



EPFL Doctoral Survey III

2019

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Executive Summary

The Survey

EPFL Doctoral III Survey is the third, large-scale survey of doctoral student experiences in EPFL (previous surveys were carried out in 2005 and 2012). It is focused on addressing issues raised by doctoral students and their supervisors, including: supervision quality; skills development and readiness for employment; well-being and mental health issues, and teaching experiences and teaching self-efficacy.

There were 1043 responses (out of a population of 2179 doctoral students), a 48% response rate. The sample was representative of the wider population in terms of gender, doctoral program, faculty and year of study.

Overall satisfaction

In general, EPFL doctoral students are satisfied with their doctoral studies experience. Overall, 71% of students responded positively to the question on overall satisfaction while 12% responded negatively. It appears that overall satisfaction is similar to the levels found in 2012.

Supervision and Research Experiences

The experiences of EPFL students was benchmarked against those of research students in another globally-leading research institution, Oxford University. In general, the feedback from doctoral students indicates that the experiences are comparable: EPFL scores a little lower than Oxford on quality of supervision experience, and a little higher on quality of skills development, of infrastructure, and of intellectual climate.

Despite the generally positive picture, the survey data shows two areas in which the supervision experience might be further developed:

- While most students meet their supervisor regularly, as many as 16% indicate that they meet their supervisor less often than once per month. Satisfaction with the availability of supervision is clearly associated with frequency of meetings.
- Even where supervision meetings take place regularly there remain issues regarding the quality of the advice and feedback received by doctoral students. For example, over 40% do not agree with the statement “My supervisor(s) provide helpful feedback on my progress”.

Although the general picture in relation to skills development and readiness for future employment is also positive, there are also some points here that may merit further attention.

- 40% do not agree that they have gained confidence in leadership, and over 30% do not agree that they have developed the ability to work collaboratively with other researchers.
- Roughly 20% indicate that they do not agree that they have developed their understanding of research integrity (rigour, ethics, transparency and attributing the contribution of others).
- Roughly 30% do not agree that they are confident they can apply their skills outside the university sector.

Well-being and mental health in doctoral studies

Recent publications on doctoral education have argued that there is a global mental health crisis in doctoral education. EPFL does not appear to be immune from this wider crisis.

- Overall, only 48% of respondents indicated that they could achieve an appropriate work-life balance.

- Perceived stress among the respondents, while not reaching the benchmark to be described as high, is elevated compared to the average person of a similar age (aged 18-29).
- Just over 3% indicate that they have been sexually harassed during their doctoral studies.
- Over 14% of the sample indicate that they feel they have been bullied, mobbed or harassed during their doctoral studies, with a further 5% unsure (this 14% of the total population of doctoral assistants represents some 314 cases of people having been bullied).
- Their self-perception broadly tallies with more objective data on their experiences in the last six months: almost 8% of respondents have experienced behaviour that fits the definition of bullying or harassment, and a further 13% have experienced behaviours in that period that may constitute bullying.
- The average doctoral student in the sample shows some depressive symptoms: 53% had some depressive symptoms (that is, were rated as being between 'mild' and 'severe' on a depression scale) as compared to an estimated 21% in the wider population. Depressive symptoms are widespread: the average doctoral assistant in almost all of the doctoral programs shows some depressive symptoms.

While these mental health and wellbeing challenges appear widespread in the sample, students who have been in doctoral studies for more than four years appear particularly at-risk. They have the lowest frequency of meetings with supervisors, the lowest rating for supervision experience, a comparatively lower rating of the intellectual climate and skill development than doctoral students in their third or fourth year, and they have the highest scores for perceived stress and for depression.

Students who have experienced behaviour that fits the definition of bullying or harassment are also particularly at risk of depression. While 46% of those who have not experienced such behaviours show some depressive symptoms, this rises to 90% showing depressive symptoms for those who have experienced such behaviours in the last six months.

In general, male and female students reported similar experiences in most respects (e.g., overall satisfaction, work-life balance, skill development, intellectual climate, or being subject to bullying behaviours). There were gender differences in perceived stress and in depression, female students scoring more negatively on both.

There were some patterns of differences in experience across different doctoral programs.

Teaching and teaching self-efficacy

There are notable differences between doctoral programs in the rates at which their students are engaged in teaching activity. This is the case when considering only class teaching (exercises, labs and MOOCs) but remains so when wider teaching activities (e.g., project supervision and development of teaching materials) is also included.

Respondents generally rate themselves as confident in relation to their ability to teach. There are, however, some areas in which they rate themselves as less confident, including: managing classroom disruption (54% do not agree that they are confident), responding well to difficult questions (40% do not agree), and promoting students' confidence in themselves, (35% do not agree).

1. Introduction

Every seven years, the EPFL Doctoral School (EDOC) conducts an in-depth survey of its doctoral population to assess the quality of its doctoral education and potential areas for improvement. On the basis of the results of the survey a set of corrective and/or reinforcement long term actions is implemented. This quality assurance methodology was implemented with the first survey performed in 2005, only two years after the introduction of the Doctoral School. This led to the establishment of the project *Excellence in Doctoral Education* (EIDE). The 2012 second survey, conducted with a doctoral student population entirely integrated in the Doctoral School, enabled the impact of the EIDE project to be evaluated.

The EPFL Doctoral III Survey is the third, large-scale survey of doctoral student experiences in EPFL. While the focus on 2012 was on evaluating the impact of specific services for doctoral assistants and on assessing the changes in experience between 2005 and 2012, the focus in the 2019 survey is slightly different. Rather than benchmarking against past EPFL experiences by mirroring questions used over the previous two surveys, the goal on this occasion is to allow the EPFL experiences to be benchmarked against international practices. For that reason, the 2019 Doctoral III survey incorporates a number of internationally recognised and validated research instruments which can provide valid, reliable and internationally comparable data. Secondly, while the 2012 survey focused on assessing the *Excellence in Doctoral Education* project, the 2019 survey is focused on addressing the contemporary issues and concerns raised by PhD supervisors and students. These issues included:

- Supervision quality
- Skills development
- Access to resources and infrastructure
- Readiness for employment
- Safety from harassment, bullying and mobbing
- Quality of life (including work-life balance and incidence of stress and depression)
- Teaching experiences and teaching self-efficacy

Data was also collected on doctoral students' expectations from their doctoral studies. This data is not included in this report but will be reported on separately.

The Doctoral III survey was developed by a working group established by the Doctoral School in spring 2018. The questionnaire was reviewed by an advisory group to ensure it was addressing the needs of the community and to check for readability and intelligibility. The questionnaire was updated and then reviewed a second time by the directors of doctoral programs and by doctoral student representatives. This again led to updating of the questionnaire. The final version of the questionnaire to be used was agreed with the Doctoral School in November 2018.

The questionnaire was administered online using a secure survey/evaluation tool (Evasys). This allowed each doctoral student to have an individualised link (to ensure security) while at the same time ensuring the anonymity of respondents. The data analysis and the writing of this report was completed by Roland Tormey from the Teaching Support Centre (CAPE) & Centre for Learning Sciences (LEARN). Qualitative data analysis on open questions was completed by Nadine Stainier, also from CAPE.

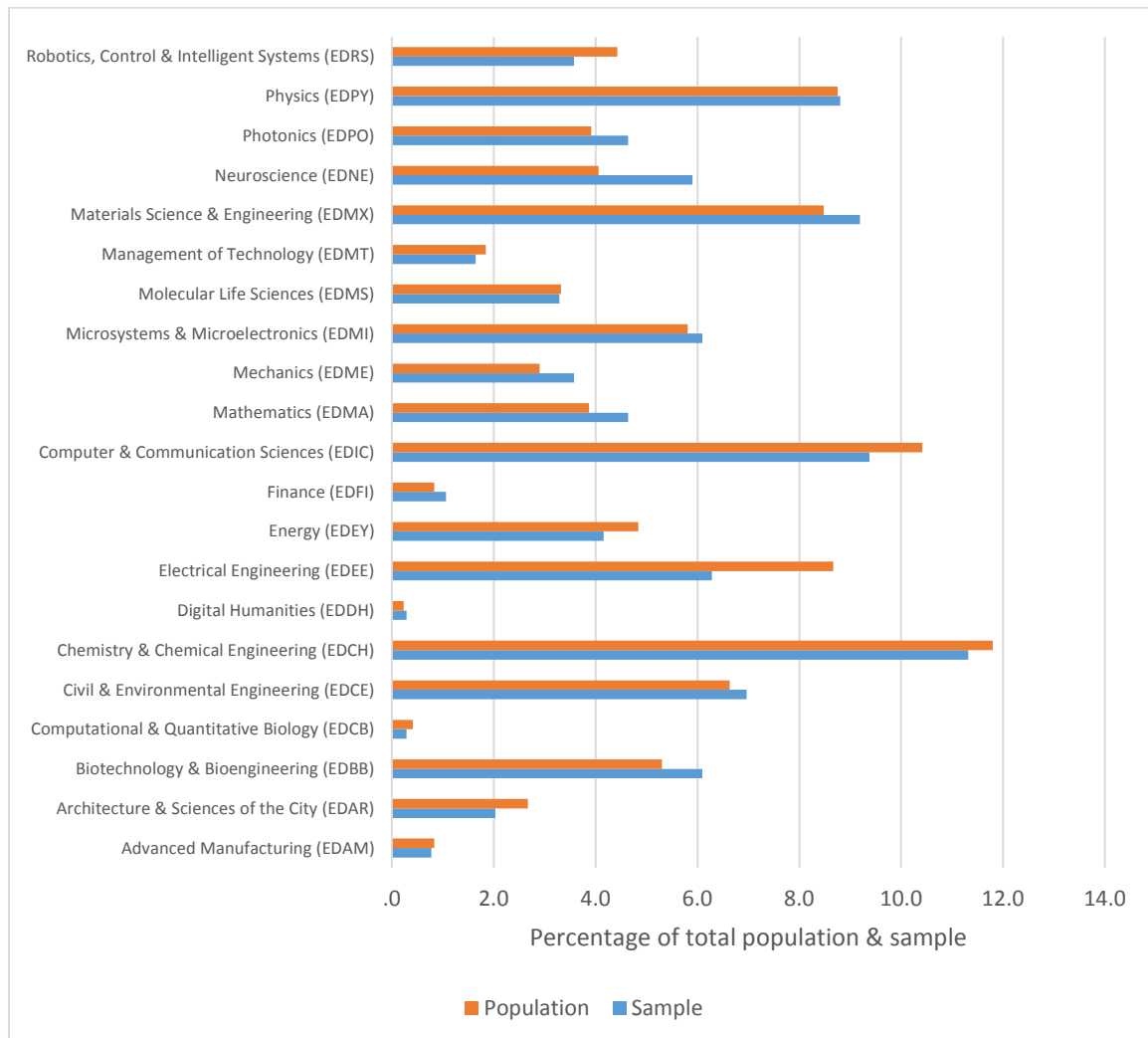
1.1 Description of the sample

The EPFL Doctoral III Survey was launched on Monday 26 November 2018, with a closing date of 9th December 2018. Doctoral students received a number of invitations and reminders to participate over the two-week period from the Vice President for Education, from the Doctoral School and from their Doctoral Program representatives. By the 9th December there were 702 responses from a population of 2179 (a 32% response rate). The closing date of the survey was extended to Friday 21st December and students were again invited to participate with emails from the Vice President for Education, from the Doctoral School and from their Doctoral Program representatives. By the closing date **1043 responses** had been received, a **48% response rate**. The response rate in 2012 was 62% and in 2005 it was 78%.

1.2 Representativeness of the Sample

How well does the sample reflect the broader population of EPFL PhD students?

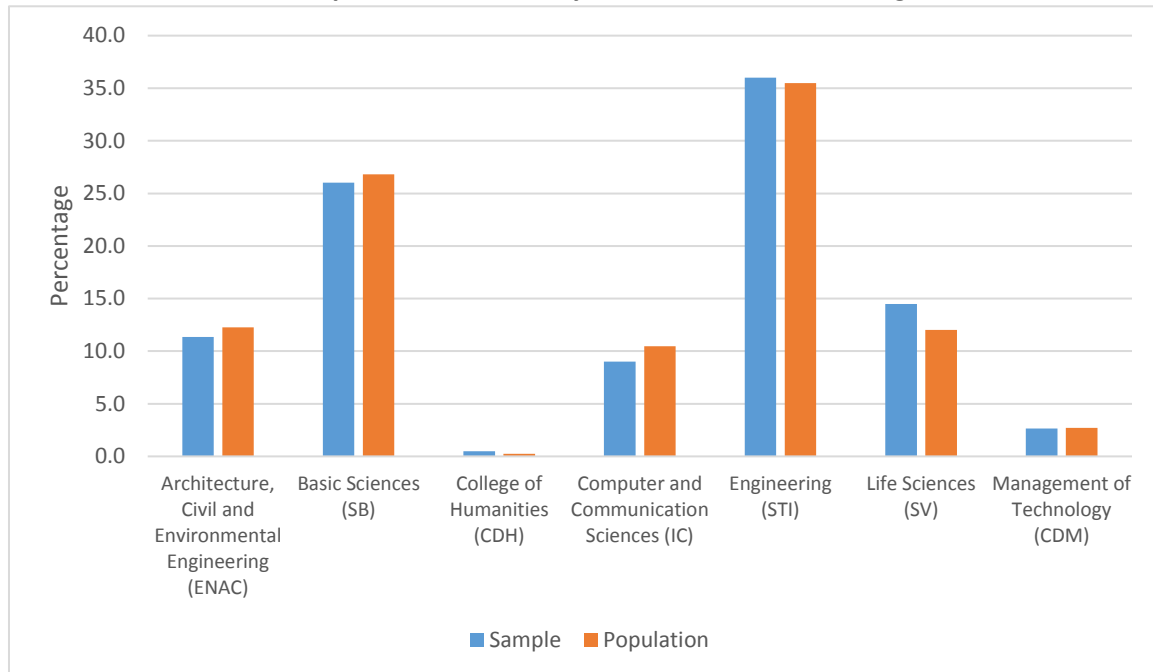
Chart 1. Responses to the survey and population across doctoral programs



Note: (N=1034, 9 missing responses)

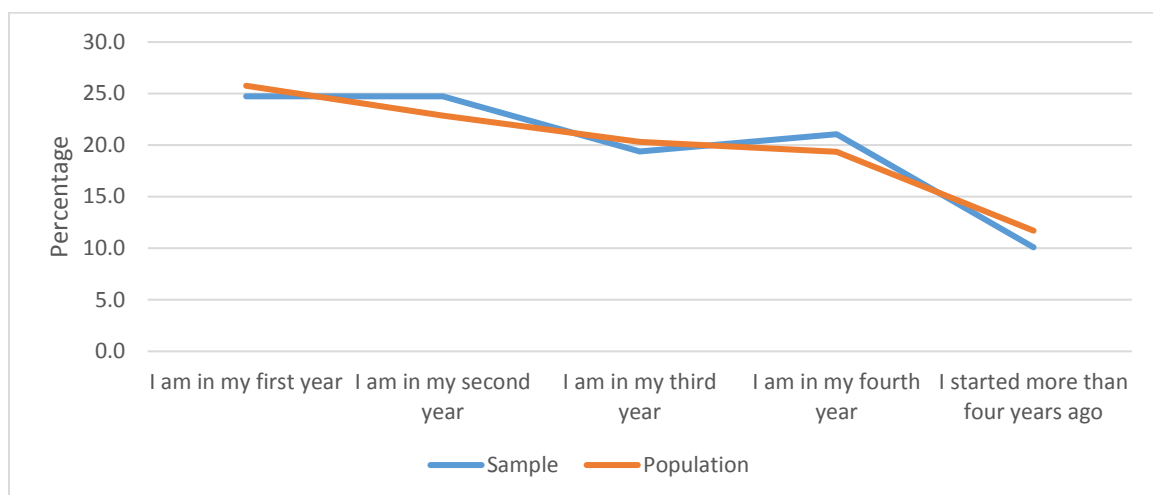
As Chart 1 shows, the survey sample maps quite closely onto the wider population of doctoral students in EPFL¹. Electrical Engineering is a little underrepresented in the sample and Neuroscience a little overrepresented, but otherwise the distribution of the sample and that of the wider population match reasonably closely. Similarly, Chart 2 (below) shows that the distribution of the sample across faculties closely matches that of the wider population of doctoral students.

Chart 2. Distribution of responses to the survey across faculties and colleges



Note: (N=1022, 21 missing responses)

Chart 3. Distribution of responses to the survey by duration of studies



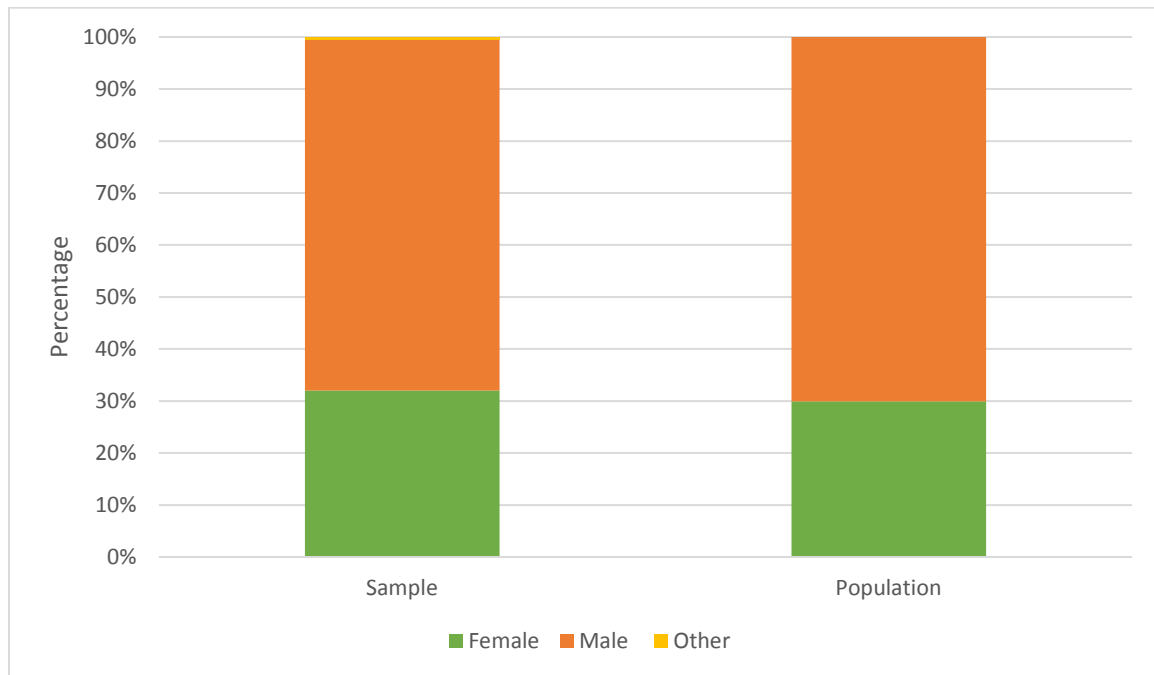
Note: (N=1031, 12 missing responses)

Chart 3 compares the survey sample with the wider population of doctoral students in terms of duration of studies. Chart 4 compares the gender of the survey respondents to that of the wider

¹ Data on EPFL doctoral students as a whole was extracted on 18 January 2019.

population of doctoral students. In both cases, the survey sample matches closely the wider population.

