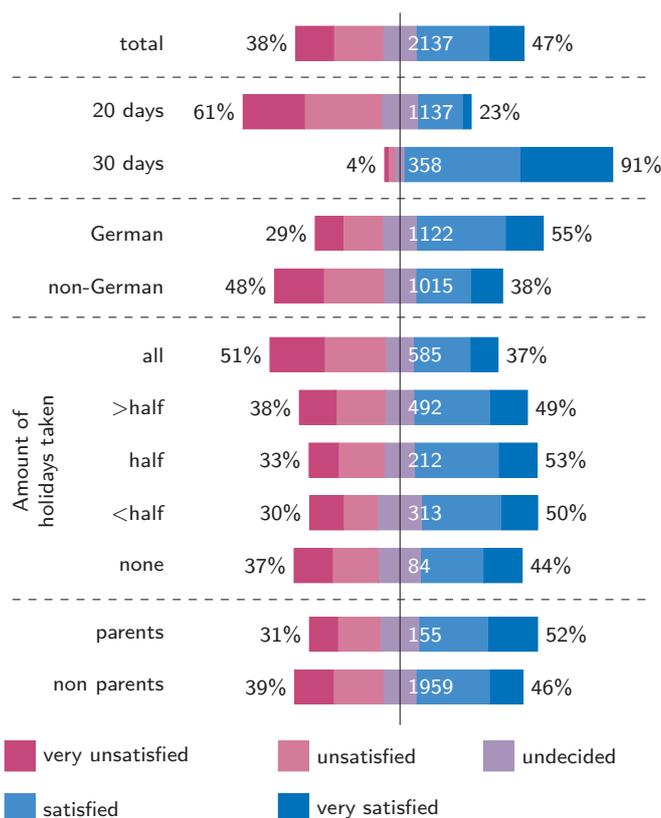


Figure 5.14: “How satisfied are you with your holidays?” Responses presented taking into account various aspects of a researchers life: total satisfaction, satisfaction based on contractually available holidays, German vs non-German nationality, percentage of holidays taken and parenthood.

is a discrepancy between the number of holidays and the kind of contract for many of the collected answers. This could be the result of the similar payment system (TVöD) for both contracts.

- Of those funded by a contract, 80% are at either 50% or 65% TVöD level of payment, with HS researchers more likely to be at a 50% level, CPT more likely to be above 65% and BM more likely to be at least at 65%. CPT reports the highest average income at €1700, followed by BM at €1500 and HS at €1300. There doesn't appear to be a relationship between average working hours and income.
- While there is a slight bias towards researchers identifying as male having a higher income, this is likely due to the overwhelming male-to-female ratio in CPT, the section with the highest average income.

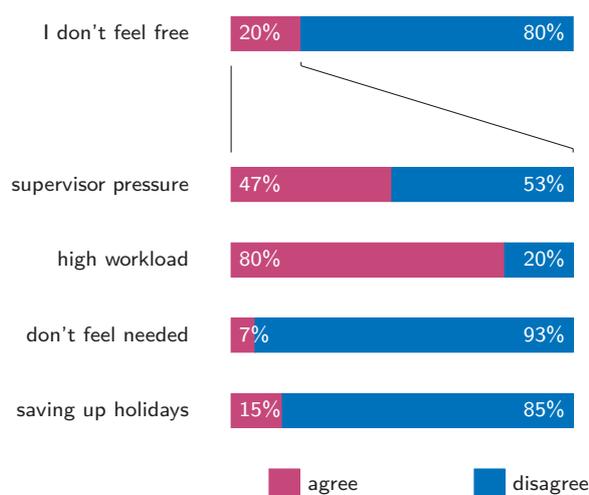


Figure 5.15: “Why do you not feel free to take all holidays available to you?” Multiple answers possible.

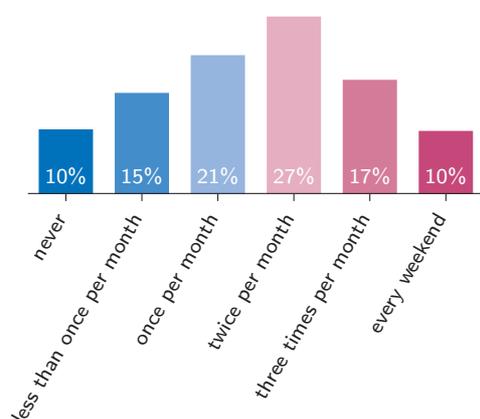


Figure 5.16: “How often do you work on weekends?”

- Most researchers report being satisfied with their salary (50%). However, dissatisfaction is higher among stipend holders and researchers with 50% or less level of payment.
- Doctoral researchers spend between 20% and 50% of their income on rent, with no apparent relationship between size of city and the total amount of the rent. 19% of researchers receive financial support from parents, family or others, and 2% have had to take out a loan. These are more likely to be stipend holders, parents or to have a low salary. Non-German researchers are more likely to have received financial support.
- Most researchers have received an initial contract/stipend for a planned duration of 3 years

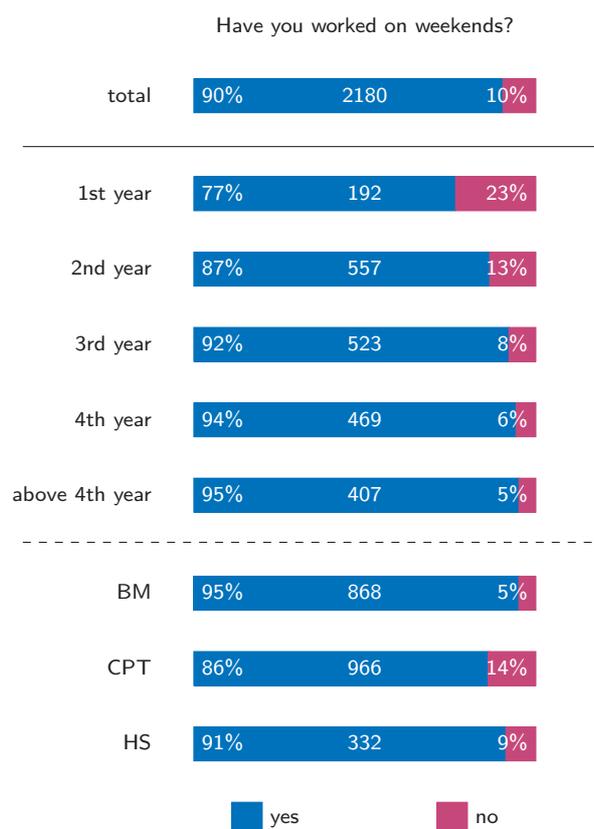


Figure 5.17: “Have you worked on weekends?” Top: total answers, below: first, answers per year of PhD and last per section.

(70%). Those having started their project in or after 2015 are more likely to have received a 3-year contract.