Chart 4. Gender distribution of responses to the survey



Note: (N=1005, 38 missing responses)

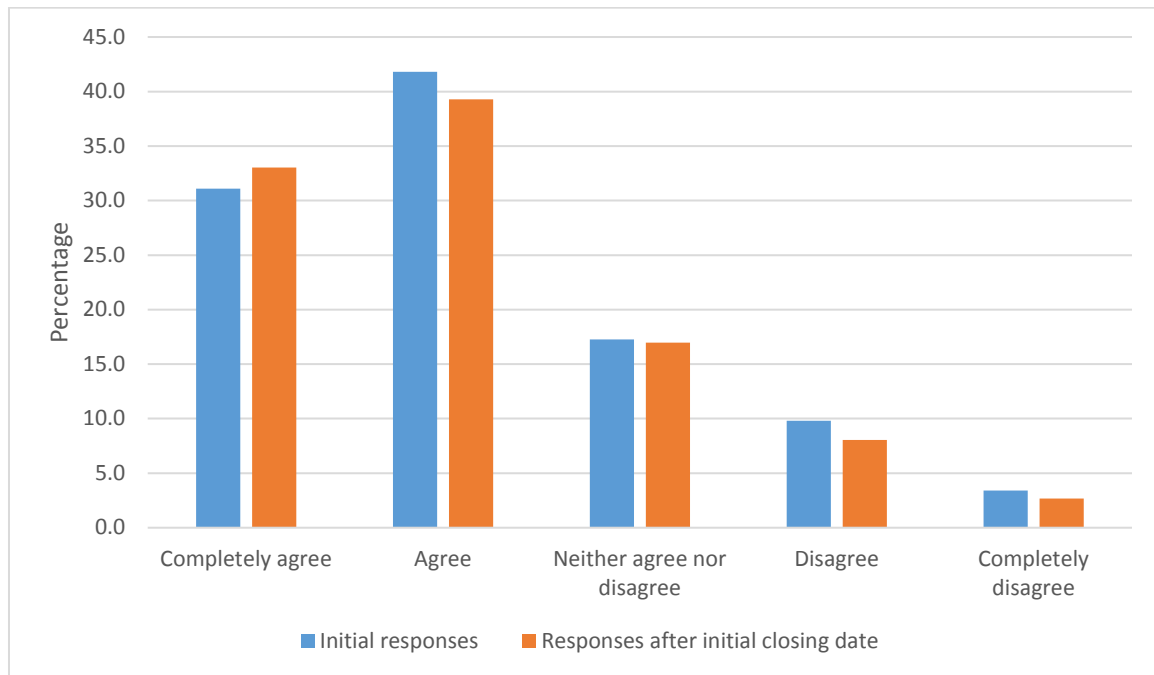
Overall, we can say that, demographically at least, the survey sample is representative of the wider population.

1.3 Evaluation of potential self-selection bias in the sample

Given the challenges in getting a reasonable response rate, one might wonder if there is any evidence of bias in the sample, linked to the timing of the responses. For example, is there evidence that earlier responses were more negative (or positive) about their experience than those who only responded after being repeatedly reminded? If this were the case, it would indicate some kind of self-selection bias in the sample.

Examination of a series of questions shows that differences between those who responded before the initial deadline and those who responded after the initial deadline and during the extension period are very minor. Distribution across genders, years of study, programs and faculties are very similar for early responders and more reticent responders. A similar pattern holds for responses to substantive questions as can be seen in the patterns of responses to the “Overall satisfaction” question (Chart 5).

Chart 5. Evolution of responses to overall satisfaction question between initial respondents and later respondents



Note: (Initial respondents N=695, 2 missing responses; Total respondents N=1031, 12 missing responses). The question was “Overall I am satisfied with the quality of my PhD experience”

Overall the data does not support the hypothesis that those who responded early to the survey were biased (either more positive, more negative, or more extreme in their views) than those who were slower or more reticent to respond. This does not allow us to definitively rule out a self-selection bias in the sample, but it does increase confidence in the representativeness of the results.

Since the respondents are not a random sample of the population, the use of inferential statistics is, strictly speaking, not justified with such data. However, in such situations inferential statistical analyses are often presented as an aid to the reader in understanding the strength and nature of relationships found. This report follows the practice of earlier EPFL doctoral survey reports in presenting some inferential statistics in this spirit. With this provision in mind, confidence intervals at the 95% confidence level for the survey range from $\pm 0.6\%$ to $\pm 3\%$. As an illustration, this means that if 75% of the sample indicate agreement with a particular statement, the actual proportion in the population as a whole who actually agree might be thought to be somewhere between 72.4% and 77.6% of the population (i.e. $75\% \pm 2.6\%$).

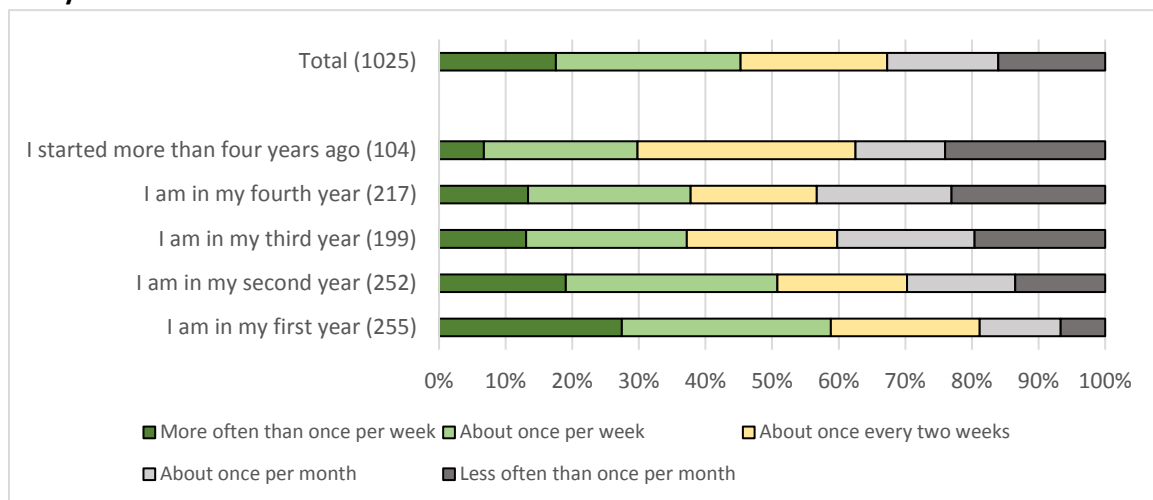
2. Experiences in the Doctoral Program

2.1 An overview of doctoral studies

2.1.1 Doctoral student activities

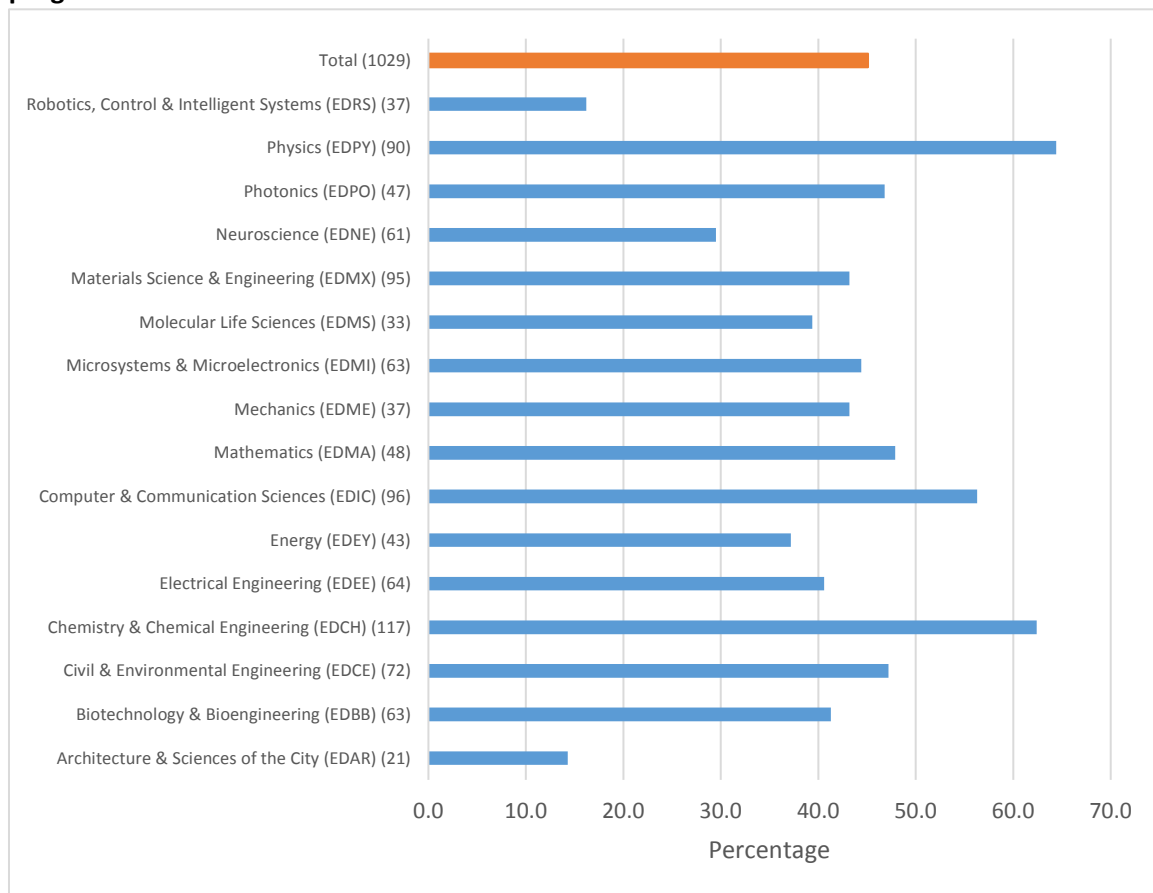
Doctoral student experiences in EPFL are very diverse. This is evident, for example, with respect to the frequency with which they meet their supervisor: while over 45% of doctoral assistants meet a supervisor at least once a week, as many as 16% indicate that they meet their supervisor less often than once per month (Chart 6, 'Total' bar).

Chart 6: Responses to the question “In the last 12 months, how regularly did you meet your supervisor (choose the option that is the closest approximation to your situation)?”, by year of study



There are a number of different factors which can be identified as being associated with the frequency of supervisor meetings. For example, there is some link between the location in which a person works during their PhD and the frequency of supervisory meetings, with those based in an antenna campus less likely to have supervisory meetings at least once a week (34.1%) as compared to those based on the EPFL Lausanne campus (46.1%) or, indeed, those not based on an EPFL campus (e.g., CERN; PSI; Industry, etc.) (56.9%). Frequency of meetings is also linked to the duration of studies (see chart above), with the frequency of meetings declining between the first and fourth years. Finally, frequency of meeting a supervisor is also associated with the doctoral program in which the student is registered (see chart 7, below).

Chart 7: Percentage of respondents who meet their supervisor at least once per week, by doctoral program



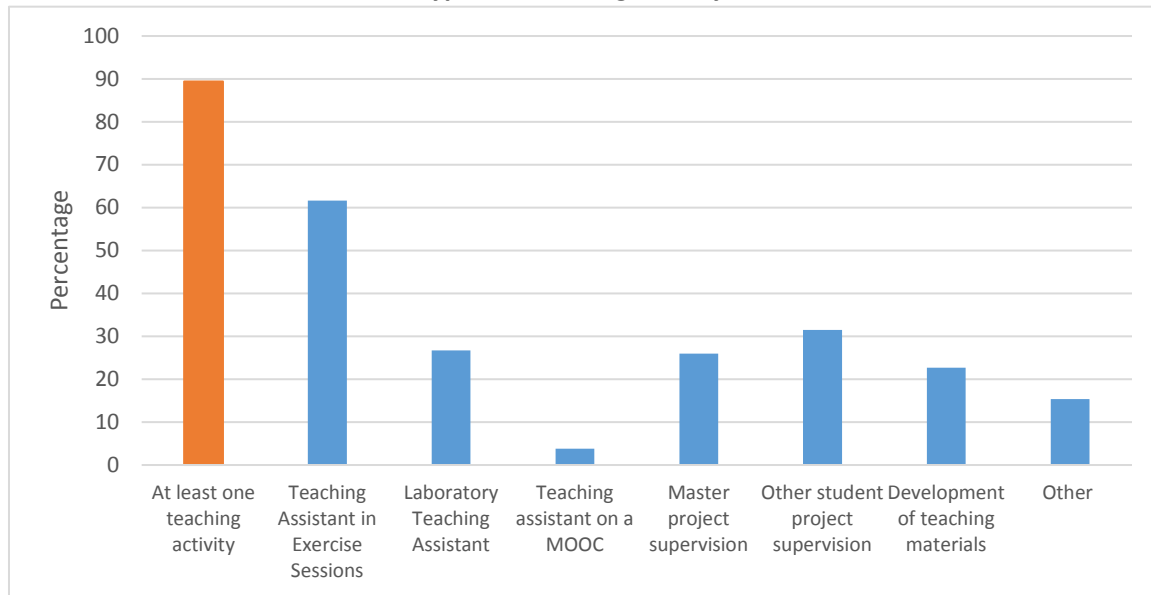
Note: Question asked is ““In the last 12 months, how regularly did you meet your supervisor (choose the option that is the closest approximation to your situation)?” Chart shows the percentage of those who answered “more often than once per week” plus “about once per week”.

Teaching is a significant part of the life of the survey respondents, with 89.4% indicating that they have been involved in some kind of teaching activity within the last 12 months. The most common type of teaching that they have engaged in is working as an assistant in exercise sessions (61.6%). This is followed by supervision of non-master projects (31.5%) and by working as an assistant in laboratories (26.7%). It is notable that 15.4% identify themselves as being involved in some teaching *other* than being an assistant in exercises, labs or MOOCs, in project supervision, and in development of teaching material (see chart 8 below). It is not clear what this ‘other’ teaching activity might mean². When this ‘other’ category is excluded, the percentage of doctoral students saying that they were involved in teaching in the last 12 months drops from 89.4% to 82.8%. When we look only at those students who have taught in a class setting³ (that is, in Labs, Exercises or MOOCs), the percentage involved drops further to 75.7%.

² It is likely that occasional lecturing accounts for some part of this, but for most doctoral students it seems unlikely that this ‘other’ teaching is a regular or timetabled teaching activity. The questionnaire did not ask students to specify what they meant by ‘other’.

³ Almost all of those working as an assistant for a MOOC were also doing other teaching assistant work, so the picture is the almost identical if MOOC assistantships are excluded.

Chart 8: Overall rates of different types of teaching activity for doctoral students



Note: Respondents could choose as many as appropriate, so the total adds up to more than 100%

There are a few notable patterns in the doctoral students' teaching experiences. First, the type of teaching they do is dependent in part of the duration of their studies. If we look at class teaching (i.e. exercises, plus labs, plus MOOCs), about half (50.2%) of those in their first year have taught in such a class in the last 12 months. This increases to 86.3%, 87% and 86.2% for those in years two, three and four respectively, before decreasing again to 68.3% for those who registered more than four years previously.

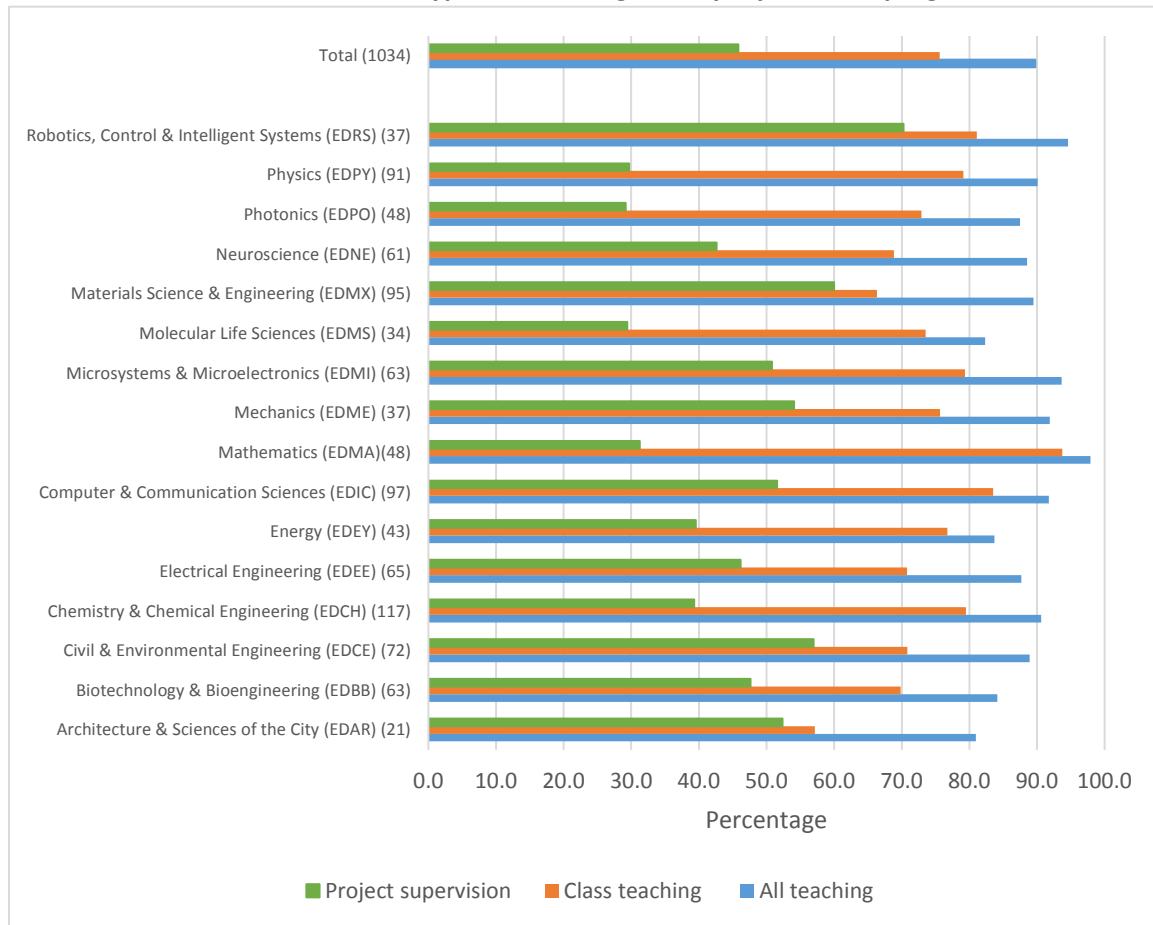
The picture is slightly different for project supervision: under a quarter of those in their first year of studies (22.7%) have supervised a project (including both master projects and other projects) in the last 12 months. In second year this increases to about half (47.1%). For doctoral students who have been registered for more than two years over half have supervised a project in the last 12 months (55% in their third year, 59.9% in their fourth year, and 51.9% for those who have been registered for more than four years).

There are also notable differences between the types and extent of teaching done in different doctoral programs. If we take all teaching into account (including the rather vague category, 'other'), we find that teaching is most prevalent in Mathematics (97.9%), in Robotics, Control & Intelligent Systems (94.6%) and in Microsystems and Microelectronics (93.7%), and least prevalent in Architecture & Sciences of the City (81.0%) and in Molecular Life Sciences (82.4%).

When we consider only class teaching (i.e. Exercises, Labs or MOOCs), this remains a widespread activity in Mathematics (93.8%), in Computer & Communication Sciences (83.5%) and in Robotics, Control & Intelligent Systems (81.1%). Class teaching is less common in other programs, including Architecture & Sciences of the City (57.1%), in Materials Science & Engineering (66.3%) and Neuroscience (68.9%).

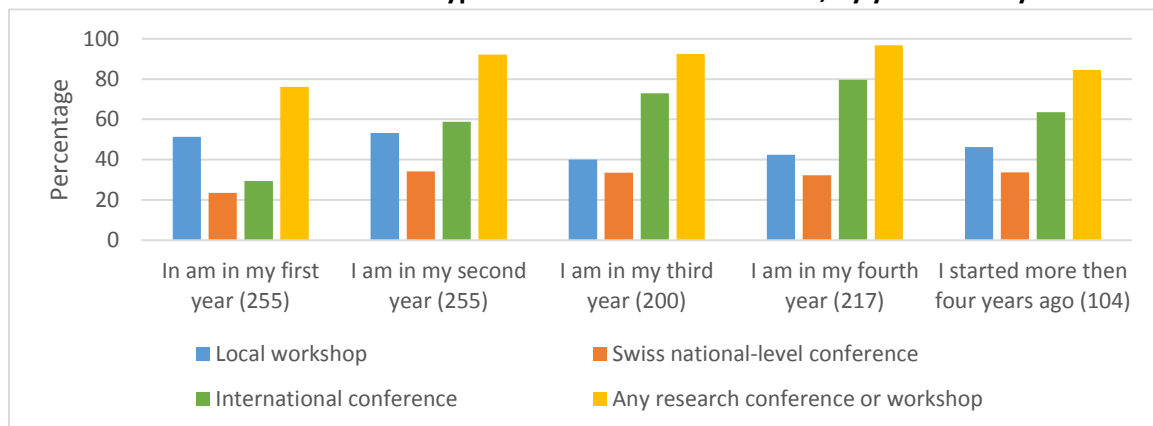
Project supervision is most common in Robotics, Control & Intelligent Systems (70.3%), and least common in Photonics (29.2%), Molecular Life Sciences (29.4%) and Physics (29.7%).

Chart 9: Overall rates of different types of teaching activity, by doctoral programs



Doctoral students were also asked if they had attended a research conference or workshop in the last 12 months, with 88.5% indicating that they had attended at least one such event. These included 59.2% who had attended an international conference, and 59.2% who had attended a local or Swiss national-level conference. There is some association between this and their duration of registration: 51.4% of students in their first year say they have attended either a local workshop in the last 12 months, dropping to 42.4% for those in the fourth year of studies. On the other hand, 29.4% of those in their first year attended an international level conference in the previous 12 months, as compared to 79.7% of those in the fourth year.

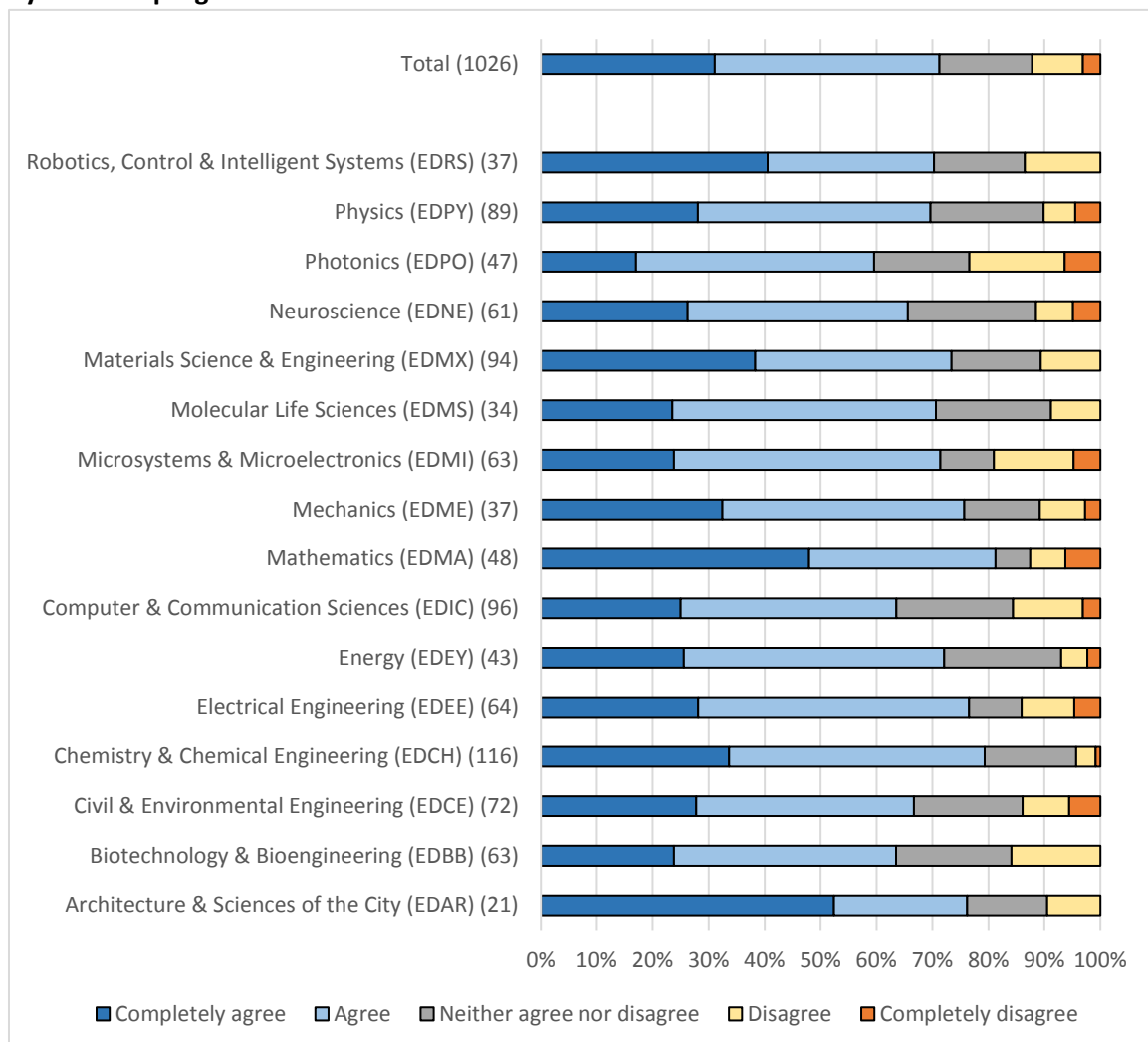
Chart 10: Overall rates of different types of conference attendance, by year of study



2.1.2 Overall Satisfaction

The overall satisfaction expressed by doctoral students with their experiences are presented in the chart below. Overall, 71.1% of students responded to the question on overall satisfaction positively (either ‘completely agree’ or ‘agree’). 12.3% responded negatively (either ‘disagree’ or ‘completely disagree’). Since the question asked in 2012 had a slightly different format it is not possible to directly compare the results between the two surveys (the 2012 question was “Overall I am satisfied with the conditions under which I am conducting my thesis research”, and it allowed only 4 responses with no possibility for students to choose ‘neither agree nor disagree’). Dissatisfaction in 2012 was 16% (greater than in 2019) and satisfaction was 85% (also greater than in 2019). Broadly speaking, given the change in question format, this indicates that the overall satisfaction/dissatisfaction levels appear similar between 2012 and 2019.

Chart 11: Responses to the question “Overall I am satisfied with the quality of my PhD experience”, by doctoral program

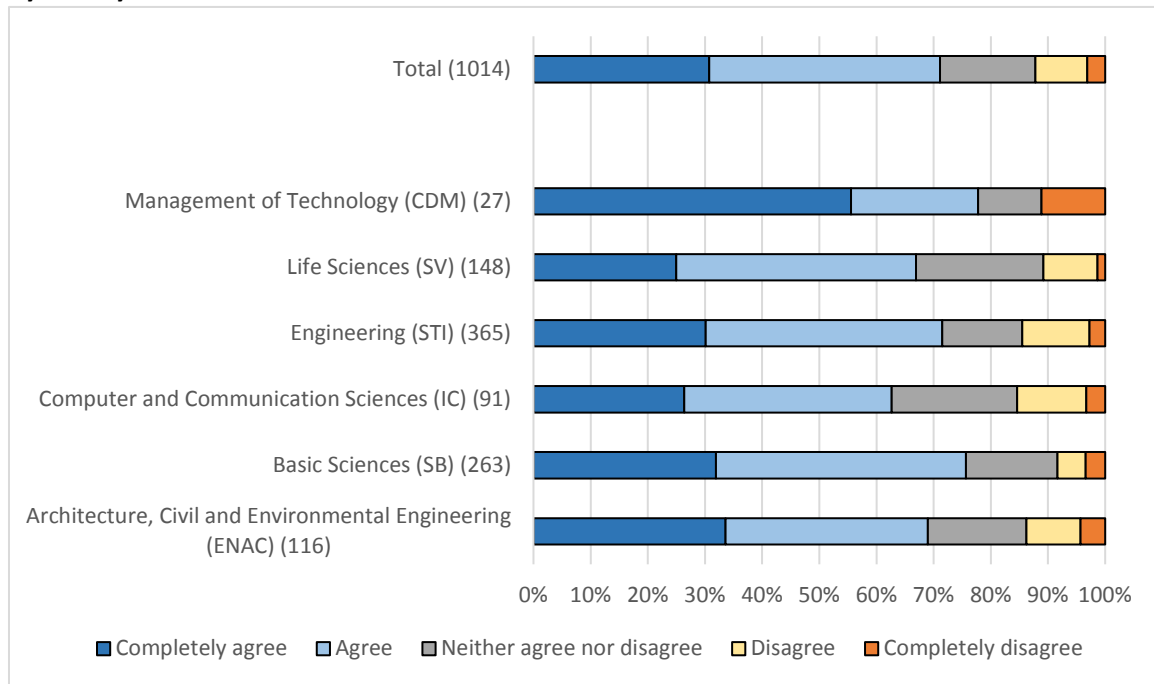


Note: Programs with fewer than 20 responses not included. Number of respondents in each program are in brackets.

Chart 11 presents data on students overall satisfaction broken down by different doctoral program. A number of programs have overall satisfaction rates that are somewhat lower than the overall average of 71.1%. These include Photonics (59.6%) and Computer & Communication Sciences (63.5%). Others have notably higher satisfaction rates, including Mathematics (81.3%) and Chemistry

and Chemical Engineering (79.3%). Chart 12 (below) presents the same data but broken down by faculty. While the doctoral programs in management and humanities are not included in chart 11 (since the number of respondents in each one is lower than the threshold for presenting), Chart 12 does include data from the College of Management which indicates a generally high satisfaction rate (77.8%).

Chart 12: Responses to the question “Overall I am satisfied with the quality of my PhD experience”, by faculty



Note: Faculties with fewer than 20 responses not included

Chart 13: Responses to the question “Overall I am satisfied with the quality of my PhD experience”, by year of study

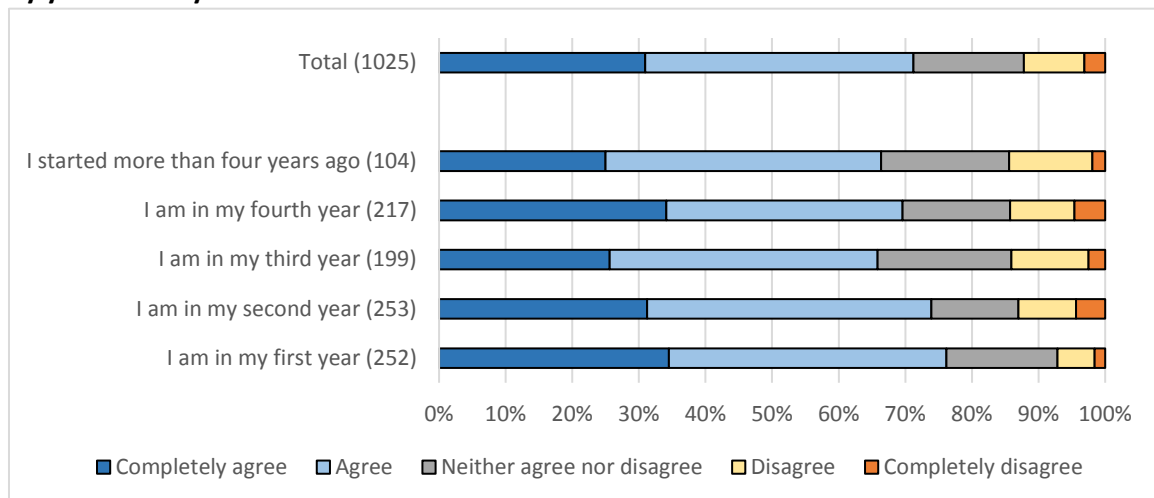
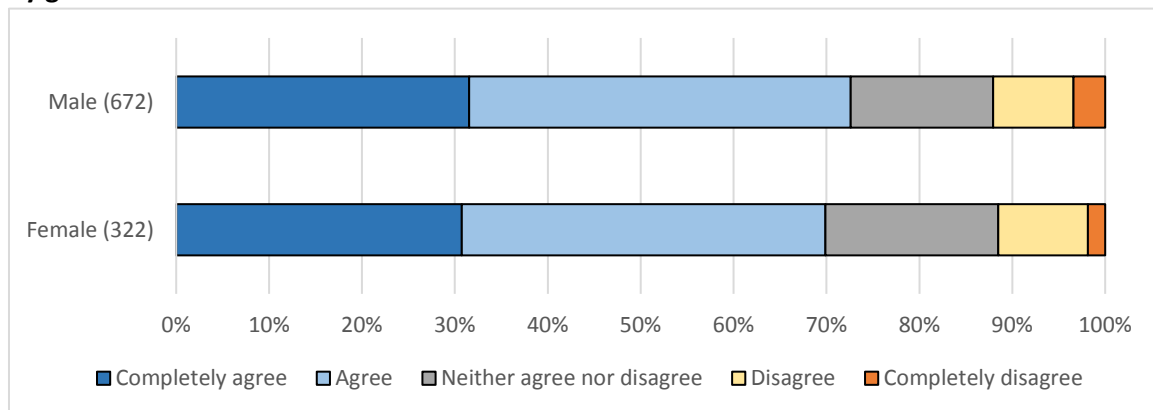


Chart 13 shows how the students’ satisfaction rate evolves over their years of study. Overall satisfaction is highest in first year and tends to decline thereafter, from 76.2% in the first year to

65.8% in the third year. Overall satisfaction was also analysed to see if it varied with other demographic features such as gender, working location (Lausanne campus, an antenna campus, or not on an EPFL campus), and place of prior study (EPF/ETH, Swiss University, Other European University, The Americas, Africa, Asia and Oceania). There were no notable differences in overall satisfaction across such demographic features. For illustrative purposes, satisfaction broken down by gender is presented in Chart 14 (below).

Chart 14: Responses to the question “Overall I am satisfied with the quality of my PhD experience”, by gender



2.2 Aspects of doctoral student experience

In order to assess different aspects of the doctoral student experience a version of an internationally used instrument called the Postgraduate Research Experience Questionnaire (PREQ) was used. This questionnaire has been used in other countries to assess aspects of doctoral students' experiences. It has also been recently subjected to psychometric review and re-validation⁴. The survey contains a number of different scales which assess the following aspects of the postgraduate student experience:

- Supervision
- Intellectual Climate
- Skills development
- Infrastructure
- Awareness of assessment
- Industry engagement

Since versions of the survey have been used by other universities international comparisons are possible in a number of areas of doctoral student experience.

2.2.1 Supervision

The supervision experience of the students was measured using six questions from the revised Postgraduate Research Experience Questionnaire (PREQ). Questions included “My supervisor(s) make a real effort to understand the difficulties I face” and “I am given good guidance in topic

⁴ Australian Council for Educational Research (2017) *Review of the Postgraduate Research Experience Questionnaire (PREQ)*. <https://go.epfl.ch/bxC>

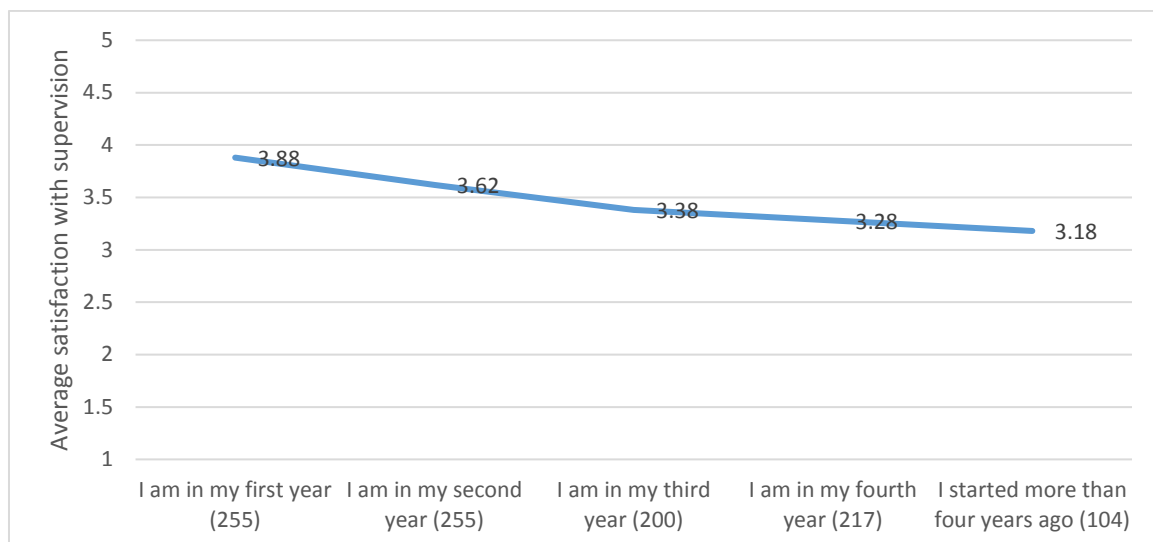
selection and refinement”. The Cronbach’s alpha for the scale was .92, indicating very good reliability for the measure⁵.

In general, supervision experiences tend more towards the positive than negative with a mean average score of 3.53 (where 1 is strongly negative and 5 is strongly positive). In comparison to externally available data, EPFL scores are comparable to but a little lower than Oxford University, where the university-wide mean average on the Supervision scale was 3.69 (the difference is statistically significant, $t=-4.956$; $df=1041$; $sig <.001$)⁶.

Female respondents tend to be more positive about their supervision experiences than male respondents (average of 3.65 compared to 3.48, respectively). There are also some notable differences between the scores in different doctoral programs and faculties (see appendix, Charts B to D).

It is also notable that, as Chart 15 shows, average satisfaction with supervision tends to decline over the course of the student’s time in EPFL.

Chart 15: Average satisfaction with Supervision experience, by duration of studies



Note: (N=1031, 12 missing responses)

Within the general score on supervision there is some variation. In general, and despite the variation in frequency of supervision meetings described above, students are positive about the availability of supervision with over 70.1% agreeing (i.e., ‘strongly agree’ plus ‘agree’) that supervision is available when they need it (see chart 16, below). There are, however, students for whom the frequency of supervisory meetings is an issue. While satisfaction with the availability of supervision remains high when supervision meetings take place at least once per week, this drops off along with the frequency of meetings. Where meetings take place about once per month, only 57.0% of students report being satisfied with their frequency, dropping to 28.5% where meetings take place less often than once per month (see chart 17, below).