- About a third (32%) of researchers report not knowing how their research would be funded if they exceed the initially allotted time but only 4% report being certain their funding would not be renewed. Most have not been, or do not foresee to be, working unpaid at any point during their project (97% and 90% respectively).
- Doctoral researchers work on average 47 hours per week, with 81% working more than their contractually agreed upon hours. Those that are more dissatisfied with their supervision tend to work longer hours. Researchers in later years of their project also increase their work hours per week. On average, they spend 35 hours per week on their thesis project, and the remaining 12 hours on other tasks which translates to 75% of their work time spent

on their project. Those funded by a *Fördervertrag* spend as much time on non-project related work as those funded by other means.

- Most researchers have either 20 or 30 holidays specified in their employment terms and most report taking at least half of the available holidays (76%). Most have 20 holidays, and 61% of these report being dissatisfied with the available number of holidays. Those who took all of their holidays are more likely to report being dissatisfied, suggesting they do not find 20 days to be enough. Of the 20% of researchers who report not feeling free to take all of their available holidays, most cite workload or supervision pressure as the cause.
- The vast majority (90%) of researchers have worked on weekends or public holidays.

Chapter 6

Networks

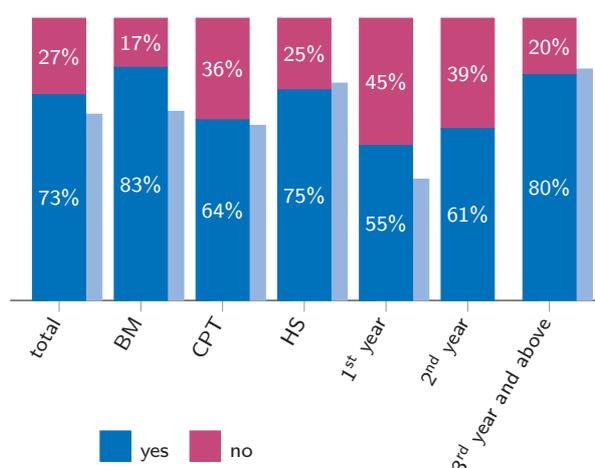


Figure 6.1: “Do you know about PhDnet?” Responses grouped by section as well as years since beginning the doctoral research. The light blue bar indicate the percentage of affirmative responses to the same question in the 2009 PhDnet survey.

This chapter focuses on two networking organizations for doctoral researchers and graduates of the MPS: *PhDnet*, who conducted this survey, and the *Max Planck Alumni Association*, or *MPAA* for short. Here we will highlight the reputation of these organizations among Max Planck doctoral researchers, as well as their level of activity and the degree of participation in their events.

Another subject of this chapter are the various *local hubs* consisting of certain Max Planck institutes in geographical proximity to each other. Hubs offer networking events among their respective institutes on a regular basis.

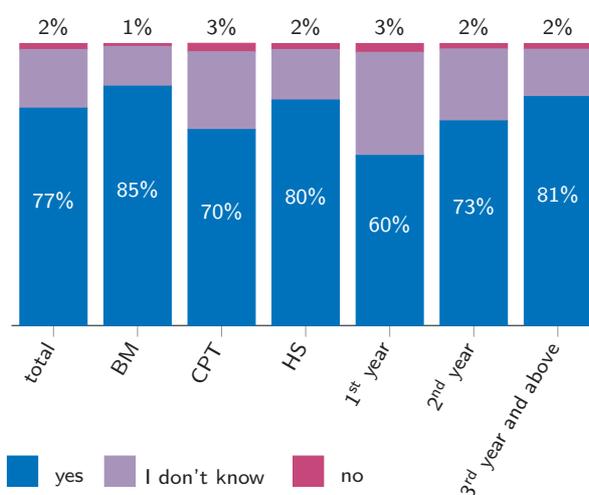


Figure 6.2: “Does your institute have an External PhD representative?”

6.1 PhDnet

Of the doctoral researchers who responded to the survey, 73% are aware of PhDnet. The percentage of respondents who are aware of PhDnet is largest in the BM (83%) and HS (75%) sections, while doctoral researchers in the CPT fields are slightly less aware of PhDnet (64%) (see Figure 6.1).

First-year researchers are less likely to know about PhDnet (55%) than researchers in their second year (61%), however about four out of five doctoral researchers in their third year or later are aware of PhDnet and its activities (80%) (see Figure 6.1).

In comparison to 2009, researchers in the BM sector as well as first year researchers are significantly more aware of PhDnet.

77% of doctoral researchers know their institute's external PhD representative. This percentage is somewhat lower for the CPT section (70%) and slightly higher for the BM (85%) and HS (80%) sections. Only 2% claim that their institute does not have an external PhD representative, while 21% admit that they do not know (see Figure 6.2).

Of first-year doctoral researchers only 60% are familiar with their institute's representative while 73% of second-year and 81% of third or later year researchers are familiar with their representative .

6.2 MPAA

A smaller number of doctoral researchers (20%) are familiar with the Max Planck Alumni Association (MPAA). Yet again researchers in the CPT section (16%) are less informed than those in the BM (25%) and HS (21%) sections (see Figure 6.3).

Interestingly, a large percentage of doctoral researchers reports the existence of a different alumni network at their institute (27%). This indicates that either there are alumni networks outside of the MPAA, or that some networks' affiliation with MPAA is not well known (see Figure 6.4).

44% of doctoral researchers reporting an existing alumni network at their institute also state that these organizations were involved in some form of event during the past year, with the alumni networks in the HS

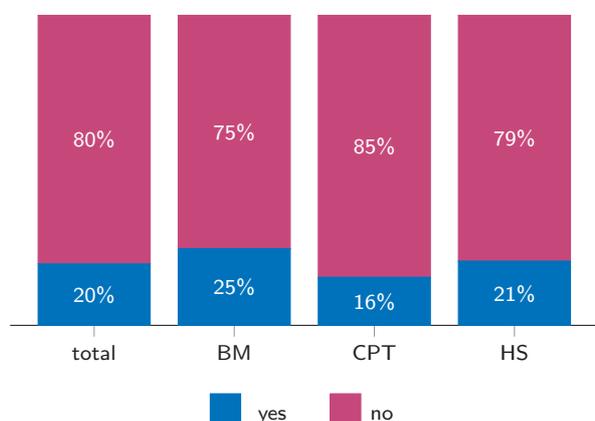


Figure 6.3: "Do you know about the Max Planck Alumni Association?" Responses grouped by section.

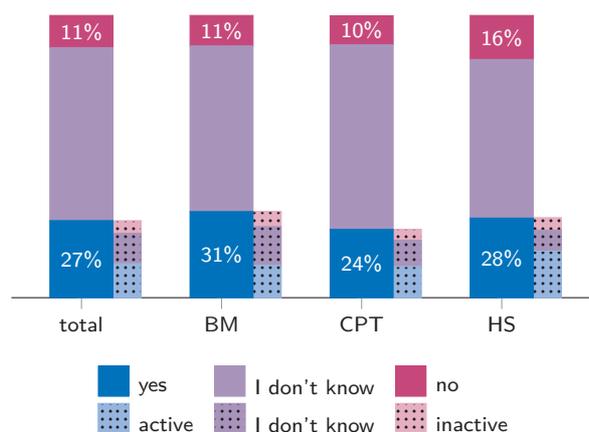


Figure 6.4: "Does your institute have an alumni network? If yes, has your alumni association organized any kind of event in your institute in the past year?" (dotted). Responses grouped by section.

section appearing to be particularly active (58%). In general, however, it is to be expected that doctoral researchers are less aware of alumni events (which do not concern them immediately) than they are of activities linked to the PhDnet.

6.3 Local Hubs

Most Max Planck Institutes are organized into Local Hubs which are tasked with organizing networking events for their doctoral researchers. In general, many doctoral researchers are not aware of which local hub, if any, their institute belongs to. Conflicting responses have been given in the survey, with members from various institutes stating they belong to hubs that are organized around a completely different geographical area.

The hub that has managed to reach the most doctoral researchers is the Hanse hub (64%) (see Figure 6.5). They are also the hub with the largest percentage of active participants (31%). Least known among its doctoral researchers is Tübingen/Stuttgart (15%), while this hub along with Leipzig/Halle, Berlin-Potsdam and Dresden all failed to win more than 10% of their doctoral researchers for participation in their events (see Figure 6.6). Based on the responses from researchers it appears that the Köln/Bonn Hub might not have offered any events in the past years.

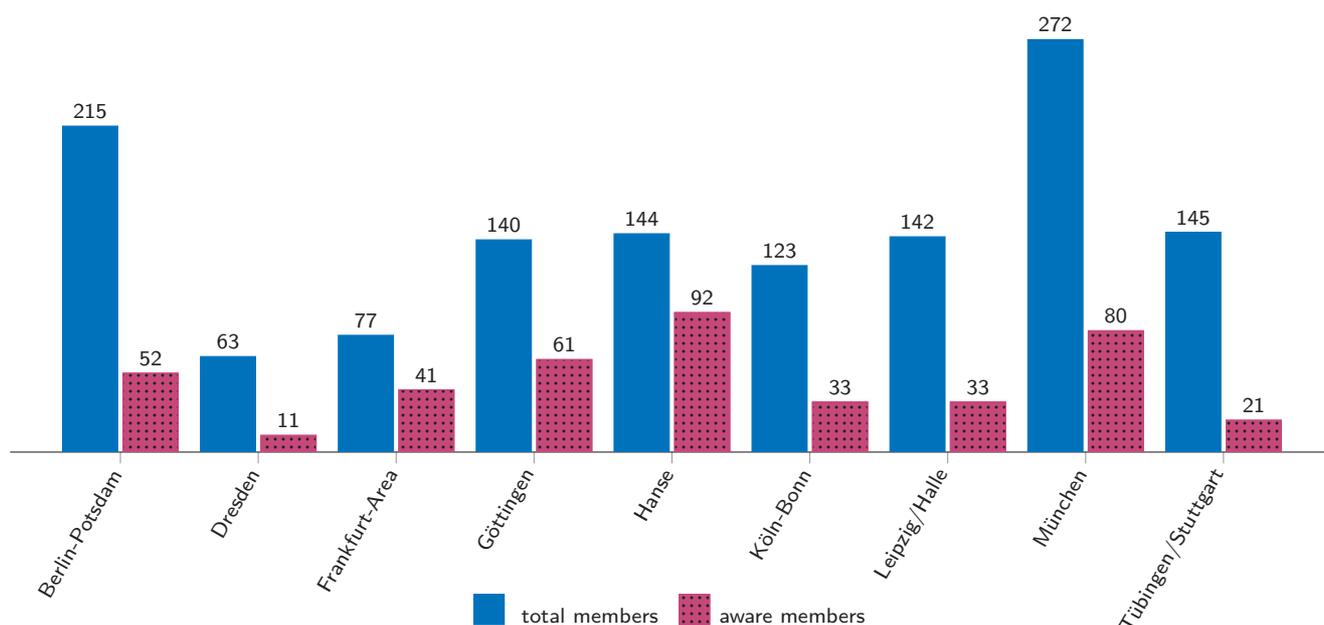


Figure 6.5: “Which hub does your institute belong to?” Responses shown along with total number of respondents of the respective member institutes.

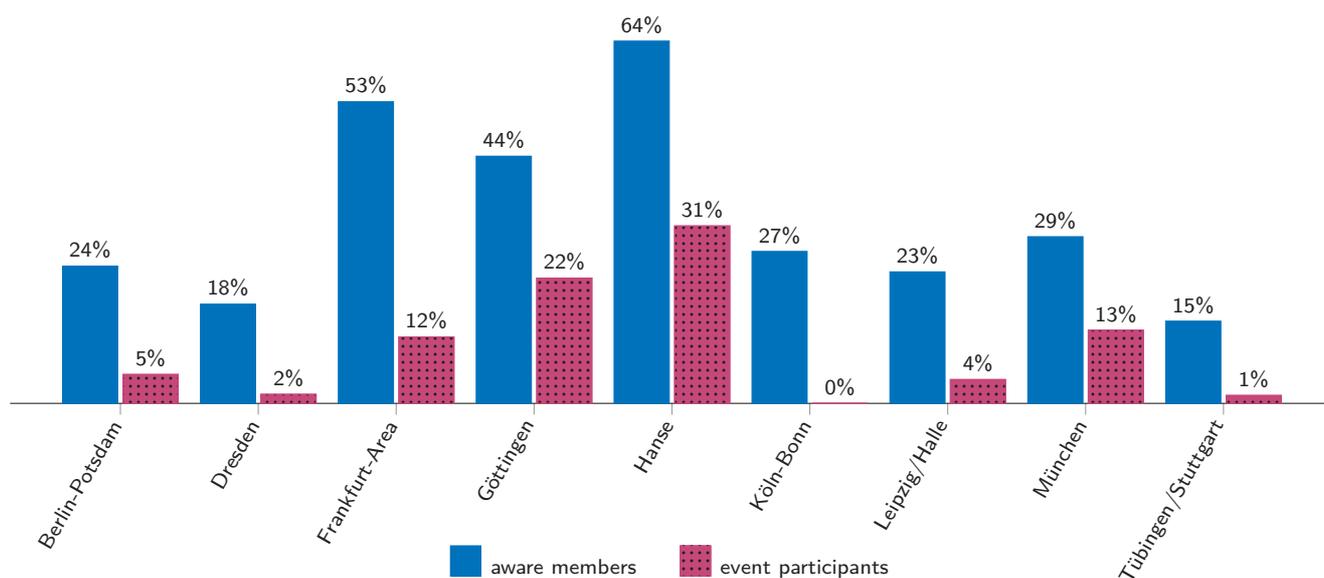


Figure 6.6: “Which hub does your institute belong to?” as well as affirmative responses to the question “Have you participated in any event organized by a regional hub in the past year?”, each divided by the total number of respondents from the respective member institutes.

Summary

- Of all respondents, 73% are familiar with the PhD-net, this value being higher in BM and lower in CPT.
- More than three quarters (77%) of researchers know their Institute’s External PhD Representative. This

percentage is lowest in CPT and highest in BM. Only 2% state they don’t have External Representatives. As researchers advance in their projects they are more likely to become aware of who the External Representative is.