⁵ Cronbach’s alpha is a measure of scale reliability. Scores of .7 or higher are typically regarded as indicating good reliability.

⁶ Keith Trigwell and Harriet Dunbar, *The Research Experience of Postgraduate Research Students at the University of Oxford*. The wording and structure in scales used in Oxford are slightly different to those used in EPFL.

Aside from the regularity of meetings, students are generally less positive about the guidance they receive: only 41.3% agree that they get good guidance in their literature search, and only 55.8% agree that they get helpful feedback on their progress. While this is associated with the frequency of supervision meetings, even where supervision meetings take place more often than once per week, the percentage of those who do not agree (i.e., chose an option other than ‘agree’ or ‘strongly agree’) that they get helpful feedback stays as high as 22.0% (rising to 31.8% where supervision meetings take place once per week, and continuing to rise as supervision becomes less frequent). For many doctoral students the issues with supervision, then, are not so much to do with the availability of supervision but about the quality of the interaction when they do meet.

Chart 16: Specific elements of the Supervision experience

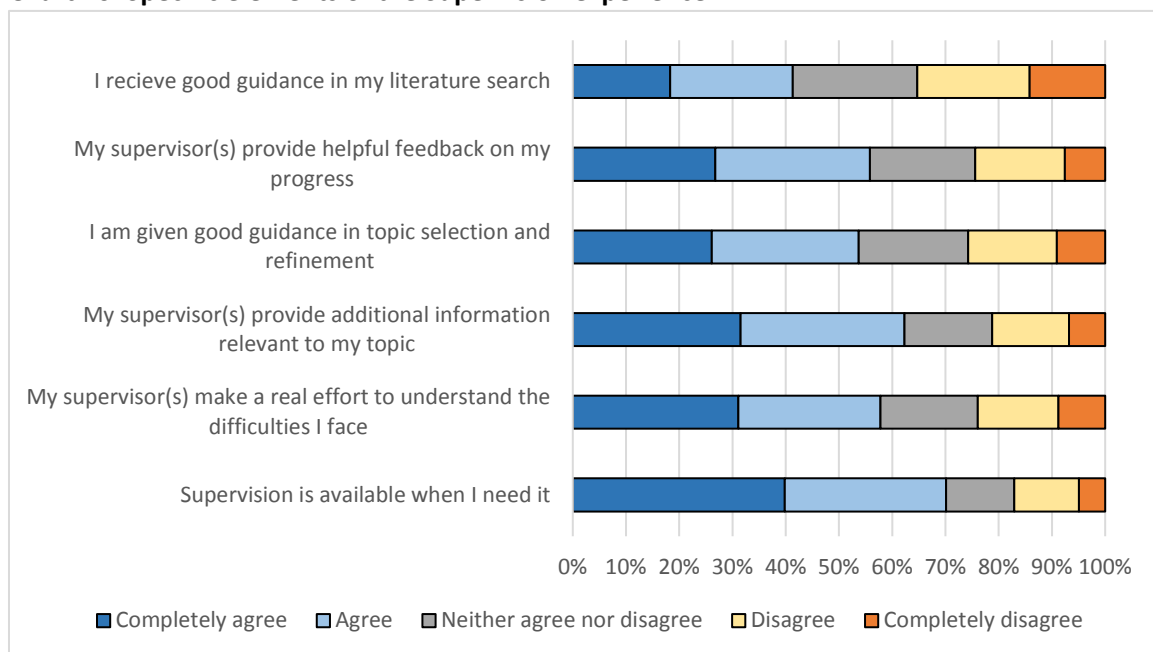
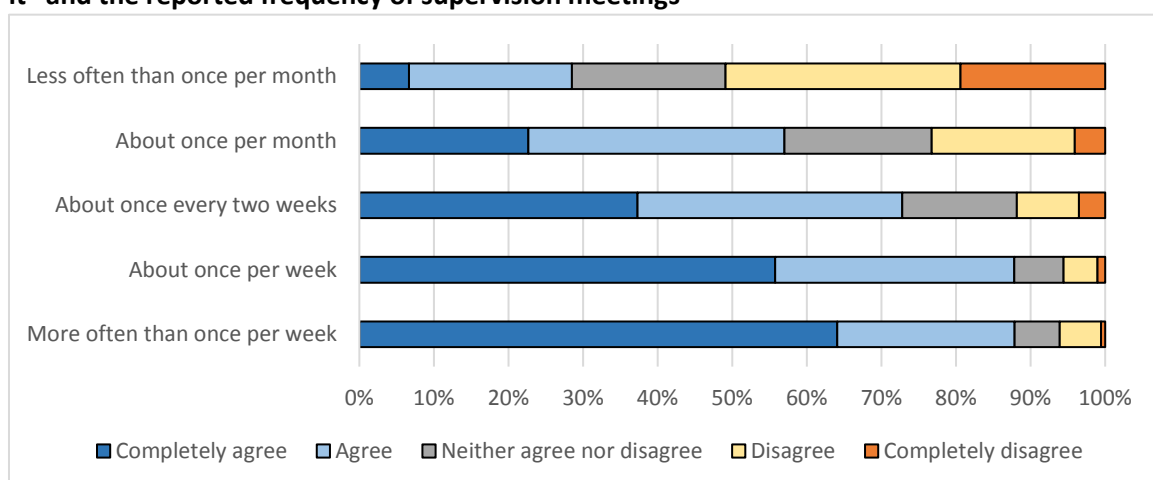


Chart 17: Relationship between responses to the statement “Supervision is available when I need it” and the reported frequency of supervision meetings



For the respondents, their score on the supervision scale is a very strong predictor of their overall satisfaction with their doctoral experiences (Pearson’s $r=.574$).

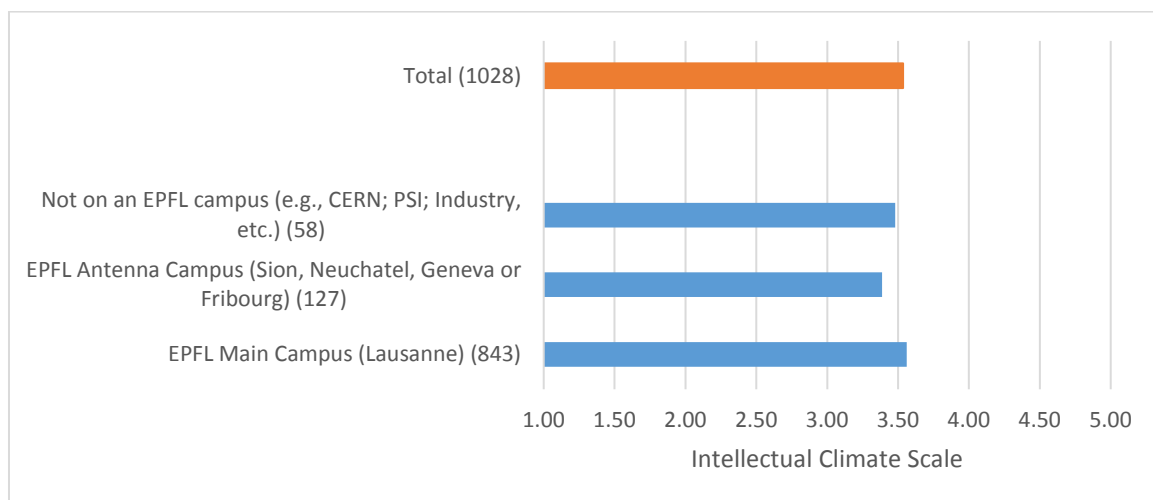
2.2.2 Intellectual Climate

The intellectual climate of the doctoral experience was measured using ten questions adapted from the revised Postgraduate Research Experience Questionnaire (PREQ). The Cronbach’s alpha for the scale was .82, indicating very good reliability for the measure. Sample questions included “I feel integrated into the research community in the doctoral program”, “I feel integrated into the research community in the lab”, “The doctoral program provides opportunities for me to become involved in the broader research culture”, and “The research environment in the lab stimulates my work”.

Overall the doctoral assistants’ responses to this scale were positive, with an average score of 3.54 (where 1 is strongly negative and 5 is strongly positive). This compares positively with Oxford University where the average score was 3.38 ($t=6.502$, $df=1041$; $sig < .001$)⁷.

There are no notable differences in student rating on intellectual climate as a whole across different doctoral programs, faculties or genders (some illustrative data is in appendix, Charts E and F). There are slight differences in satisfaction with the intellectual climate when this is compared across working location (with those in an EPFL antenna campus having lower scores than those on the Lausanne campus) and across year of study. Although these differences are statistically significant, they are not very strong.

Chart 18: Average satisfaction with intellectual climate, by location



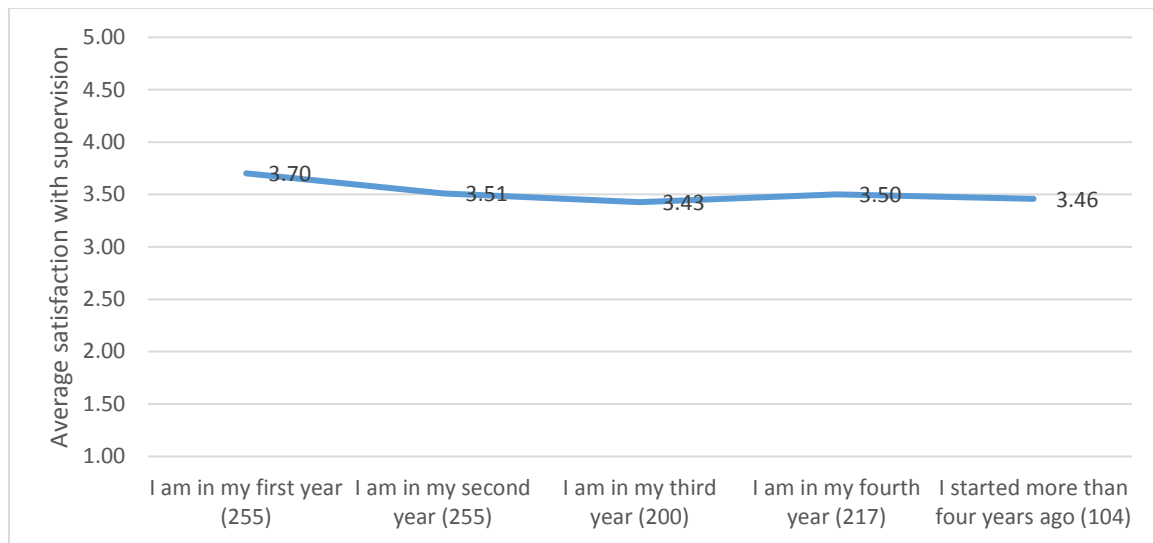
This overall scale on intellectual climate can be subdivided into the doctoral program’s intellectual climate and the lab’s intellectual climate.

The doctoral programs intellectual climate can be measured using five of the ten items in the wider scale, while the intellectual climate in the labs can be measured using four of the ten items. The Cronbach’s alpha for the two sub scales were .82 and .80 respectively, indicating very good reliability for the measure.

Across the board, the labs are a more positive contributor to the intellectual climate than are the programs, with an average score of 3.85 for the intellectual climate in the labs (where 1 is strongly negative and 5 is strongly positive) as compared to 3.34 for the intellectual climate in the doctoral program (see appendix Charts E and F).

⁷ As before, the structure and wording of the scale items used in Oxford were slightly different.

Chart 19: Average satisfaction with intellectual climate broken year of study



Like supervision, for our respondents, their score on the intellectual climate scale is a very strong predictor of their overall satisfaction score (Pearson’s $r=.563$).

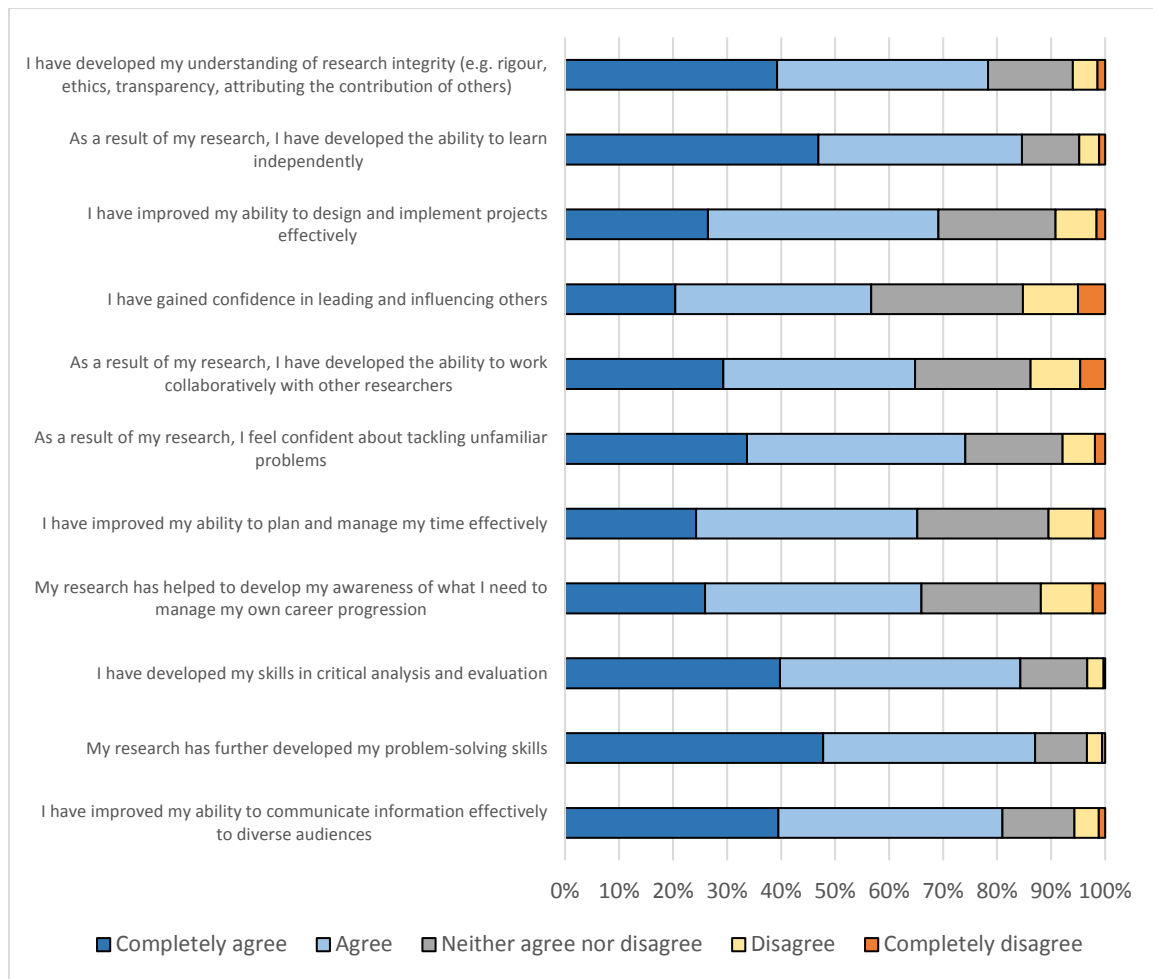
2.2.3 Skills Development

The skills development of the doctoral students was measured using twelve questions adapted from the revised Postgraduate Research Experience Questionnaire (PREQ). The Cronbach’s alpha for the scale was .86, indicating very good reliability for the measure. Sample questions included: “I have improved my ability to plan and manage my time effectively”, “I have developed my skills in critical analysis and evaluation” and “I have improved my ability to design and implement projects effectively”.

Overall, doctoral students were even more positive on this scale than on intellectual climate and supervision. The overall mean average score was 3.98 using the full scale, (with the same score obtained when using a restricted version of the scale comparable to that which was used in Oxford). In comparison to the externally available data, EPFL scores a little higher than Oxford University, where (using the restricted version of the scale) the university-wide mean average on Skill Development scale was 3.80 ($t=8.853$, $df=1040$; $sig < .001$).

More generally, as might be expected, those who are more advanced in their doctoral studies score higher on skill development than those in the earlier stages of their studies (3.85 for those in their first year, as compared to 4.20 for those in their fourth year). Interestingly, the skills development score for those who have spent more than 4 years is lower than for those in their 4th year (4.07 as compared to 4.20 respectively; this difference is not statistically significant).

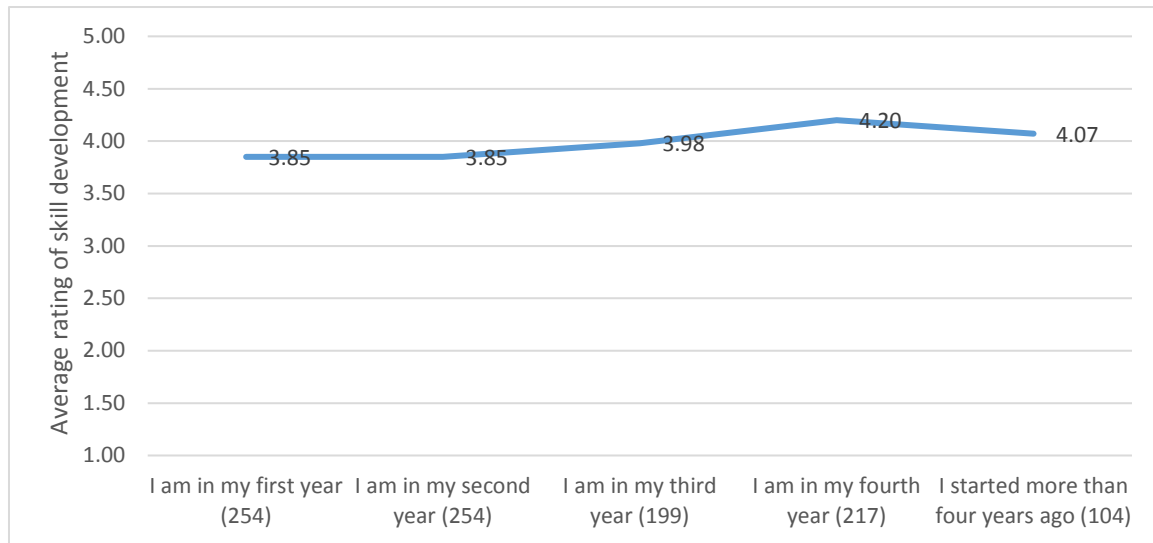
Chart 20: Responses to questions on development of specific skills during the doctoral studies



There are differences between how students answered individual questions within this scale as can be seen from Chart 20, above. Scores tend to be higher for cognitive skills (such as understanding of integrity and ethics, critical analysis, and problem solving), for metacognitive skills (learning independently), and for presenting. Scores tend to be a little lower for social and emotional skills (such as leading others and working collaboratively). Scores also tend to be lower for managing their own career. Taken as a whole these results might be seen as broadly positive; however, it is still notable that over 40% do not agree (i.e., select an option other than ‘agree’ or ‘strongly agree’) that they have gained confidence in leadership, over 30% do not agree that they have developed the ability to work collaboratively and – even in an area where they rate their skill development highly – about 20% indicate that they do not agree that they have developed their understanding of research integrity (rigour, ethics, transparency and attributing the contribution of others), while a similar percentage do not agree that they have improved their ability to communicate information effectively.