- Only 20% report being aware of the MPAA, with the same section ranking as for PhDnet awareness. 27% report the existence of an alternative alumni network at their Institute.
- Most researchers are not aware of which local hub their Institute belongs to. The Hanse hub has the highest proportion of members who are aware of PhDnet (64%), while Tübingen/Stuttgart has the least. Further, the Hanse hub has the most researchers who participated in a Hub event in the last year (31%).

Chapter 7

Methods

The survey was available online on the MPS's survey portal (<https://umfragen.vw.mpg.de/>) from the 3rd of July to the 11th of August, 2017. Individual invitation e-mails with personalized hyperlinks were sent out to all Max Planck doctoral researchers registered with PhDnet (total = 4525 researchers) to avoid duplicate data; no IP tracking was employed, in order to ensure anonymous data acquisition. The raw data was only accessible to members of the PhDnet survey work group. In particular, MPS administration did not have access to the data prior to completion of the analysis, and never had access to the raw data. For every item on the survey, participants could choose not to answer in order to avoid providing any information they were not comfortable sharing. This results in varying response rates per item, the maximum being the total number of respondents: 2218. Unless otherwise specified, each figure and percentage total linked to a survey item is generated exclusively from the sample of respondents that consented to answering that item. All percentage points are rounded to the nearest integer, whenever increased precision is not required.

Analysis was conducted with Excel and R. Most of the analyses consist of descriptive statistics, but for some results statistical tests were employed to explore associations in the data. The tests used are:

- Wilcoxon rank sum test for shift between two groups of numerical data
- Chi-square test on two-way contingency tables for detection of dependencies between categorical variables
- Kruskal-Wallis test for shifts between multiple groups of numerical data

The nonparametric Wilcoxon rank sum test and Kruskal-Wallis test were used instead of their parametric counterparts (t -test and ANOVA) due to assuming that the normal distribution of errors is violated for all variables.

Authors



Miguel Borges

Miguel is a second-year doctoral researcher at the MPI for Psycholinguistics in Nijmegen, and coordinated the work of the 2017 Survey group. Originally from Lisbon, Portugal, where he studied Psychology, he moved to the Netherlands in 2014 to study Cognitive Neuroscience. Currently, his focus is on using neuroimaging to understand how learning to read rewires the brain. He's a fan of cold weather, theater, board games, and listening to too many podcasts.

Thiane Carneiro

Thiane was born in Fortaleza, Brazil, in 1988. She graduated in Chemical Engineering after dual studies in her hometown and in Lyon, France, where she lived for two years. She moved to Magdeburg to do her PhD at the Max Planck Institute for Dynamics of Complex Technical Systems where she works on separation of chiral molecules. When she is not busy between crystallizers and enzymes, she likes cooking, reading and dancing.



Alice Cezanne

Alice was born in Frankfurt am Main, but grew up just about everywhere else in the world. She studied Medical Sciences at the University of Edinburgh and is currently working on her PhD at the Max Planck Institute for Molecular Cell Biology and Genetics in Dresden. Apart from science she greatly enjoys eating, sleeping and petting cute dogs she meets on the street. Alice lives her life in constant fear that someone will ask her the dreaded question: "So, where are you from?"

Amie Fairs

Amie was born in 1990 on the south coast of England. She studied linguistics in Edinburgh, Scotland, and had an Erasmus year in northern Norway. She is carrying out her PhD at the Max Planck Institute for Psycholinguistics in Nijmegen, the Netherlands, where she studies how people think about what they want to say while they listen to others in a conversation. When not thinking about how the brain "does" language, Amie likes to read, boulder, make good use of her Netflix subscription and save money and holidays to travel to as many places as possible.

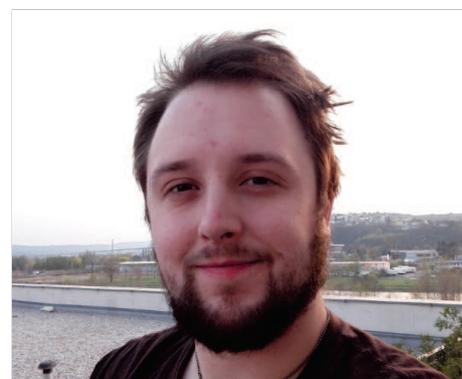


**Aoife Hanet**

Aoife studied Biomedical Sciences in UCL Brussels, Belgium, and moved on for her PhD to the Department of Biochemistry in the MPI for Developmental Biology in Tübingen, Germany. Her research focuses on messenger RNA metabolism and especially how they are targeted for degradation. She was elected as External PhD Representative for her institute in 2016. For the past two years she has been actively involved in the PhDnet where she worked in both the Secretary Group and the Survey Group. In the latter, she coordinated the Collect team and managed the 2017 Survey online.

Johannes Kaub

As a chemist among a myriad of physicists at the Max Planck Institute for the Structure and Dynamics of Matter in Hamburg, Johannes identifies as belonging to a minority group. He doesn't believe in purposefulness, world peace or America, since he's never been there. But he likes his objects of research orderly and symmetric, and his desk and language complicated and cluttered. Also, he sucks at writing texts about himself.

**Rafael Laso Pérez**

Rafa is a third-year doctoral researcher of the Max Planck Institute of marine Microbiology in Bremen. He tries to unravel the mysteries of *Archaea* which degrade hydrocarbons anaerobically. When he is not in the lab culturing his "little babies" or in front of the computer, you can find him eating out with friends, dancing in a club or discovering Germany and surroundings (which means anywhere in the world). As the 2017 General Secretary of the PhDnet he helped the team in constructing the survey, which he thinks is the fundamental tool to change working conditions and develop career perspectives for doctoral researchers. Although he is not entirely sure about his career perspectives, he wishes to come back to his beloved home town, Madrid.

**Rima Schüssler**

Rima has studied Physics at the university in Heidelberg and is currently in her third year of her PhD at the Max Planck Institute for Nuclear Physics. She is part of a group building a novel Penning-trap mass spectrometer designed to help answering the question of the electron neutrino mass. In her free time she likes to have in-depth discussions about her favourite wizard with a lightning-bolt shaped scar, trying out new restaurants or recipes with friends and becoming one with the couch on a rainy day while either reading or watching TV series.



**Edgar Steiger**

Edgar is a PhD student at the Max Planck Institute for Molecular Genetics in Berlin. He is a *waschechter Berliner* and as such never felt compelled to leave the city where being poor and sexy is considered to be a good thing (hey, 50% TVöD E13 is enough for Berghain if you drink tap water only). He studied statistics and bioinformatics, his favorite letter is R.

Cover art: Julia Misersky

Chapter 8

The Survey

In this chapter we list the complete PhDnet survey 2017 with all its questions and instructions in their exact wording, the conditions for every question to appear, the possibilities for responding, as well as the number of respondents N for every question. Every dropdown menu allowed for the selection of the option “I don’t want to answer this question”; these responses do not contribute to N .