The skill development scale was analysed with respect to doctoral program, faculty of origin, gender, the location during completing of the PhD (i.e. on EPFL campus, in an antenna or in a company or another research institute). There were no notable differences in skill development rating across these different variables (See appendix Chart G for an example).

Chart 21: Average rating of skill development, by year of study



Note: N=1028

For our respondents, their score on the skills development scale is a very good predictor of their overall satisfaction (Pearson’s $r=.497$).

2.2.4 Infrastructure

The infrastructure available to the doctoral students was measured using six questions adapted from the revised Postgraduate Research Experience Questionnaire (PREQ). The Cronbach’s alpha for the scale was .83, indicating very good reliability for the measure. Sample questions included: “I have good access to the technical support I need” and “I have good access to computing facilities and services”.

The scores for infrastructure were high, with an average score of 4.13 (where 1 is strongly negative and 5 is strongly positive). Again, this compares favourably with the scores for Oxford University where the scores for the most comparable scale (Departmental Infrastructure) was, on average, 3.54 ($t=27.858$; $df=1033$; $sig. <.001$).

Student ratings for the suitability of infrastructure seems to reflect their perceived needs as much as it reflects the quality of the resources available. For example, the higher rating by students in the Mathematics doctoral program for infrastructure as compared to students in other programs, perhaps reflects their more limited infrastructural needs as much as it reflects the quality of resources (see Chart H in the appendix).

Satisfaction with infrastructure was analysed with respect to faculty, normal working location during the PhD, and location of prior education, however no notable differences were evident between doctoral student groups in their ratings of infrastructure. Within the broader framework of infrastructure, one area which did show some variation across doctoral programs and faculties was the response to the question “The administration in the doctoral program and lab are effective in supporting my research”. This data is also presented in the appendix (Chart I and J).

For our respondents, their score on the infrastructure scale is a very strong predictor of their overall satisfaction (Pearson’s $r=.487$).

2.2.5 Awareness of Assessment

Awareness of assessment procedures and criteria is particularly important for the kind of self-regulated, independent learning that is expected at doctoral level. Where students are aware of assessment criteria, good students can manage their own learning to ensure they deliver on those goals. Where students are unaware of the criteria then lucky students deliver on those criteria more or less by accident. Therefore, in addition to aiding self-regulation of learning, clarity around assessment criteria also improves the validity of assessment.

Student understanding of assessment criteria and assessment processes was assessed using five items adapted from the revised Postgraduate Research Experience Questionnaire (PREQ). The Cronbach's alpha for the scale was .80, indicating very good reliability for the measure. Sample questions included: "I understand the quality of work expected of me", "I understand the requirements of the overall thesis examination" and "I understand the process for the candidacy exam at the end of the first year".

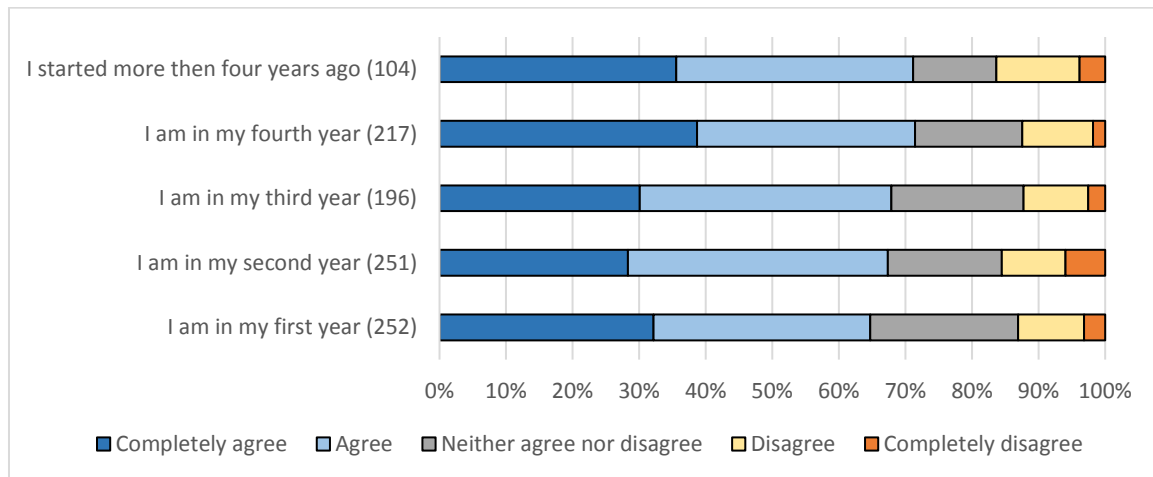
The overall score for awareness of assessment criteria was quite high at 3.99 (where 1 is strongly negative and 5 is strongly positive). This is higher than for the most similar measure used in the Oxford University Study (Aware of Assessment) which had an average score of 3.67. Although it addressed the same type of issues, the scale used in Oxford was worded quite differently, reflecting differences in specific processes between the two institutions. Therefore one should be careful not to assign too much importance to this comparison.

As might be expected, student awareness of exam processes and criteria rises over the length of their studies from 3.86 in their first year to 4.12 in their fourth year (see appendix, Chart L). As with some other measures (such as rating of skill development, satisfaction with intellectual climate and satisfaction with supervision), this then declines again – to 4.04 – for those who started more than four years previously (the difference between those in the fourth year and those longer than four years is not large or statistically significant, but the recurrence of the pattern across multiple scales is notable).

Although awareness of assessment is generally high, it is clear that as late as in their fourth year there is a notable minority who feel that they do not understand the assessment criteria. This can be illustrated by looking at their responses to the question "I understand the quality level required for the dissertation" where 28.5% of those in their fourth year indicate that either they do not know if they understand, or that they know they do not understand, the level required (See Chart 22). The picture is a little less extreme if other questions are considered, but when asked if they "understand the requirements of the overall thesis examination", there are still 17.5% of fourth year students who do not 'agree' or 'completely agree' with this statement.

For our respondents, their score on the awareness of assessment scale is a strong predictor of their overall satisfaction (Pearson's $r=.406$).

Chart 22: Responses to the question “I understand the quality level required for the dissertation” across years of registration



2.2.6 Industry Engagement

Since almost two-thirds of EPFL PhD graduates go directly into careers in industry, their engagement with and readiness for industry was also assessed. Industry engagement was assessed using three items from the revised Postgraduate Research Experience Questionnaire (PREQ). The Cronbach’s alpha for the scale was .77, indicating good reliability for the measure. The questions used include “I am confident I can apply my skills outside the university sector” and “I have opportunities to work on research problems with real-world or industry applications”.

The mean score for the industry engagement scale is 3.44 (where 1 is strongly negative and 5 is strongly positive). This indicates a positive result, without being overwhelmingly positive.

There are some notable differences in industry engagement score across the doctoral population. As might be expected, those who are not based on an EPFL campus (e.g., CERN; PSI; Industry, etc.) tend to have higher scores on this measure (mean of 3.71), as compared to those based on either the Lausanne campus (3.44) or an antenna campus (3.42).

Interestingly, doctoral students self-rating on this measure actually *declines* a little over most of their doctoral studies: those in their first year have an average score of 3.51, but this drops to 3.30 in their third year before climbing to 3.55 again in fourth year. There are also notable differences in industry engagement scores across faculties and doctoral programs (See appendices Charts M and N).

For our respondents, their score on the industry engagement scale is a moderately strong predictor of their overall satisfaction (Pearson’s $r=.365$).

3. Doctoral Life

3.1 Work-life balance

Chart 23: Responses to the question “I can achieve an appropriate work-life balance”, by faculty

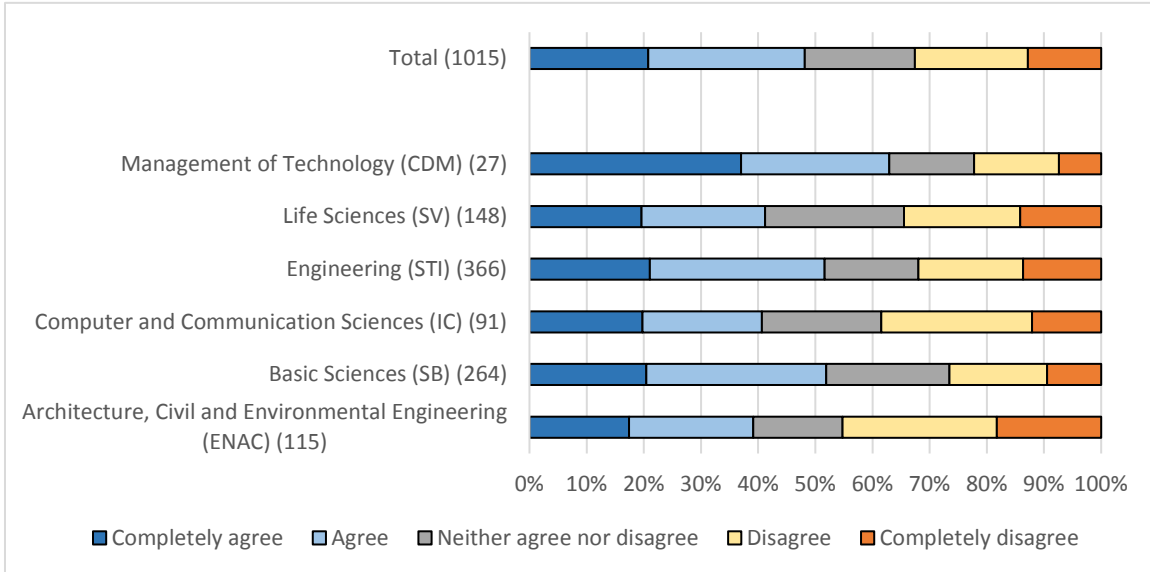
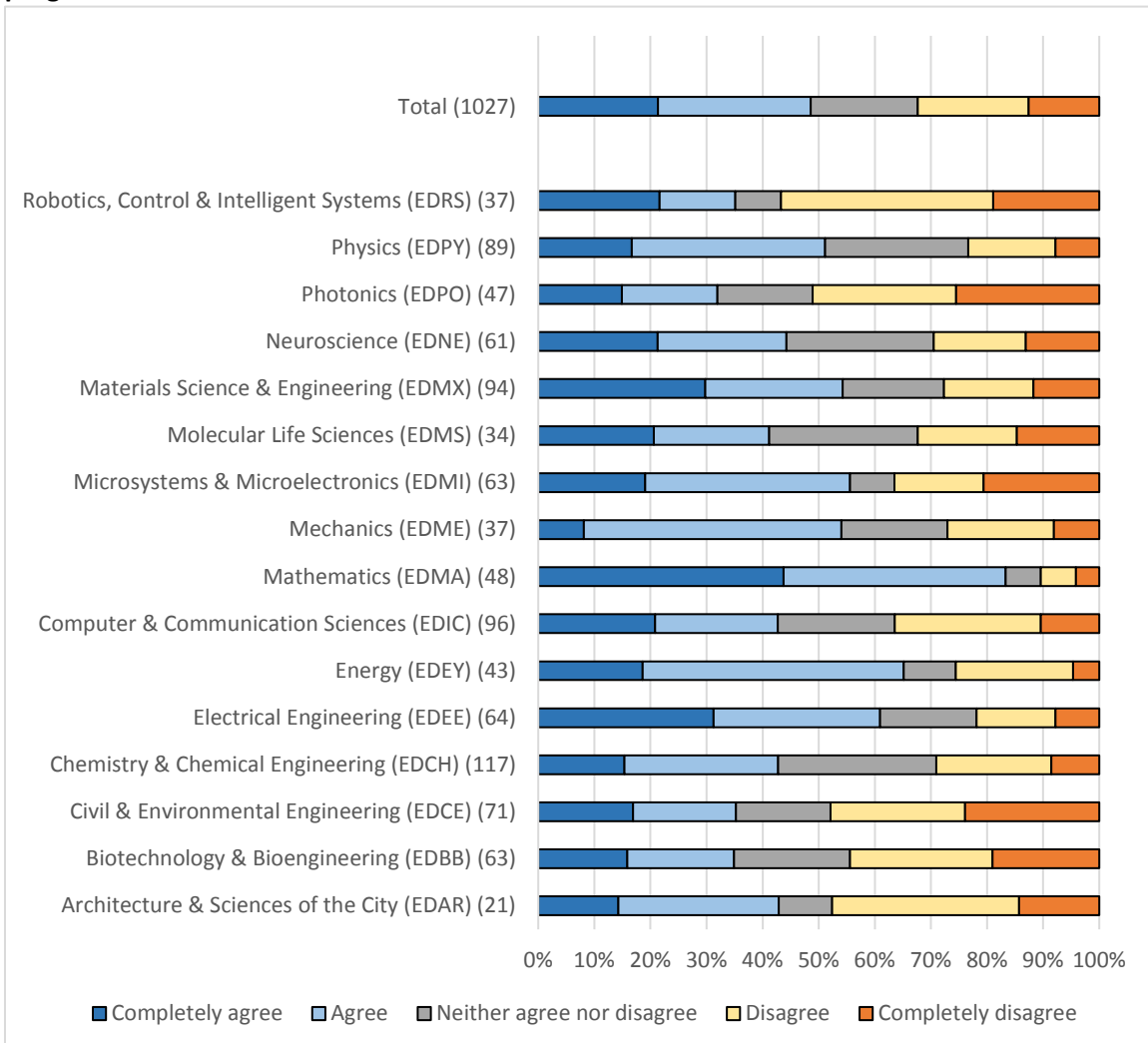


Chart 24: Responses to the question “I can achieve an appropriate work-life balance”, by doctoral program



Respondents were asked whether or not they could achieve an appropriate work-life balance. Overall, 48.2% of respondents indicated that they could achieve an appropriate work-life balance.

Feeling of work-life balance is associated with the duration of studies, with roughly one-quarter of those in their first year saying they 'disagree' or 'strongly disagree' that they can achieve a work-life balance (24.8%), rising to between 32.2% and 38.2% in subsequent years. There are no notable differences in feeling of work-life balance for male and female students, nor are there notable differences depending on the location of work during the PhD (i.e. on the Lausanne campus, on an antenna campus, or elsewhere).

There are differences in feeling of work-life balance across different faculties and across different doctoral programs (as can be seen in charts 23 and 24 above).

Work-life balance is, perhaps unsurprisingly, strongly associated with overall satisfaction with doctoral studies (Pearson's $r=.407$).

3.2 Perceived Stress

In order to assess levels of stress, the Perceived Stress Scale (PSS-10) was used. The Perceived Stress Scale is an internationally used scale for measuring stress. The reliability of the scale was found to be very good (Cronbach's $\alpha = .89$). The scale includes items such as "In the last month, how often have you felt that you were unable to control the important things in your life?" and "In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?" Higher scores on the scale have been found by prior research to be associated with a number of negative health and self-management outcomes.

The PSS score can be compared with norms for the wider population. In one wider US sample, the mean average score for those aged 18-29 is reported as being 14.2. More generally, some researchers indicate that a score of about thirteen can be regarded as average, while high stress groups are reported to score in the region of 20⁸.

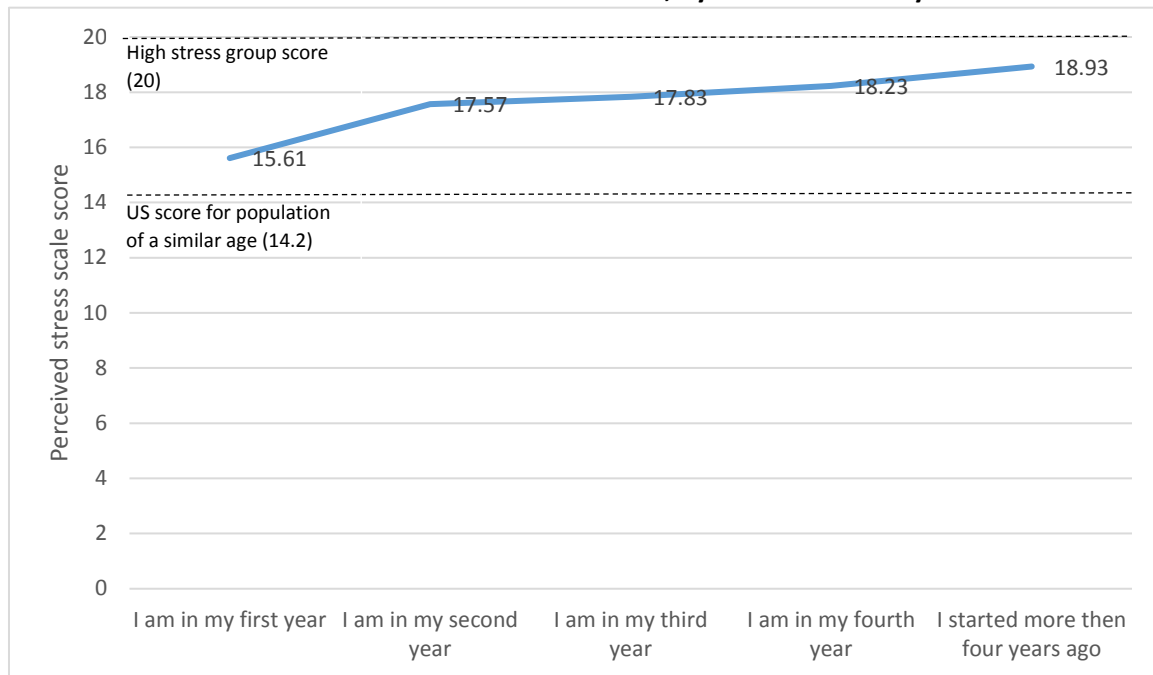
For the EPFL doctoral respondents the mean average score is 17.42, which is significantly higher than the average of 14.2 found in the age-comparable US sample ($t=13.219$; $df=983$; $sig. <.001$).

A recent study in an Australian setting also used the PSS-10 scale to assess the self-reported stress of doctoral candidates⁹. Their sample was much smaller than ours ($N=81$). They found higher levels of perceived stress in their cohort (mean average score of 21.0). The EPFL figure of 17.42 is significantly lower than this Australian figure ($t=-15.038$; $df=983$; $sig. <.001$).

⁸ A.I. Lala, L.M. Sturzm, J.P. Picard, F. Druot, F. Grama and G. Bobirnac (2016) Coping behavior and risk and resilience stress factors in French regional emergency medicine unit workers: a cross-sectional survey, *Journal of Medicine and Life*, 9 (4): 363-368.

⁹ K. M. Barry, M. Woods, E. Warnecke, C. Stirling & A. Martin (2018) Psychological health of doctoral candidates, study-related challenges and perceived performance, *Higher Education Research & Development*, 37:3, 468-483, DOI: 10.1080/07294360.2018.1425979

Chart 25: Perceived Stress Score of doctoral assistants, by duration of study



In our sample, the Perceived Stress Score is associated with duration of study, with perceived stress levels increasing throughout the study period. It is also associated with gender, with female respondents scoring, on average 19.13 on the scale and males scoring 16.66. In previous studies using the PSS-10 carried out in the US, Australia and France, women do score, on average, slightly higher than men – but the gender differences found in EPFL do seem more extreme than those in other populations. The gender difference in our sample is also statistically significant ($t=4.802$; $df=950$; $sig.<.001$).

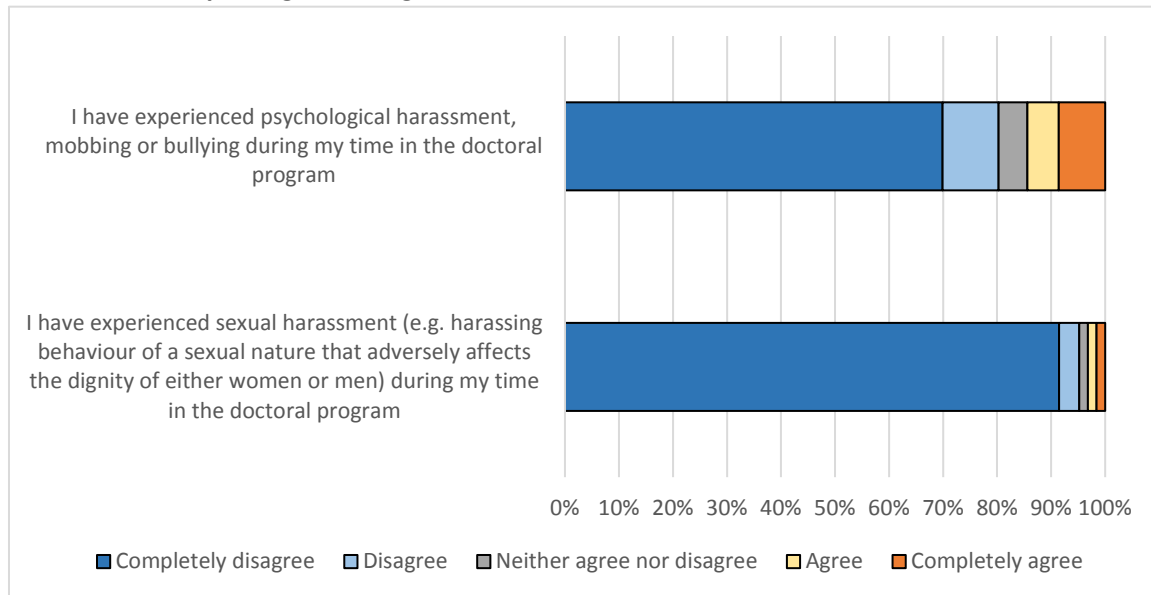
There are also differences between doctoral programs and faculties in the average perceived stress score of their students (see appendix, Charts O and P).

3.3 Bullying and Negative Workplace Experiences

Two different ways of assessing negative workplace experiences, bullying and harassment were used. First, doctoral students were asked for their own self-assessment of whether they had experienced bullying or sexual harassment. Secondly, an internationally validated instrument, the Short Negative Acts Questionnaire (SNAQ), was used.

Using the self-report measure, it is evident that the vast majority of students indicate that they have not experienced sexual harassment. Nonetheless, it is notable that 3.3% indicate (i.e. ‘agree’ or ‘completely agree’) that they have been sexually harassed. If the survey respondents are representative of the wider population that means circa 72 cases of sexual harassment in the population of doctoral students. Even if we were to take the most conservative reading of the data and assume that all cases in which a doctoral student feels they have been sexually harassed are reflected in the data (i.e., no-one who did not respond to the survey had been harassed), this still means a minimum of 34 cases in the population.

Chart 26: Self-reporting of having felt harassed, mobbed or bullied

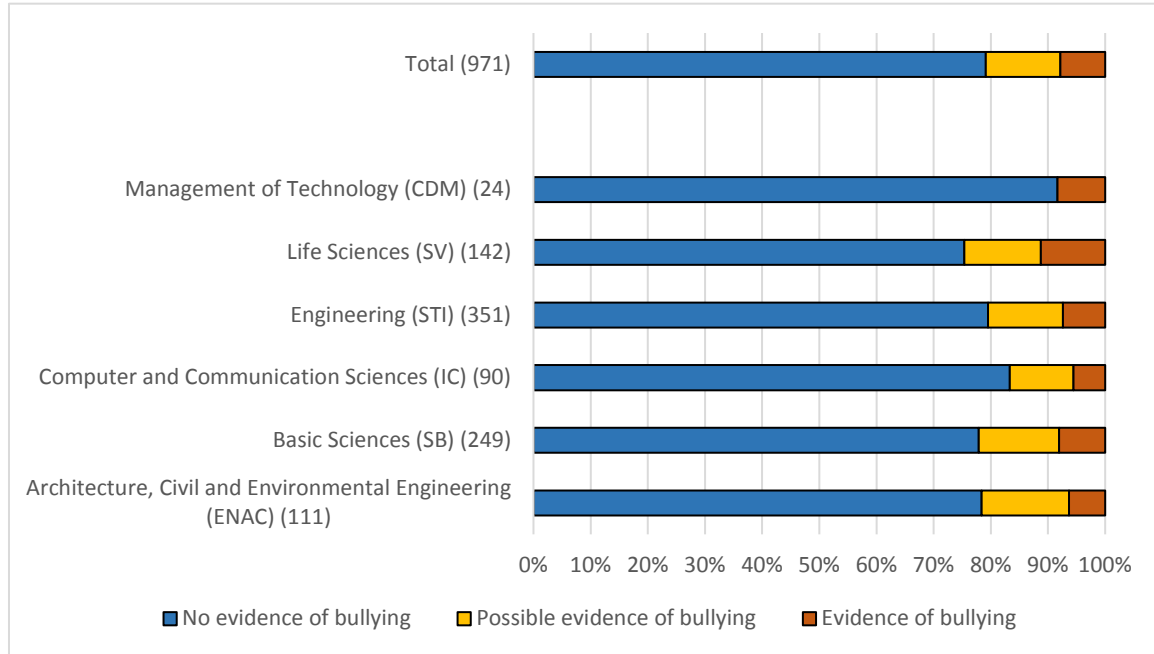


Although over 80% of respondents indicate that they have not been bullied, over 5% are unsure as to whether the behaviour they have experienced counts as psychological harassment, mobbing or bullying and a further 14.4% indicate that they have experienced such behaviours (i.e. ‘agree’ or ‘strongly agree’). Again, to put this in context, 14.4% of the total population of doctoral assistants would represent some 314 cases of people having been bullied, if the data in the survey is representative of the wider population.

The second measure of bullying, harassment and mobbing which was used is the short version of the Negative Acts Questionnaire (SNAQ). This consists of 9 questions which ask respondents how often they have experienced negative acts during their doctoral studies over the last six months. The negative acts in question range from aggressive behaviour (“Being shouted at”, “Having insulting or offensive remarks made about you”), through being undermined (“Repeated reminders of your errors or mistakes”, “Someone withholding information which affects your performance”), to being isolated (“Being ignored by people at work”). Where such behaviour happens in a repeated or regular pattern, this is defined as bullying or mobbing. The Short Negative Acts Questionnaire is scored from a lowest possible score of 9 to a highest possible score of 45. A score of 13 or less indicates no evidence of bullying. A score of 14 to 18 indicates possible evidence of bullying. A score of 19 or higher indicates evidence of bullying.

The reliability of the scale was assessed, as normal, using Cronbach’s alpha. The alpha of .86 indicates very good reliability of the scale.

Chart 27: Reporting of behaviours that are defined as bullying, by faculty



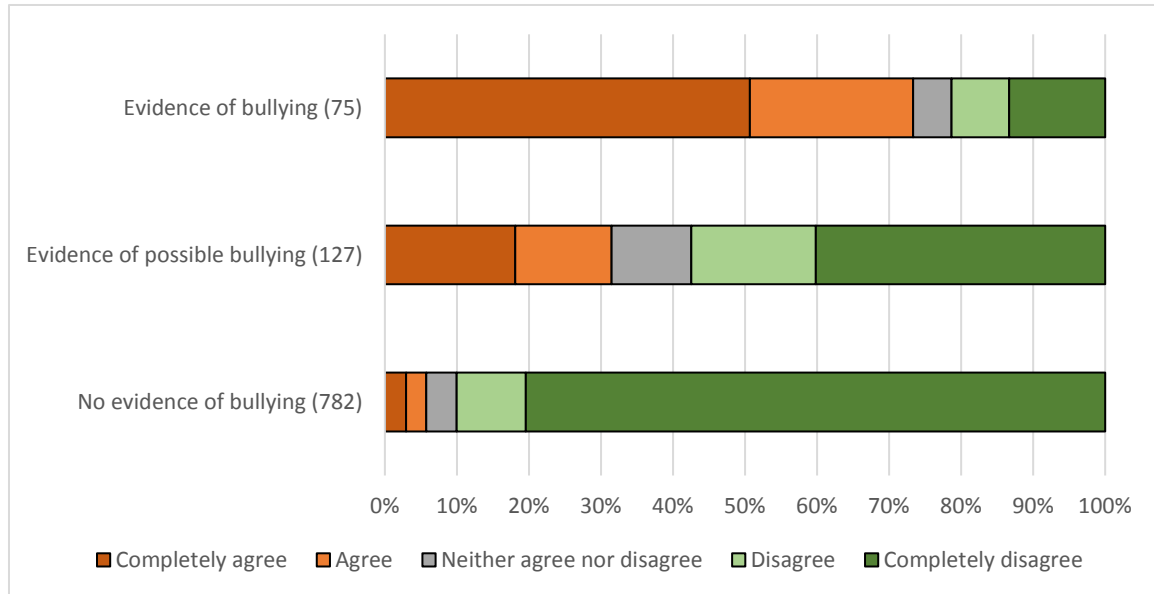
The data presented in the chart above, indicates that 7.7% of doctoral students have experienced behaviour that fits the definition of bullying or harassment (that is a repeated pattern of negative behaviours including aggressive, undermining, or excluding behaviours). A further 13.0% have experienced behaviours that may constitute bullying. This represents 20.7% of doctoral students (or about 451 people if we assume that the sample represents the population as a whole).

A comparison of the respondent’s self-perception of bullying with the data based on the interactions they report (i.e., the SNAQ data) is interesting in that it indicates that the rate at which doctoral assistants perceive themselves as having experienced bullying or harassment is very similar to the rate found in the evidence from the interaction data. In total 19.7% of assistants indicate on the perception-based question that they either have been bullied or are unsure if they have been bullied. Similarly, the behavioural data from the SNAQ indicates that in 20.7% of the respondents there is some evidence of potential or actual bullying.

Drilling further into the data shows some interesting patterns. First, as Chart 28 shows, doctoral students are generally good judges of when they have *not* been bullied, harassed or mobbed: 90% of those for whom there is no evidence of bullying from the SNAQ data indicated that they ‘disagree’ or ‘completely disagree’ with the statement “I have experienced psychological harassment, mobbing or bullying during my time in the doctoral program” (see the lowest stacked bar on Chart 28). On the other hand, they appear to be less good at judging when they *have* been bullied: only about three-quarters (73.4%) of those for whom there is evidence of bullying indicate that they ‘agree’ or ‘strongly agree’ with the statement, “I have experienced psychological harassment, mobbing or bullying during my time in the doctoral program” (the top stacked bar on Chart 28)¹⁰.

¹⁰ There is another explanation for this latter difference that should be considered: the SNAQ questions ask about their experiences in the previous six months while the self-perception questionnaire asks about experiences “during my time in the doctoral program”. It may be that those who have not experienced bullying behaviours in the last six months are accurately self-reporting that they were bullied, harassed or mobbed earlier in their time in the doctoral program.

Chart 28: Responses to the question “I have experienced psychological harassment, mobbing or bullying during my time in the doctoral program”, broken down by having experienced bullying behaviours during the previous six months



There are no notable differences in having experienced bullying behaviours based on gender or geographical origin (i.e. where the respondent completed their studies before coming to EPFL). There is some association with location during the PhD studies, and with year of study (further details are in appendices).

3.4 Depression

Depression was measured in the survey using an internationally standard instrument called ‘Patient Health Questionnaire 9’ (PHQ 9). The questionnaire asks people how often in the last two weeks they have experienced particular depressive symptoms including “Feeling down, depressed, or hopeless” or “Feeling bad about yourself - or that you are a failure or have let yourself or your family down”. Scores range from 0 to 27 and is scored as follows:

- 0-4: minimal depression
- 5-9: mild depression
- 10-14: moderate depression
- 15-19: moderately severe depression
- 20-27: severe depression

The Cronbach’s alpha for the scale was .85, indicating very good reliability.

Table 1: Rates of Depression among EPFL Doctoral Assistants

	N	%
<i>Minimal</i>	458	46.7
<i>Mild</i>	316	32.2
<i>Moderate</i>	134	13.7
<i>Moderately severe</i>	48	4.9
<i>Severe</i>	25	2.5
Total	981	100

These rates can be compared to wider populations. A study of 10,283 adults in the US¹¹, for example, found 21.3% had some depressive symptoms (that is, were rated from Mild to Severe). In the EPFL sample, the comparable rate is 53.3%.

If we narrow the focus to look only at Moderate to Severe depression, the US sample found 6.9% with at least moderate depression. In Switzerland, data from the Swiss Health Observatory¹² found 6.5% of respondents with Moderate to Severe depressive symptoms¹³. The comparable rate among EPFL doctoral students is over three times higher than the Swiss average, at 21.1%.

These rates can also be compared to those found in a recent study of depression and anxiety among graduate students. The study, which involved 2,279 respondents from 234 institutions, found that 39% of graduate students were rated as having at least moderate depression (as compared to 21.1% in our sample).¹⁴ While the EPFL figures are not as extreme as those reported in the international literature for research students, they do remain far in excess of the rates encountered in the wider population.

- The ‘average’ doctoral student in all of the doctoral programs large enough to compare – except Energy – shows depressive symptoms (score of 5 or higher) (see chart below).
- The ‘average’ doctoral student in all of the faculties and colleges large enough to compare shows depressive symptoms. The faculty with the highest rate is Computer and Communication Sciences, and the programs with the highest rates are Architecture & Sciences of the City, and Neuroscience.
- Although the relationship is not linear, generally speaking students become more depressive over time, with the ‘average’ score of those who have spent more than 4 years on their doctoral studies being 8.27.
- Female students tend to have higher depression rates than male, with 24.4% of female students showing at least moderate depression, as compared to 19.9% of male students (the comparable figures from the US general population are 8.6% for women and 5.0% for men).

¹¹ Shim et al 2011 Prevalence, Treatment, and Control of Depressive Symptoms in the United States: Results from the National Health and Nutrition Examination Survey (NHANES), 2005–2008 Journal of the American Board of Family Medicine 24 (1) 33-38

¹² Observatoire suisse de la santé *Symptômes dépressifs*
<https://www.obsan.admin.ch/fr/indicateurs/symptomes-depressifs> (data from 2012).

¹³ The rate in the canton of Vaud – 10.1% - was higher than for Switzerland more generally.

¹⁴ Evans et al. 2018 Evidence for a mental health crisis in graduate education. *Nature Biotechnology* 36(3): 282-284.