Instructions

Welcome to the 2017 PhDnet survey, and thank you for participating. This is a voluntary survey for doctoral researchers working at any institute of the Max Planck Society. The aim of this survey is to provide the PhDnet a clear picture of the current working conditions of doctoral researchers of the Max Planck Society.

The data you are providing is enough to identify you; however, it will be only accessible to the members of the PhDnet Survey Group. The published report will only include aggregate data, thus ensuring participant anonymity. The survey uses a unique token system tied to your e-mail to ensure privacy. The survey is hosted on Limesurvey with encrypted access provided by the Max Planck Society to ensure restricted access to data. If you decide to stop your participation in the middle of the survey, collected data will be deleted once the survey is over and will not be used for the analysis.

In order for the survey to be successful, it is vital that the majority of doctoral researchers of the Max Planck Society participate. The questionnaire will take about 15 to 20 minutes to complete and contains questions on your background, working and living conditions, supervision, career plans, and discrimination issues.

The final report will be made available at the end of 2017 at <https://www.phdnet.mpg.de/home>. If you have questions, or wish to report technical issues, you can reach us at miguel.borges@mpi.nl (Coordinator of the Survey Group) or rlperez@mpi-bremen.de (General Secretary of the PhDnet).

By clicking “Next”, you accept the terms and conditions listed above, including the use of the provided data in case you complete the survey.

8.1 Demographics

In this section, we wish to know about your background and affiliation within the Max Planck Society.

1. [What is your year of birth?](#) Dropdown menu for years, “Before 1977”, “After 1999” ($N = 2186$).

2. [What is your nationality? Should you have multiple nationalities, please select the one you feel best represents you.](#) Dropdown menu for nations ($N = 2187$).
3. [Which Max Planck Institute are you associated with?](#) Dropdown menu for all MPIs ($N = 2204$).
4. [When did you start your doctoral research?](#) Dropdown menu for years, “Before 2005” ($N = 2185$).

8.2 Employment, Salaries, and Vacation

In this section, we will ask you about your current contractual relationship with the Max Planck Society, financial issues, and holiday allowance.

Contracts

1. [How is your doctoral research financed?](#) Dropdown Menu: Contract, Stipend, I don't know ($N = 2196$).
Subtext: There are several ways to know what kind of contract you have, in case you are unsure:
 - Check which kind of payment you receive under the header ‘Basisbezüge’ of your payroll (Entgeltabrechnung). ‘TVöD Tab. Entgelt’ indicates a TVöD contract; ‘Verg. Doktorand’ indicates a Fördervertrag.
 - Check on your payroll whether you can find the point ‘VBL-Umlage’ under the header ‘Bruttoentgelt’. If yes, this indicates a TVöD contract. If not, this indicates a Fördervertrag.
 - Check the amount of your yearly vacation days at the end of your payroll, stated in the table ‘Urlaubsdaten’ under ‘Tarifurlaub’ + ‘Anspruch’. 30 days indicates a TVöD contract; while 20 days indicates a Fördervertrag

IF Contract:

- [What kind of contract do you have?](#) Dropdown menu: Fördervertrag from the Max Planck Society, TVöD contract from the Max Planck Society, Other [comment box] ($N = 1646$).

IF Stipend:

- [What kind of stipend do you have?](#) Dropdown menu: Stipend from the Max Planck Society, Third party funding stipend, Other [comment box] ($N = 451$).
- [Have you been informed about your options concerning health insurances \(i.e. difference between public and private health insurance, contractual limitations\) and other implications of the stipend \(pension, work obligations\) before accepting it?](#) Dropdown menu: “Fully informed”, “Partially informed”, “Not informed” ($N = 445$).
- [Did you get the option to choose between a contract and a stipend?](#) Dropdown menu: “Yes”, “No”, “Not applicable” ($N = 450$).
- [Do you receive any of the following extras?](#) Checkboxes: “Health insurance subsidy”, “Material costs allowance”, “Recruitment bonus”, “Child allowance”, “I don't want to answer this question”, “Other” [comment box] ($N = 456$).

2. Please specify the monthly net amount of money given to you for your doctoral research work. Dropdown menu: “0–1000”, intervals from “1001–1100” to “2301–2400” with increments of 100, “2401–on” ($N = 2126$).
3. What is the level of payment according to the TVöD levels? Dropdown menu: “less than 50%”, percentages from 50% to 100% with increments of 5%, “not applicable”, “I don’t know” ($N = 2192$).
4. How long was the original duration of your contract or stipend? Please specify the amount of months under the field “Original duration”. Dropdown menu: “I don’t know”, “Other” [comment box] ($N = 2139$).
5. Should you exceed the initially allotted time how would your doctoral research be funded?. Dropdown menu: “External funding”, “I don’t know”, “Max Planck Society contract/stipend extension”, “No funding”, “Other Max Planck Society contract”, “Other” [comment box] ($N = 2187$).

IF Max Planck Society contract/stipend extension:

- How long can you extend your funding? Dropdown menu: “Up to 6 months”, “6 months to 1 year”, “Over 1 year”, “I don’t know” ($N = 1306$).
6. Have you already received any extensions to your contract/stipend? Dropdown menu: “Yes”, “No” ($N = 2188$).

IF Yes:

- How many extensions have you already received? Dropdown menu: “1”, “2”, “3 or more” ($N = 782$).
- How long has/have this/these extension/s been? Dropdown menu: “Up to 6 months”, “6 months to 1 year”, “Over 1 year” ($N = 781$).
- Do you intend to request further extensions? Dropdown menu: “Yes”, “No”, “I don’t know” ($N = 778$).

IF No:

- Do you expect to request an extension? Dropdown menu: “Yes”, “No”, “I don’t know” ($N = 1386$).
7. Are you, were you or do you foresee to be, working unpaid for your doctoral research? Checkboxes: “Yes, in the past”, “Yes, currently”, “Yes, in the future”, “No”, “I don’t want to answer this question” ($N = 2218$).

IF any “Yes, ...”:

- At what time were/will you working/work unpaid for your doctoral research? Dropdown menu: “Between submission and defense”, “During research”, “During thesis writing”, “Other” [comment box] ($N = 271$).
8. Compared to the average salary, how are you paid in comparison to doctoral researchers from other local research institutions in your field of study? Dropdown Menu: “Less”, “Same”, “More”, “I don’t know” ($N = 2196$).

Living Conditions

9. How much do you pay for your rent and associated living costs (including heating, gas, water and electricity) per month in your local currency? Dropdown Menu: “1–200”, intervals from “201–300” to “901–1000” with increments of 100, “More than 1000”, “I do not pay rent” ($N = 2194$).
10. Do you get financial support from your parents, partners or other people? Dropdown Menu: “Yes”, “No” ($N = 2181$).
11. Have you taken up an extra loan to support your living during your PhD? Dropdown Menu: “Yes”, “No” ($N = 2189$).