Chart 29: Average score on the depression scale, by doctoral program

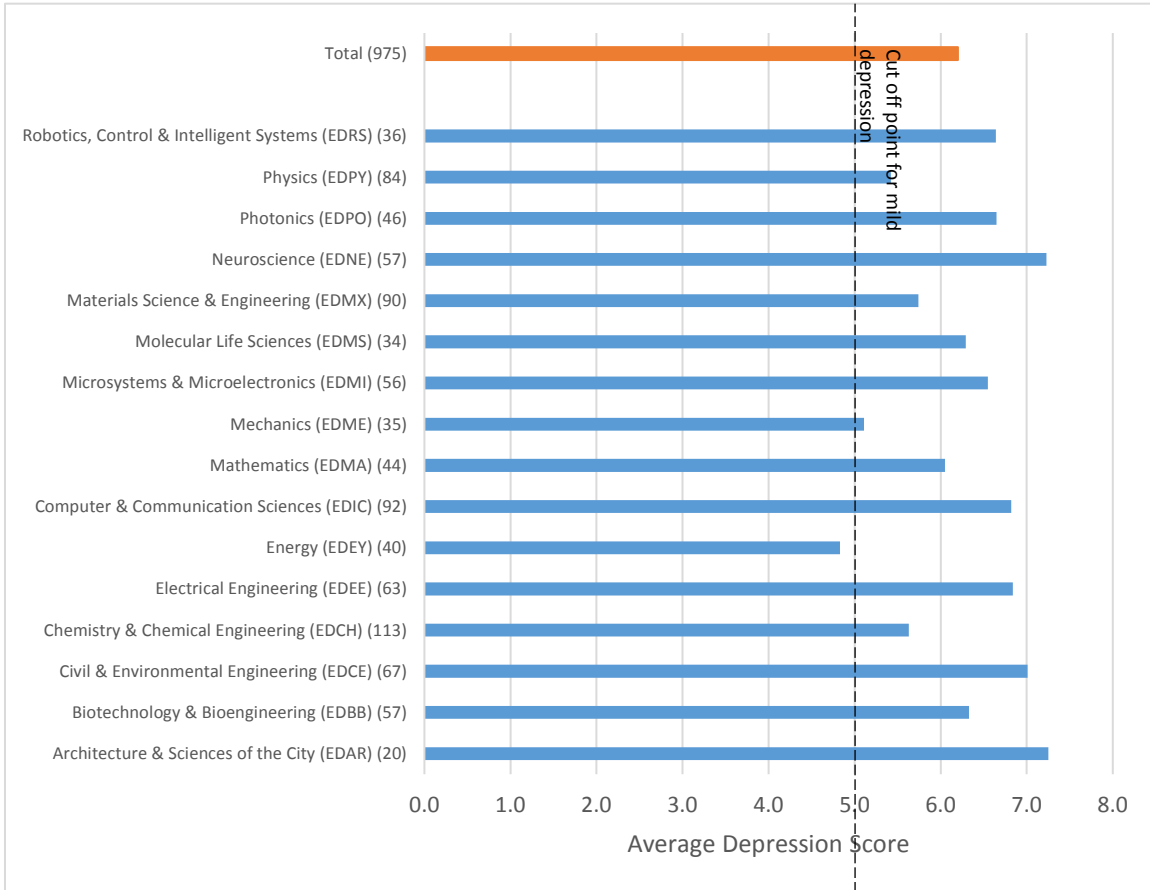


Chart 30: Average score on the depression scale, by faculty

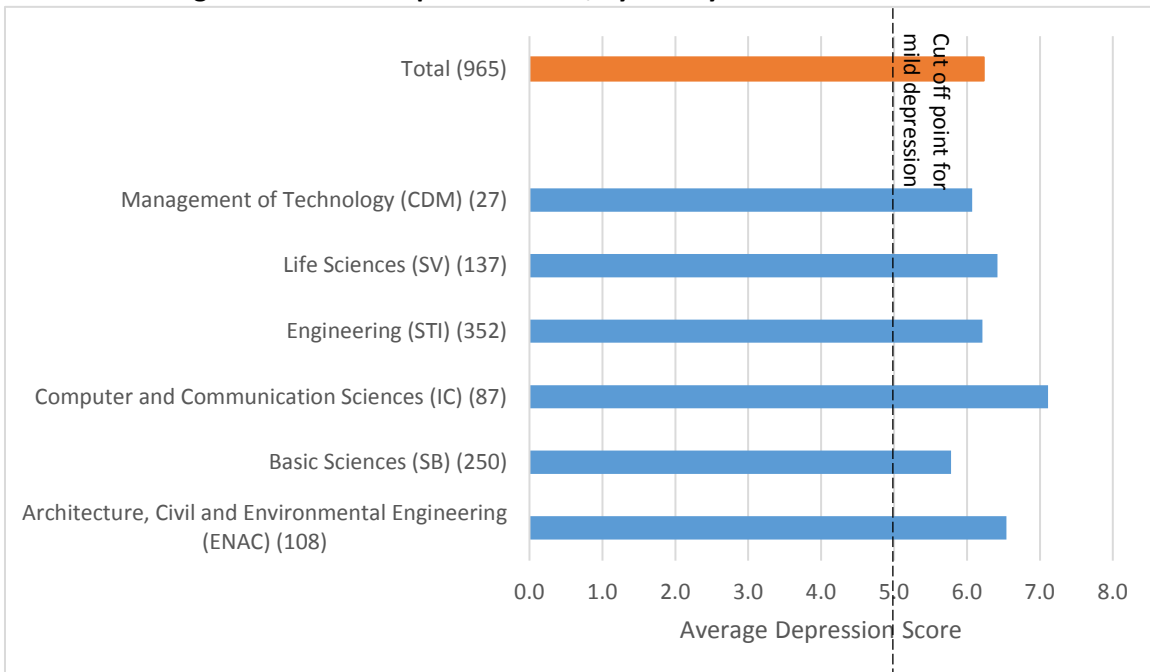


Chart 31: Average score on the depression scale, by year of study

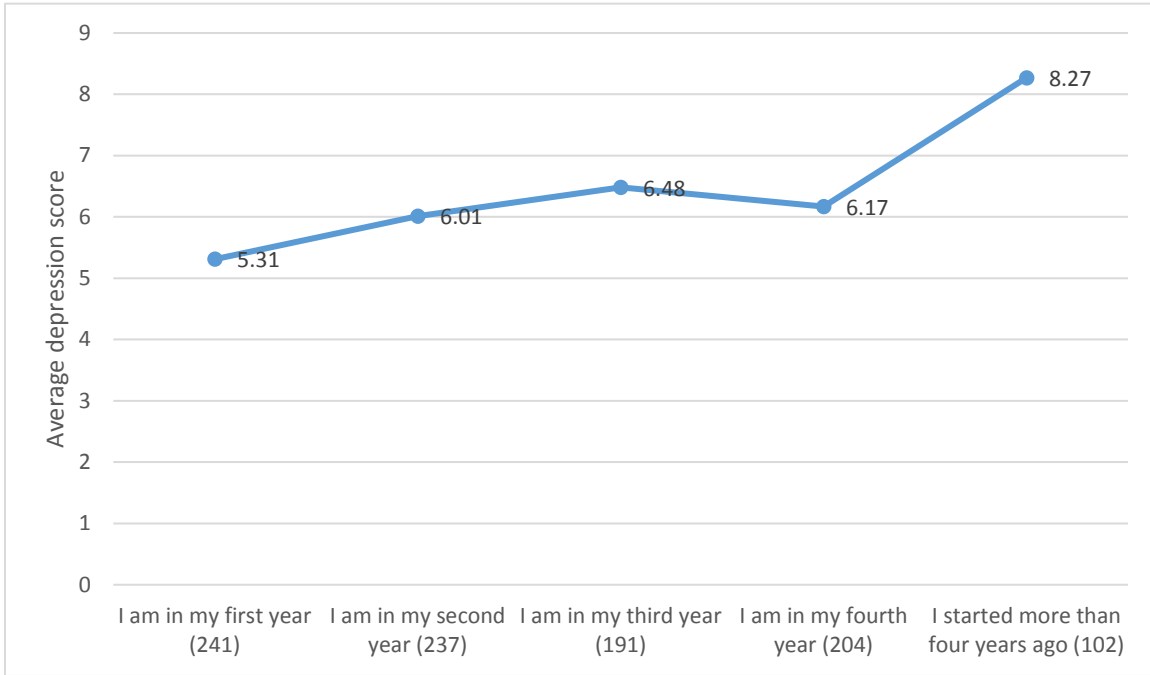


Chart 32: Levels of depression reported, by gender

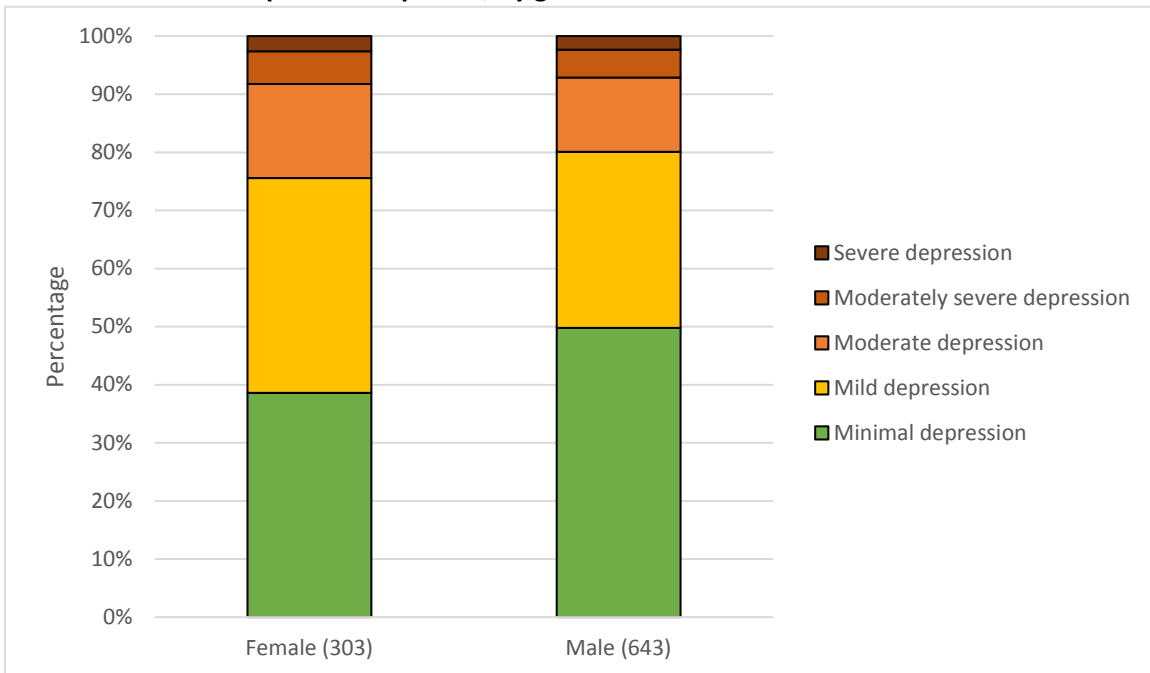
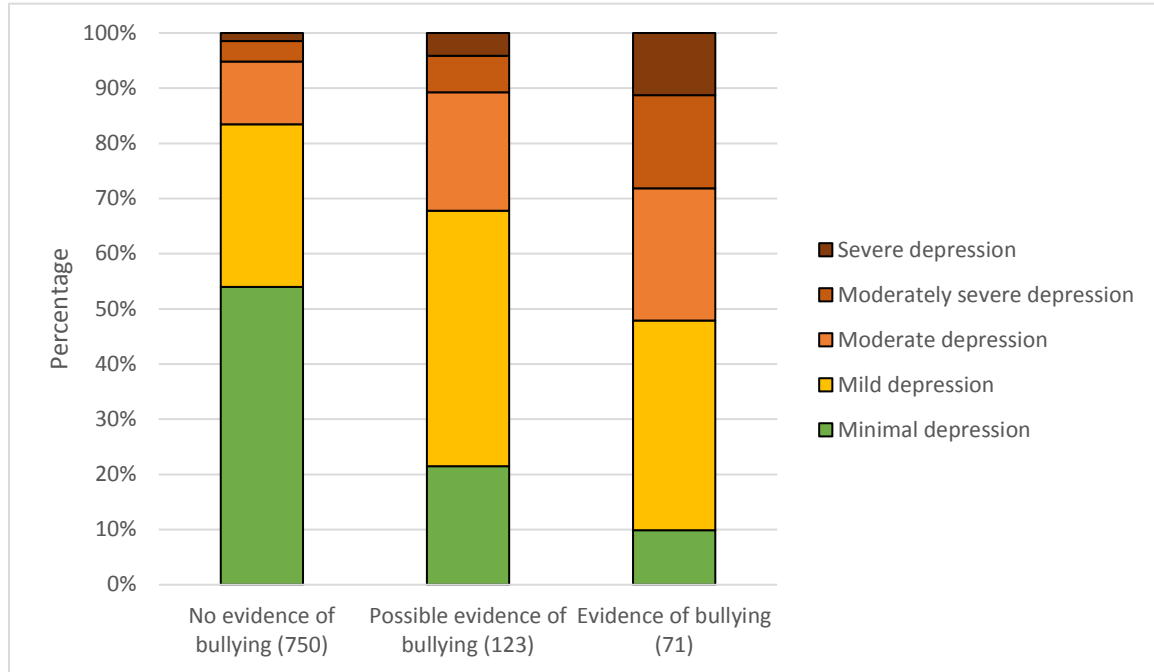


Chart 33: Levels of depression experienced, by evidence of bullying from the SNAQ



Finally, it is also clear that showing symptoms of depression is associated with reporting having experienced behaviours that are defined as bullying. For those for whom there is no evidence of bullying (using the SNAQ), over half (54.0%) do not show depressive symptoms (i.e. score of 4 or lower). Where there is evidence of possible bullying the percentage not showing depressive symptoms drops to 21.1%. Where there is evidence of bullying, only 9.9% of respondents do not show depressive symptoms.

4. Teaching Self-Efficacy

Teaching is a normal part of the life of the vast majority of EPFL doctoral students, with 89.4% of respondents having engaged in some form of teaching in the previous 12 months and 75.7% having engaged in teaching in a class setting (that is, in Labs, Exercises or MOOCs) during that time. From the point of view of students in Master and Bachelor degrees, doctoral teaching assistants play a crucial role, being present when they are struggling to use and apply the knowledge they have heard described in lectures - that is, when they are making mistakes and need feedback. These 'active' moments for students are key to learning, but are also, arguably, the situations that are among the most demanding of teachers¹⁵. From the point of view of doctoral students, teaching provides an opportunity to improve the kinds of leadership and interpersonal skills that they more generally seem to struggle to develop during their doctoral studies (see section 2.2.3 above).

For this reason, EPFL has developed a range of pedagogical supports for doctoral teaching assistants including a highly regarded model of doctoral pedagogical workshops¹⁶, pedagogical courses offered across the doctoral programs, and a MOOC on the edX platform designed explicitly for doctoral teaching assistants in science and engineering¹⁷.

In order to better make decisions about the types of training to be offered to doctoral assistants, a revised version of a measure called the Teaching Self-Efficacy scale was used with a view to getting a clearer idea about their perceived needs with respect to pedagogical training. Students were asked to respond to 15 items starting with the stem "I am confident that I know how to...". Items included "...provide good explanations or examples when students are confused", "...respond well to difficult questions", and "...encourage students to figure things out for themselves rather than waiting for things to be explained to them".

Principal component analysis revealed that the survey items could be meaningfully grouped under two scales:

- (a) A Teacher Performance Scale, which focused on their own behaviours which they could control (items included "...appropriately assess or grade students' work", "...provide good explanations or examples when students are confused" and "...think up good questions for students"; Cronbach's alpha = .894, indicating very good reliability).
- (b) A Facilitation of Learning Scale, which focused on how they facilitate learning behaviours, feelings and interaction in their students (including items such as "...promote students' confidence in themselves", "...create a positive learning environment for all students irrespective of their gender, ethnicity or language", and "...encourage students to learn through interacting with each other"; Cronbach's alpha = .840, indicating very good reliability).

Doctoral assistant rating of their feelings of confidence in performing as a teacher is reasonably high, with an average score of 3.79 (where 1 is strongly negative and 5 is strongly positive). This means that 15.2% rate themselves as being below the mid-point on the scale (i.e. below a score of 3). While, in general, they see themselves as confident in their ability to perform teaching tasks such as providing good explanations or examples (79.3% 'agree' or 'strongly agree'), or appropriately assess or grade students' work (70.8% 'agree' or 'strongly agree'), they are less confident in their skills in

¹⁵ Svinicki, M. D. 1989. "The Development of TAs: Preparing for the Future While Enhancing the Present." *New Directions for Teaching and Learning* 37: 71–80.

¹⁶ Roland Tormey, Cécile Hardebolle & Siara Isaac (2019) The Teaching Toolkit: design of a one-day pedagogical workshop for engineering graduate teaching assistants, *European Journal of Engineering Education*, DOI: 10.1080/03043797.2019.1584606

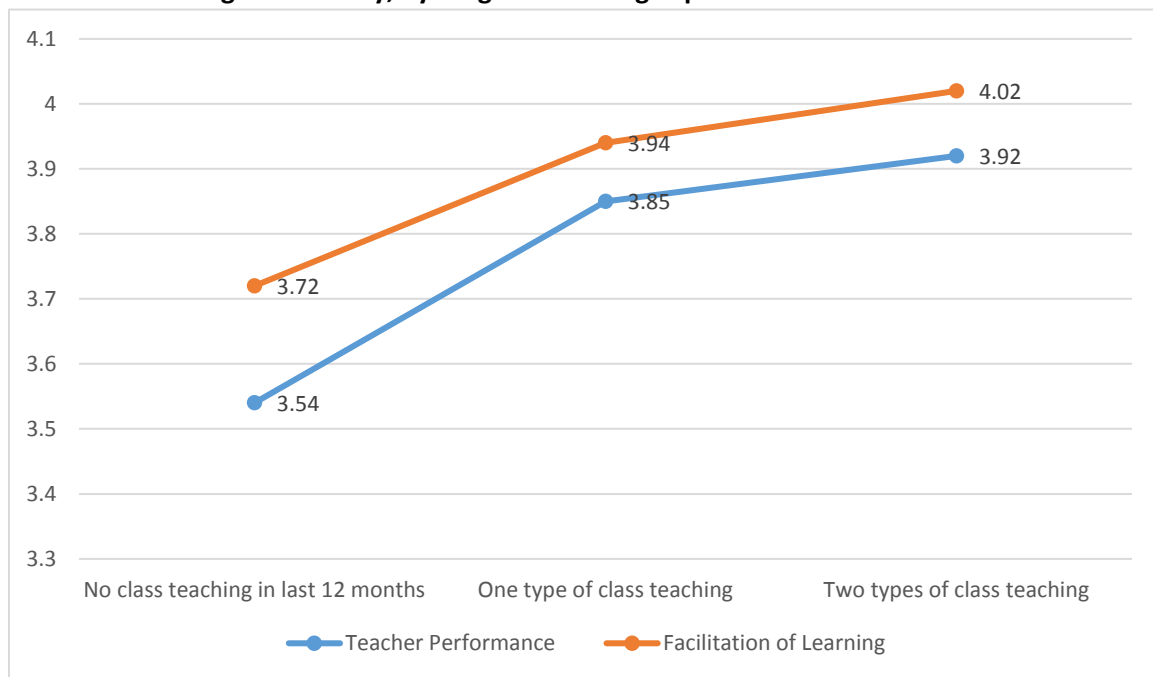
¹⁷ <https://www.edx.org/course/foundations-of-teaching-science-and-engineering>

some other areas, such as managing classroom disruption (where only 46.2% ‘agree’ or ‘strongly agree that they are confident) (see appendix Charts U and V).

Doctoral assistant rating of their feelings of confidence in facilitating student learning is reasonably high, with an average score of 3.90 (where 1 is strongly negative and 5 is strongly positive). This means 16.7% rate themselves as being below the midpoint (3) on the scale. The vast majority see themselves as confident in being able to “...create a positive learning environment for all students irrespective of their gender, ethnicity or language” (83.6% ‘agree’ or ‘strongly agree’). However, fewer of them see themselves as confident in “promoting students’ confidence in themselves” (65.0% ‘agree’ or ‘strongly agree’) or in encouraging “...students to learn through interacting with each other” (60.6% ‘agree’ or ‘strongly agree’) (see appendix Charts U and V).

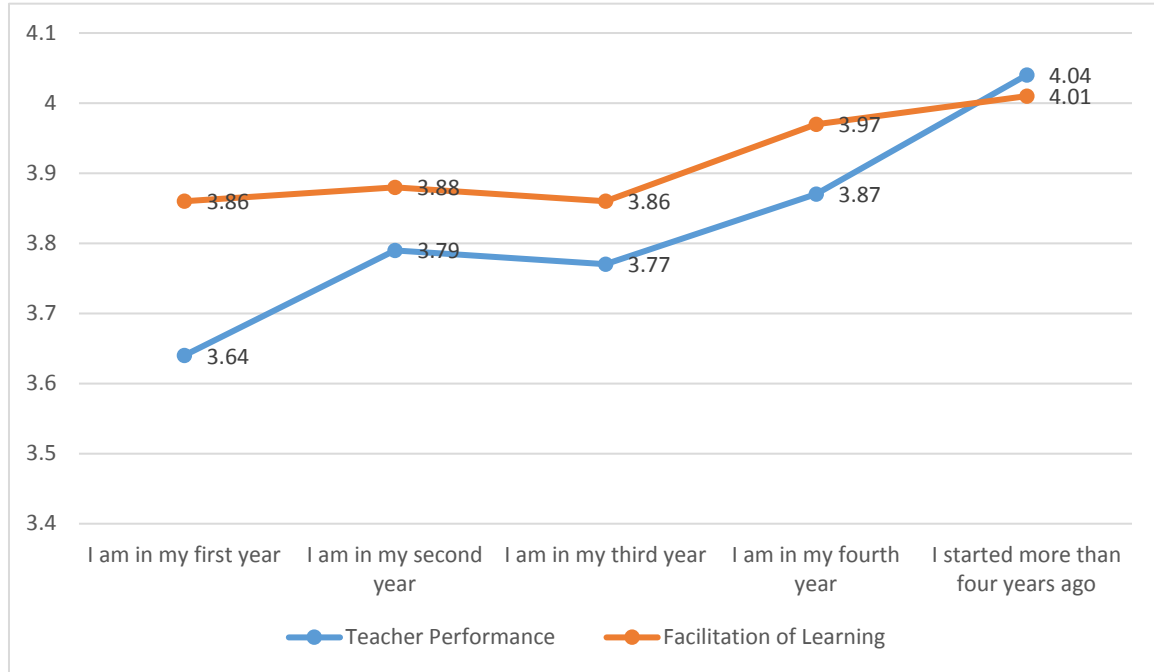
Doctoral assistants sense of self-efficacy increases with the teaching experience they have had in the last 12 months, with class teaching (particularly being an assistant in an exercise session or lab) and Master project supervision, appearing to make the largest contributions to this increase. It also increases over time (though this may be explained by the increased teaching experiences they have had over that time).

Chart 34: Teaching self-efficacy, by range of teaching experiences



Note: ‘Class teaching’ means being an assistant in a lab, an exercise session or a MOOC

Chart 35: Teaching self-efficacy, by duration of studies



It is also notable that while both aspects of teaching self-efficacy are weakly positively correlated with overall satisfaction ($r = .19$ for facilitation of learning scale and $r = .22$ for teacher performance scale) there is no correlation at all between the number types of class teaching experienced in the last 12 months and overall satisfaction ($r = .001$). In other words, the number of teaching activities doctoral assistants are engaged in does not seem to have any impact at all – positive or negative – on their satisfaction, but feeling that they are good at teaching is correlated with being more satisfied.