Vacation

12. How many holidays can you take according to your contract/stipend? Please specify the number in the comment field “Number of holidays”. Dropdown Menu: “I don’t know”, “Not specified in my contract/stipend terms”, “Other” [comment box] ($N = 2170$).
13. What percentage of the holidays you are entitled to have you taken in the past year? Dropdown Menu: “All”, “More than half”, “Half”, “Less than half”, “None”, “Not applicable” ($N = 2134$).
14. Do you feel free to take all holidays that are available to you? Dropdown Menu: “Yes”, “No” ($N = 2125$).

IF No:

- Why? Checkboxes: “Pressure from supervisors”, “High workload”, “I don’t feel like I needed it”, “Saving up holidays for the future”, “I don’t want to answer this question”, “Other” [comment box] ($N = 435$).
15. Have you worked on weekends or during public holidays? Dropdown Menu: “Yes”, “No” ($N = 2180$).

IF Yes:

- How often have you worked during weekends or public holidays? Dropdown menu: “Less than once per month”, “Once per month”, “Twice per month”, “Three times per month”, “Every weekend” ($N = 1938$).
- Why have you worked on weekends or during public holidays? Checkboxes: “Pressure from supervisors”, “High workload”, “Experimental demands”, “I work better on weekends”, “I don’t want to answer this question”, “Other” [comment box] ($N = 1971$).

8.3 Working Conditions

In this section, we will ask you about your current satisfaction with your doctoral research and the working conditions in which it is developed, including your supervision. In this question, supervisor is the person that you consider to be your primary research supervisor or advisor. This might not be your formal PhD supervisor.

General Satisfaction

16. Please rate your overall satisfaction with the following aspects of your PhD:

- Overall satisfaction ($N = 2166$),
- Laboratory equipment ($N = 2129$),
- Work environment ($N = 2200$),
- Workload ($N = 2182$),
- Scientific support ($N = 2192$),
- Administrative support ($N = 2186$),
- Salary/benefits ($N = 2193$),
- Amount of holidays ($N = 2174$).

Radio buttons: “Very unsatisfied”, “Unsatisfied”, “Undecided”, “Satisfies”, “Very unsatisfied”, “Not applicable”.

Supervision

Subtext: In this section, supervisor is the person that you consider to be your primary research supervisor or advisor. This may not be your formal PhD supervisor.

17. Who is your supervisor? Dropdown Menu: “The formal PhD supervisor”, “Other professor”, “Group leader”, “Postdoc”, “External experts”, “Other” [comment box] ($N = 2184$). Subtext: Please read the explanation at the top of the section related to the term supervisor through this whole section.
18. Did you have the option of choosing your supervisor? Dropdown Menu: “Yes”, “No”, “I don’t know” ($N = 2131$).
19. How many other doctoral researchers does your official supervisor have? Number form ($N = 2029$).
20. Please rate how much the following applies to your supervisor:
- My supervisor has excellent knowledge of my field of research ($N = 2180$),
 - My supervisor is not available when I need help ($N = 2161$),
 - My supervisor is open to and respects my research ideas ($N = 2172$),
 - My supervisor is not informed about the current state of my doctoral research ($N = 2164$),
 - My supervisor gives me helpful feedback on my research ($N = 2170$),
 - My supervisor supports my professional development (establishing contacts, recommending conferences...) ($N = 2159$),
 - My supervisor does not teach me how to write papers ($N = 2083$),
 - My supervisor teaches me how to write grant proposals ($N = 2027$).

Radio buttons: “Fully disagree”, “Partially disagree”, “Undecided”, “Partially agree”, “Fully agree”, “Not applicable”.

21. [On average, how often do you meet and talk about your project with your supervisor?](#) Dropdown Menu: “Daily”, “Weekly”, “Monthly”, “Less than once a month” ($N = 2181$).
22. [Do you have the option of changing any of your supervisors \(primary and/or formal\) if you are not satisfied with the supervision?](#) Dropdown Menu: “Yes, both”, “Yes, but only the formal supervisor”, “Yes, but only the primary supervisor”, “No, neither of them”, “I don’t know” ($N = 2135$).
23. [Do any of your supervisors \(primary and/or formal\) support you on your way to an academic career in these ways?](#) Checkboxes: “Makes introductions to important people working in the field”, “Recommends relevant conferences to participate in”, “Presents your results and underlies your contribution”, “Recommends relevant post-doc positions”, “None of the above”, “I don’t want to answer this question” ($N = 2218$).
24. [Please rate your overall satisfaction with your PhD supervision.](#) Dropdown menu: “Very unsatisfied”, “Unsatisfied”, “Undecided”, “Satisfies”, “Very unsatisfied” ($N = 2186$).
25. [Are you currently enrolled in an IMPRS?](#) Dropdown Menu: “Yes”, “No”, “I don’t know” ($N = 2196$).
Subtext: IMPRS means International Max Planck Research School. Some institutes have these as graduate programs for doctoral researchers.

IF Yes:

- [Which IMPRS are you enrolled in?](#) Dropdown menu for all IMPRSs, “Other” [comment box] ($N = 2204$). Subtext: If your IMPRS is not listed, please specify in the comment fields “Other”.
26. [Do you have a thesis committee?](#) Dropdown Menu: “Yes”, “No”, “I don’t know” ($N = 2167$). Subtext: For some doctoral researchers, the work on the doctoral thesis is overseen by a thesis committee consisting of several internal and/or external people who give advice and supervision about the results and future steps of the thesis work. This committee meets usually once a year.

IF Yes:

- [How much do you feel that this committee contributes to the following aspects of your doctoral research:](#)
 - Planning your doctoral research ($N = 1099$),
 - Improving the quality of communication with the supervisor ($N = 1087$),
 - Completing the PhD on time ($N = 1078$),
 - Ensuring the completion of your doctoral research in case one supervisor cannot continue supervising you ($N = 1044$).

Radio buttons: “Very little”, “Little”, “Much”, “Very much”, “I don’t know”, “Not applicable”.

27. [Are you currently enrolled at a University?](#) Dropdown Menu: “Yes”, “No”, “I don’t know” ($N = 2201$).

IF Yes:

- [Did you receive any help with the university enrollment from your institute?](#) Dropdown Menu: “Yes”, “No”, “I don’t know” ($N = 1649$).

Working Conditions

28. [How many hours per week do you usually work for your doctoral research, the institute or the university \(courses, teaching, etc. included\)?](#) Please specify the number in the comment field “Hours per week”.
Number form ($N = 2122$).
29. [How many hours per week do you have to work, according to your contract?](#) Answer 0 if not applicable.
Number form ($N = 2063$).
30. [How many hours per week do you spend on average on the following tasks.](#) Answer 0 if not applicable.
Number forms.
- [Scientific work directly related to the doctoral research](#) ($N = 2067$),
 - [Scientific work not related to the doctoral research \(helping other projects, maintenance ...\)](#) ($N = 1964$),
 - [Attending courses and seminars](#) ($N = 1963$),
 - [Teaching/supervision](#) ($N = 1796$),
 - [Administrative tasks](#) ($N = 1898$).
31. [Have you ever thought about giving up your PhD?](#) Dropdown Menu: “Never”, “Rarely”, “Occasionally”, “Often” ($N = 2165$).

IF “Occasionally” or “Often”:

- [Why did you think about giving up your PhD?](#) Checkboxes: “Research topic”, “Salary”, “Results”, “High pressure”, “Supervision”, “Future career options”, “Working conditions”, “Personal reasons”, “I don’t want to answer this question”, “Other” [comment box] ($N = 669$).

IF “Rarely”, “Occasionally” or “Often”:

- [When did you think about giving up?](#) Checkboxes: “1st year”, “2nd year”, “3rd year or later”, “I don’t want to answer this question” ($N = 1162$).

8.4 Equal Opportunities

In this section, we will ask you about issues related to the potential factors for discrimination and ensuring equal access to opportunities. We would like to once more remind you that your responses will be confidential. These data will be analysed in aggregate and no information that may reveal your identity will be transmitted to third parties. If you feel you require help with issues of discrimination, you may get in touch with the PhDnet Equal Opportunities workgroup via equal.opportunities@phdnet.de for support and information.

32. [What was your assigned sex at birth?](#) Dropdown Menu: “Genderqueer”, “Female”, “Male”, “Other” [comment box] ($N = 2184$).
33. [To which gender identity do you most identify?](#) Dropdown Menu: “Genderqueer”, “Man”, “Woman”, “Other” [comment box] ($N = 2160$).

Parenthood

34. [Do you have children or are you currently expecting at the moment?](#) Dropdown Menu: “Yes”, “No” ($N = 2193$).

IF “Yes”:

- [Do you feel like having enough money to raise a child in your city?](#) Dropdown Menu: “Yes”, “No”, “I don’t know” ($N = 168$).
- [Are you in a relationship?](#) Dropdown Menu: “Yes”, “No” ($N = 164$).

IF “Yes”:

- [What is your partner’s employment status?](#) Dropdown Menu: “Full-time employed”, “Part-time employed”, “Unemployed”, “Not applicable” ($N = 157$).
- [Does your institute offer support in childcare services \(access/financial support for daycares, child-friendly environment, reimbursements for daycares during business travel, etc.\)?](#) Dropdown Menu: “Yes”, “No”, “I don’t know” ($N = 166$).
- [Do you feel there is sufficient support \(financial and organizational\) from your institute for raising a child?](#) Dropdown Menu: “Yes”, “No” ($N = 146$).

IF “No”:

- [Would you like to have children but feel it is not the right time in your career?](#) Dropdown Menu: “Yes”, “No” ($N = 1838$).

IF “Yes”:

- [What are the reasons?](#) Checkboxes: “Not enough money to support a family”, “Working conditions not family friendly”, “Fear of jeopardizing a scientific career”, “I don’t want to answer this question”, “Other” [comment box] ($N = 943$).

35. [If you are or were to have children during your doctoral research, would you take parental leave?](#) Dropdown Menu: “Yes, in full”, “Yes, partially”, “No, I wouldn’t take leave”, “No, as I don’t plan to have children during my PhD” ($N = 2092$).

IF “Yes, partially” or “No, I wouldn’t take leave”:

- [Why would/have you not take/taken the full parental leave?](#) Checkboxes: “Pressure from supervisor”, “Workload”, “I don’t feel it’s necessary”, “I want to finish my PhD”, “I don’t want to answer this question”, “Other” [comment box] ($N = 846$).

36. [Do you identify as part of a minority group based on the following grounds?](#) Checkboxes: “Nationality”, “Ethnicity”, “Sexual orientation”, “Gender identity”, “Religion”, “Physical disability”, “I don’t feel part of a minority group”, “I don’t want to answer this question”, “Other” [comment box] ($N = 2218$).

37. [Do you identify as part of a minority group based on the following grounds?](#) Checkboxes: “Nationality”, “Ethnicity”, “Sexual orientation”, “Gender”, “Gender identity”, “Religion”, “Physical disability”, “Parenthood”, “I have not felt discriminated”, “I don’t want to answer this question”, “Other” [comment box] ($N = 2218$).

IF any of the first eight:

- If you would like, you can describe the situation here. This is not mandatory. Comment box ($N = 79$).

IF “Gender Identity”:

- Do you feel you can be open about your gender identity at work? Dropdown menu: “Yes”, “No” ($N = 9$).

IF “No”:

- Are you open about your gender identity outside work? Dropdown menu: “Yes”, “No” ($N = 3$).

IF “Sexual orientation”:

- Do you feel you can be open about your sexual orientation at work? Dropdown menu: “Yes”, “No” ($N = 8$).

IF “No”:

- Are you open about your sexual orientation outside work? Dropdown menu: “Yes”, “No” ($N = 2$).

IF “Sexual orientation”:

- Do you feel you can be open about your religion at work? Dropdown menu: “Yes”, “No” ($N = 18$).

IF “No”:

- Are you open about your religion outside work? Dropdown menu: “Yes”, “No” ($N = 12$).

IF “Physical disability”:

- Do you feel enough measures are taken by your institute so you can perform your work adequately in spite of your physical disability? Dropdown menu: “Yes”, “No” ($N = 3$).

38. Is there an Equal Opportunities office/r in your Institute? Dropdown Menu: “Yes”, “No”, “I don’t know” ($N = 2196$).

IF “Yes”:

- Do you feel you can approach this office/r with problems regarding discrimination? Dropdown menu: “Yes”, “No”, “I don’t know” ($N = 1397$).

Health issues

39. During your PhD, have you been diagnosed with a mental illness? Dropdown Menu: “Yes”, “No” ($N = 2134$).

IF “Yes”:

- Have you sought treatment for your illness? Dropdown menu: “Yes”, “No” ($N = 103$).
- Have you felt discriminated against at the Max Planck Society because of these issues? Dropdown menu: “Yes”, “No”, “I haven’t told anyone about this” ($N = 100$).

40. During your doctoral research, have you had health problems with any of the following conditions?

Checkboxes: “Back pain”, “Chronic fatigue”, “Sleeplessness”, “Depression”, “Burnout”, “Migraines”, “Eating disorder”, “None of the above”, “I don’t want to answer this question” ($N = 2218$).

IF any of the first seven:

- Do you feel your doctoral work was a significant contributor to this(these) problem(s)? Dropdown menu: “Yes”, “No”, “I don’t know” ($N = 1364$).
- Have you seeked treatment for this(these) issue(s)? Dropdown menu: “Yes”, “No” ($N = 1339$).
- Have you felt discriminated against during your work at the Max Planck Society because of these issues? Dropdown menu: “Yes”, “No”, “I haven’t told anyone about this” ($N = 1362$).

41. Does your institute or university offer counselling services for health problems? Dropdown menu: “Yes”, “No”, “I don’t know” ($N = 2195$).

IF “Yes”:

- What kind of medical counselling is offered? Checkboxes: “Physical”, “Mental”, “I don’t know”, “I don’t want to answer this question” ($N = 606$).
- In which language are these counselling services? Checkboxes: “English”, “German”, “I don’t want to answer this question”, “Other” [comment box] ($N = 606$).

IF “No”:

- Does your institute or university offer counselling services for health problems? Dropdown menu: “Yes”, “No”, “I don’t know” ($N = 332$).

IF “Yes” to 39. or any of the first seven in 40.:

- Did you find it easy to take time off when you needed to because of your illness(es)/condition(s)? Dropdown menu: “Yes”, “No” ($N = 1250$).

Foreign Students

42. Please rate your overall satisfaction with your PhD supervision. Dropdown menu: “Very unsatisfied”, “Unsatisfied”, “Undecided”, “Satisfies”, “Very unsatisfied”, “Not applicable” ($N = 2171$).

43. Does your institute provide access to, or financially support, international doctoral researchers in taking German classes? Dropdown menu: “Yes”, “No”, “I don’t know”, “Not applicable” ($N = 2202$).

IF “Yes”:

- Please rate your overall satisfaction with your PhD supervision. Dropdown menu: “Very unsatisfied”, “Unsatisfied”, “Undecided”, “Satisfies”, “Very unsatisfied”, “Not applicable” ($N = 1345$).

Comments

44. Comment box: please feel free to comment about any situation you would like to mention to us. In case you would like to contact someone for help, please send an email to Jana Lasser (jana.lasser@ds.mpg.de), the Steering Group member responsible for Equal Opportunities and discrimination issues. Comment box ($N = 225$).

8.5 PhDnet, Career and Open Science

Lastly, in this section we will ask you about your current plans for the future regarding your career, along with additional questions on PhDnet and your interest in Open Science initiatives.

PhDnet

45. Does your institute have an External PhD representative? Dropdown menu: “Yes”, “No”, “I don’t know” ($N = 2208$). Subtext: Here, the external PhD representative is the PhD elected to represent your institute’s doctoral researchers to other institutes, at the Max Planck Society and the PhDnet General Meeting. Every institute should have one. Internal PhD representatives can be elected in addition to the external PhD reps, but do not possess official representation rights outside the institute.

46. Do you know PhDnet? Dropdown menu: “Yes”, “No” ($N = 2197$).

47. Does your institute belong to any regional Hub of the PhDnet? Dropdown menu: “Yes”, “No”, “I don’t know” ($N = 2210$).

IF “Yes”:

- Which Hub does your institute belong to? Dropdown menu for all regional hubs, “I don’t know” ($N = 478$).
- Have you participated in any event organized by a regional hub in the past year? Dropdown menu: “Yes”, “No” ($N = 477$).

48. Does your institute have an alumni network? Dropdown menu: “Yes”, “No”, “I don’t know” ($N = 2208$).

IF “Yes”:

- Has your alumni association organized any kind of event in your institute in the past year? Dropdown menu: “Yes”, “No”, “I don’t know” ($N = 602$).

49. Do you know about the Max Planck Alumni Association (MPAA)? Dropdown menu: “Yes”, “No”, “I don’t know” ($N = 2193$).

Career

50. Where would you like to work in the future (next 10 years)? Checkboxes: “Public scientific research”, “Private scientific research”, “Public science-related job (public relationships, science management)”, “Private science-related job (public relationships, science management)”, “Public non-scientific job”,

- “Private non-scientific job”, “I don’t know yet”, “I don’t want to answer this question”, “Other” [comment box] ($N = 2218$).
51. **Where do you think you will work in the future (next 10 years)?** Checkboxes: “Public scientific research”, “Private scientific research”, “Public science-related job (public relationships, science management)”, “Private science-related job (public relationships, science management)”, “Public non-scientific job”, “Private non-scientific job”, “I don’t know yet”, “I don’t want to answer this question”, “Other” [comment box] ($N = 2218$).
52. **Do you intend to pursue a career in Germany?** Dropdown menu: “Yes”, “No”, “I don’t know” ($N = 2208$).
53. **Do you intend to pursue a career in academia (aspiring to a professorship or other permanent research position) after finishing your doctoral research?** Dropdown menu: “Yes”, “No”, “I don’t know” ($N = 2202$).
54. **How do you judge the following aspects of an academic research career?**
- Salaries in academia ($N = 2141$),
 - Availability of permanent positions ($N = 2139$),
 - Teaching ($N = 2129$),
 - Applying for and obtaining funding ($N = 2114$),
 - Service to society ($N = 2124$),
 - Workload ($N = 2128$),
 - Mobility (i.e. work in different countries, cities) ($N = 2125$),
 - Compatibility of own career plans with career plans of partner ($N = 2100$),
 - Compatibility of own career plans with having children ($N = 2090$).

Radio buttons: “Attractive”, “Neutral”, “Unattractive”.

55. **Which of the following types of scientific output have you published so far during your doctoral research?** Checkboxes: “Scientific talks at a conference”, “Posters at a conference”, “Articles in peer reviewed journals”, “Book chapters”, “Patent applications”, “I don’t want to answer this question” ($N = 2218$).
56. **Why did you start your work on your doctoral thesis at the Max Planck Society?** Checkboxes: “Scientific excellence of Max Planck Institute or specific group”, “Interest in joining a structured PhD program such as IMPRS”, “Interest in working with a specific scientist”, “Continuing previous scientific project (internship, Master’s thesis, etc.)”, “Equipment and working facilities”, “Attractiveness of pay and benefits”, “Interest in the research being carried out at the institute”, “I don’t want to answer this question”, “Other” [comment box] ($N = 2218$).

Open Science

57. **Do you have datasets that you would like to share in an open way but feel you cannot find an appropriate outlet?** Dropdown menu: “Yes”, “No”, “Not applicable” ($N = 2091$).

58. **Would you like to use an Open Access platform for publishing findings?** Dropdown menu: “Yes”, “No”, “I don’t know” ($N = 2165$). Subtext: At its most fundamental Open Access is when publications are available online to all at no cost and with limited restrictions with regard to re-use. The unrestricted distribution of research is especially important for authors (as their work gets seen by more people), readers (as they can access and build on the most recent work in the field) and funders (as the work they fund has broader impact by being able to reach a wider audience). Source: Springer website
59. **Have you already published findings in an Open Access platform?** Dropdown menu: “Yes”, “No”, “I don’t know” ($N = 2175$).
60. **Does your supervisor support you in Open Access publishing?** Dropdown menu: “Yes”, “No”, “I don’t know” ($N = 2158$).

Hey lovely guys :)
I appreciate your efforts for making
our PhD life better :)

Thank you for giving me an
opportunity to speak out my voice
through this survey.

Thanks for the survey!
Well done survey. Most of the
questions were clear and the available
options well defined. Good work!

Thanks for all your work in our behalf!

Thank you very much for this
PhDnet Survey 2017.

Thank you for
participating in this survey!

Thank you for caring

I REALLY(!) appreciate the first two
questions in this last block
regarding assigned sex at birth
and gender identity! Thank you
so much for this! :)

Good work!

Thank you so much for executing
this Phdnet survey and trying to find
out about Phds' possible issues

Thank you so much for the
straight forward questions in the survey

Thanks for the possibility to comment!