5. In their own words

Doctoral students were provided with an opportunity to explain what, for them, are the most positive and most negative aspects of the EPFL doctoral experience. There were more responses to the question on the most positive aspects (about 850 respondents) than there were for the question on the most negative aspects (about 600 respondents). These responses were analysed to identify key themes.

Although the positive and negative aspects are presented separately below, a few things are notable. Their comments illustrate and reiterate the importance of issues which emerge from the quantitative data presented above (such as the quality of the intellectual climate, the infrastructure, and the challenges of bullying and harassment). In particular, and perhaps most importantly, the comments make clear on one hand the importance of the quality of relationships in the lab and with the supervisor, but also make clear, on the other hand, the diversity in quality of those relationships. While this was evident in the quantitative data, it becomes very clear from the qualitative data that the quality of relationships within the lab is incredibly important to the doctoral student's experience, and, while some professors and labs are perceived as providing an intellectually enriching and supportive environment, others are perceived as providing an environment characterised by competition, stress and even fear.

In this section prominence is given, where possible, to extended quotes from the doctoral students so that their own words have a chance to shine through.

5.1 What are the most positive things about doing a PhD at EPFL?

Focusing on the best things about doing a PhD at EPFL, four major multi-dimensional themes can be identified.

Doing a doctorate at EPFL is described as providing **excellent material conditions**, including a salary which means doctoral students are assured of a reasonable standard of comfort: "Compared to other places, EPFL offer good PhD salaries so that we have one less problem to think about." Not being responsible for finding research financing for their thesis is also identified as important by some. Equipment and facilities are also described variously as being good or exceptional ("Here the very advanced facilities are available easily"). Finally, the campus location, on the shores of Lac Léman, within easy reach of the mountains and within a beautiful country, is also appreciated. The campus itself is also identified as a plus by some doctoral assistants: "The campus environment is mostly calm and you would hardly go stressed."

The second notable source of satisfaction relates to the **human and social environment** available to them. Many doctoral assistants highlight the opportunity to work with great people. They identify both the intellectual calibre of the scientists on campus and the quality of social relationships that they enjoy. Many comments echo sentiments like the following "The research conducted at EPFL is of very high quality and most of the professors at EPFL are very good in terms of teaching and their good relationships with their students", while another describes their colleagues as "the great and inspiring people I work with". Part of the perceived strength of this social environment is its international character, with students being happy to have "the chance of facing multicultural environment" and "exposure to international group with varied outlook to a problem". The interdisciplinary character of their environment is also regarded as a plus. The campus social life and events and activities organised by associations are also seen as a strength.

Linked to the broader human and social environment is the **quality of their working conditions** in the labs and programs. The actions of the professors with whom they work are clearly important in this.

As one doctoral student put it, the most positive aspect of EPFL is “the fact that it employs great experts in all areas, meaning that everyone should be able to find a great supervisor. This also usually has as a consequence that faculty members are happy with themselves and therefore do not have a need to demonstrate their superiority, or behave in any other way that would provide anything but an encouraging and pleasant surroundings to work and learn in”. A number of respondents identified the flexibility, freedom and independence offered to them as being important, including “The freedom to do what I like and learn what I find most interesting. Being fully responsible for my decisions and my work”. The quality of their working conditions is not simply linked to professional roles, with the human and social supports offered by some supervisors being identified as amongst the most positive things about EPFL, “My advisor is very supportive and encouraging, even when I had personal problems and/or I think I'm making no progress.” More generally, the quality of the intellectual climate is identified by some as among the best things about the school, including the access to courses, to very good library resources, and to international conferences.

Finally, the doctoral students identify that EPFL is an **exciting** place in which to complete their thesis. This is sometimes linked to the reputation of the school (“prestige of the university that attracts excellent researchers and professors and allows to organize regular talks given by the very best people in the field”), or to the excellence of the research that is undertaken here: “I am working in a lab competitive at a world-level, that is giving me the feeling of facing relevant and 'new' questions in the scientific community”. But this is also linked to the opportunities that they have to do a range of different things, including teaching, which are understood by some doctoral students as being opportunities and not simply as requirements, and who value the “diversity of responsibilities as an employed doctoral assistant...teaching is very rewarding in itself to me.”

While there are more responses to the question on the most positive things about doing a PhD in EPFL than there are to the question on the most negative aspects, as will be seen in the next subsection, the comments on more negative aspects are sometimes longer and more detailed. To summarise the positive then, it is perhaps worthwhile to take one of the longer comments which draws together a number of these positive themes: “I feel heard and taken seriously. When I describe a skill I would like to develop, I feel supported and often times my supervisor is willing to provide new tools (i.e., workshops, conferences) for me to achieve my goals. Whenever I describe new ideas and strategies I would like to follow, I can do so without fear of being disregarded, and whenever applicable, I feel adequately supported in the implementation of such ideas. I receive clear feedback on progress or lagging, with useful input on how to proceed. The atmosphere at the lab is fantastic, as there is a wide variety of different profiles and, at the same time, very similar levels of enthusiasm and drive.”

A shorter summary, offered by another doctoral assistant is this: “You learn how to solve different problems independently and efficiently, and you become stronger and better everyday.”

5.2 What are the most negative things about doing a PhD at EPFL?

With regard to the key difficulties, worries and perhaps disillusionments, seven sources of frequent dissatisfaction were identified.

The first is related to the **conduct of their doctoral research**. Some highlight that the responsibility for the development of the doctoral research rests too heavily on their shoulders: as one respondent put it, in their experience, “There is no supervision”. Others point to the other side of this situation by highlighting what they see as a lack of managerial capacity on behalf of the professor: in the words of one respondent “Some tenure track professors are completely incompetent managers, effectively paralyzing the researchers in their lab”.

Some students also question the capacity of the supervisor to oversee certain topics, suggesting that the work is often driven by funding opportunities, fashion or perceived impact rather than expertise. Sometimes the relationship with the international scientific community in the field does not meet their expectations.

A second theme that emerges from the comments is the perception that there is an **excessively competitive spirit** in the school. This has a number of dimensions. For some students it is evident in workloads which, some report, regularly exceed 41 hours. This has a negative impact on stress and on work-life balance. As one respondent put it: “Seems to be natural to work 70 hours per week, holidays usually shorten or cancelled last minute with the high pressure coming from the professor who wants results... It is not normal! No real 'audit' within the lab to see conditions of work of the students. Competition is present in every lab”.

A further aspect of what is perceived to be an excessive pressure to deliver in research is that aspects of doctoral life which are not directly related to their thesis (teaching, necessary travel, administrative tasks and participation in the broader life of the school) become seen as distractors or a waste of time, rather than as an opportunity for learning and enrichment. As one student put it: “The work life balance is awful (I worked during a period of sick leave, and I work most week-ends, in holidays...) everything is urgent, and teaching is the icing on the cake (I love it personally but I always have to rush it)”. Another wrote: “PhD students are too much involved in teaching, interactions with students and promoting events. Thus, they do not have enough time to focus well on their research. Terrible is lack of rules saying how much a PhD student should be involved in teaching. ...There should be defined a good system in which PhD students collect points for teaching, similar to ECTS points”.

This problem can be compounded for students who feel that teaching is unevenly distributed due to some students having (what they perceive as being) the misfortune of being French-speaking. As one respondent put it: “Something needs to be done regarding teaching duties of PhD Students. Some students have a 'perfect' profile: French speakers, hard-workers, difficulties to say no etc. and are worked to the bone for general 1st and 2nd year Bachelor courses... While many other PhD students manage for one reason or another to avoid completely teaching duties and can thus focus most of their time to their own research. And in the end the same result is expected by both types without taking into account the discrepancy”.

The sense of competition is also cited as preventing collaboration between laboratories.

Linked to the perceived negative impacts of this competitive spirit, a third theme which emerges is **doctoral student well-being**. The factors cited by students in relation to well-being often relate to the life within EPFL and within their lab. The following comment is among the most extreme, but there are others that follow in a similar trajectory in identifying harassment and discrimination: “I have difficulties to cope with the stress. My supervisor is running the group with something close to terror. Everybody is afraid of him, and do not dare to say anything against him. He is sexist, likes to humiliate people in front of others, and create competition between his PhD students. He creates an atmosphere where people turn against each other, are unwilling to help each other out and are afraid to speak and be wrong. I have problems to relax in the evenings and weekends, and often find myself checking emails the first thing in the mornings and last thing in the evenings. I have the feeling that my problems are not unique at EPFL... My impression is that EPFL cares more about their reputation than about the health of the employees”. Less extreme, and perhaps more representative is another doctoral student who wrote “I do not feel I can take anyone in my group (from supervisor to postdocs to PhDs) as a role model for living a healthy and fulfilling life”.

Another source of stress is linked to their process of acculturation in Switzerland. This can begin with a focus on the logistical (such as the difficulty in finding accommodation), and financial (such as cost of living and especially the cost of health insurance), and extends to a tendency to be critical of Swiss administration and of the social organisation of work in Switzerland (such as dealing with tax authorities, legal issues, organisation of childcare), as well as of the cultural context (integration into Swiss communities, getting used to the food and climate). At different stages in their acculturation process, doctoral students may view these factors as a critique of the Swiss environment, and at other times as something which they themselves can address by efforts at integration. Although these issues are external to EPFL, some doctoral students point to EPFL's responsibilities in relation to some of them, such as a perceived lack of adequate financial support for childcare.

A fourth area of weakness identified by some doctoral students is the **intellectual climate**. Deficiencies were identified by some with respect to doctoral school courses, including the level of the courses, relevance to their field, timing, and relationship between credits and workload. Shortcomings were also identified in relation to seminars. As one student put it: "The system of credits is too restrictive for somebody doing a PhD. The doctoral student should be responsible enough to ensure its own progress and studies without the need of some external validation through the use of the credits system. This is especially true when the offer of doctoral courses is lacking in certain areas ... and forces the student to follow courses which might not be very relevant to his research for the sake of reaching an arbitrary threshold of credits"

The fifth theme that arises in the comments is being in **an antenna campus**, where these issues of stress are sometimes described as being exacerbated due to isolation, the time involved in travel, and a perceived lack of access to facilities (e.g. sports facilities), seminars, or other events. As one respondent put it, being on an antenna campus requires "daily travel to their employees for duties such as teaching, courses, administration, human resources tasks...The environment is very small, the daily commute is unbearable and their structure is very inefficient. They also create a lot of imbalance and differences among different doctoral students and staff members, providing unfair opportunities and involvement in the research community."

A sixth theme that emerges from the comments is a dissatisfaction with the place of the **French language** which some students perceive as inappropriate for a school which sees itself as international. As one respondent put it, "Although EPFL considers itself an 'international' research institution, there are many instances where only knowing English (or only basic French) is not enough. Some of the equipment/tool documentation is only available in French, some of the individuals in the workshops don't speak English and there have been instances of miscommunication, some e-mails come exclusively in French, and in general, some of the individuals on campus (e.g., administration) seem very averse to speaking in English and treat you differently from those who speak French. It can seem like a bit of a hostile environment, and although there are opportunities to learn French, it's a process that takes time, and some people don't seem to appreciate or understand that."

The francophone environment outside EPFL also impacts on people's integration more generally. As one student put it: "People here are sooo proud of their French. The very first day I went to the immigration office, and there wasn't a single person there who spoke a word other than French. No German, no Italian, no English. C'mon, German and Italian are NATIONAL LANGUAGES here, and English is the international default".

A final group of issues that are raised by some students are the challenges related to **administration and bureaucracy** in the school. Bureaucracy was described as being rigid, slow to act, and as

displaying a bias against those who are not francophone. “The administration” (which sometimes means specific administrators and sometimes seems to refer to EPFL as a whole) is also seen as being insufficiently responsive to the difficulties that doctoral students face. As one wrote, “Some people in the administration of my doctoral program are very passive and professors who have a story of misconduct have power positions - two friends of mine were subject of psychological harassment, and when I tried to talk to the administration of my department they simply stated 'oh there is an office for that' and carried on chatting. This is outrageous given they should spontaneously take action whenever they hear about such grave misconduct within their own department”. Clearly this is linked to their position in the hierarchical relationships in their labs and programs. For some it is also linked to their status as being both students and staff on defined contracts: they perceive that they are seen as ‘passing through’ and therefore easy to ignore (as compared to faculty). A number suggest the development of a mediation service (which already exists, but is perhaps not well known by those who feel they need it most).

It is notable that many of the more detailed negative comments come from students who have been registered for longer periods. For some of these students there appears to have been an accumulation of negative narratives which finds an outlet in relation to this question.

6. Conclusion

The data from the EPFL Doctoral III 2019 survey helps to make clear some of the positive and negative aspects of our students' doctoral experiences. Although the response rate (48%) is not as high as with previous doctoral studies, there are over 1,000 responses and the survey participants do appear to be representative of the wider doctoral student population.

The students are broadly positive about their experiences in EPFL, with only 12% indicating that they disagree that "Overall I am satisfied with the quality of my PhD experience", while 71% agree or strongly agree with this statement. This figure is similar to that found in 2012 (taking into account differences in measurement) and indicates a sustained, reasonably high level of satisfaction.

6.1 Supervision and learning experiences

Looking at specific aspects of the doctoral studies experience, the data suggests that the satisfaction of EPFL doctoral assistants is broadly comparable to the rates found in another global leading institution, Oxford University. In fact, EPFL scores a little higher than Oxford on quality of skills development, on infrastructure and on the quality of intellectual climate. EPFL does score a little lower than Oxford on supervision experience.

The data suggests a number of areas in which, from the doctoral students' perspective, supervision experience might be improved.

- 16% of doctoral assistants report that they meet their supervisor less than once per month and a large majority of these do not agree that supervision is available when they need it. It may be worth considering how to ensure regular communication between supervisors and all doctoral students.
- The quality of feedback on progress provided to students by supervisors is also identified as an issue. Over 40% of students do not agree that supervisors provide helpful feedback on progress. Even where supervision meetings take place frequently, this is identified as an issue by quite a few students. This issue is also evident in their comments. It may be worth considering how to ensure better quality communication between supervisors and all doctoral students.

Although skills development is highly rated, there are a few areas in which it might be worth considering if more could be done.

- The development of leadership and interaction skills lags behind that of more cognitive skills: over 40% do not agree that they have gained confidence in influencing and leading others and about 35% indicate that they do not agree that they have developed the ability to collaborate with other researchers.
- About one-third do not agree that they have improved their ability to design and implement projects, while a similar proportion indicate that they do not agree that their ability to plan and manage time has improved.
- Over 20% indicate that they have not improved their understanding of research integrity (e.g. rigour, ethics, transparency, attributing the contribution of others).

6.2 Well-being

There has been some debate internationally in recent times about a perceived mental health crisis in doctoral education. In general, it appears that EPFL doctoral students are not immune from this wider problem and there are certainly issues that should be considered.

The two most prominent mental health and well-being issues that emerge from the data are the rates of depression and the extent of harassing or bullying behaviours.

The rates of depression among EPFL doctoral students are high: 53% have some depressive symptoms and 21% show moderate to severe depression; this is twice the level found in the Canton of Vaud and three times higher than the Swiss average. These rates are actually substantially lower than have been reported in other studies of depression in doctoral students, but are nonetheless troubling. The issue is widespread across the community: the 'average' doctoral student in almost all doctoral programs shows depressive symptoms. In addition to being a system-wide issue, however, these depression rates can also be linked to a number of specific issues.

- The first of these is being registered for a PhD for more than four years: the depression score for these students is 25% higher than it is for other students. These students also have the lowest frequency of meetings with supervisors, the lowest rating for supervision experience and a comparatively lower rating of the intellectual climate and skill development than students in their third or fourth year.
- The second is having experienced behaviours which meet the definition of bullying or harassment. Overall, 21% have experienced behaviour that may fit the definition of bullying or harassment. 14% report that they perceive themselves as having been bullied or harassed: 14% of the total population of doctoral assistants would represent some 314 cases of people having been bullied. For those for whom there is no evidence of bullying, 46% show depressive symptoms. Where there is evidence of possible bullying the percentage showing depressive symptoms raises to 79%. Where there is evidence of bullying 90% of respondents show depressive symptoms. The comments of doctoral assistants reiterate this point.

Perceived stress levels of doctoral students are, on average, slightly elevated when compared to the wider population of people of a similar age. The average stress levels are not quite as high as would be expected in high stress groups, and are lower than have been found in studies on other doctoral populations. Work-life balance remains a major issue for EPFL doctoral students with only 48% of respondents indicating that they could achieve an appropriate work-life balance.

6.3 Teaching self-efficacy

Doctoral students play an important role in the education of Bachelor and Master students – it is the doctoral teaching assistants who are present when students are struggling to use and apply the knowledge they have heard described in lectures. These 'active' moments for students are key to learning, but are also, arguably, the situations that are among the most demanding of their teachers.

Three-quarters of doctoral assistants report having done some class teaching in the previous 12 months, and about half have supervised a project in that timeframe.

While many doctoral assistants seem quite confident in their teaching skills, about one-third report somewhat low self-confidence on performing a teaching role, and one-quarter report similarly low self-confidence on facilitating student learning. Issues such as managing classroom disruption, managing classroom interaction, managing questions, and promoting student self-confidence are all areas in which a substantial proportion do not agree they are confident.

6.4 Final remarks

Perhaps the thing that is most evident from the qualitative and quantitative data is the lack of uniformity or standards for doctoral students. For some, their experience is incredible: they describe having opportunities to develop their independence while doing cutting edge research in a supportive learning environment among world-class scientists in a stunning location. For others, it appears to be a far more challenging experience, with little or no autonomy, in an unproductively pressurized environment, experiencing behaviours which would be defined as bullying and harassment and with elevated levels of depression or stress. While this latter group are a minority, they do point to what they perceive to be a lack of enforcement of (even minimum) standards of supervision across the school.

A second feature that appears to be a widespread part of the doctoral student experience, and which has both positive and negative dimensions, is the competitive culture of the school, which can be seen as both exciting and as restricting. While the opportunity of working in a world-class environment is welcomed by many students, the competitive climate of the school is also seen as having a distorting effect on their experiences in that it appears to prevent some of them from benefiting from opportunities for wider learning and enrichment. Again, this is not everyone's experience, and most doctoral students do indicate that they have developed their skills in most areas. Nonetheless, the quantitative data does indicate that their learning in some skill areas could be improved, while the comments sometimes indicate that they miss the opportunity to learn from courses, from teaching and from wider campus life.

While most students in most programs seem to have a very positive experience, some groups appear to be particularly at risk of having a more negative experience. These include those registered for a PhD for more than four years who have the lowest frequency of meetings with supervisors, the lowest rating for supervision experience and a comparatively lower rating of the intellectual climate and skill development than students in their third or fourth year, as well as the highest rates of depressive symptoms. A second particularly vulnerable group consists of those who have experienced bullying or harassing behaviours.

Perhaps the fundamental question arising from this survey data is how to ensure that more doctoral students would describe their experiences in terms similar to those used by this doctoral student: "I am very grateful to have met a fantastic lab with great people and a very supportive professor. Doing research like this is very stimulating and fun".

Appendices – Additional Charts and Data

Chart A: Rates and types of teaching, by faculty

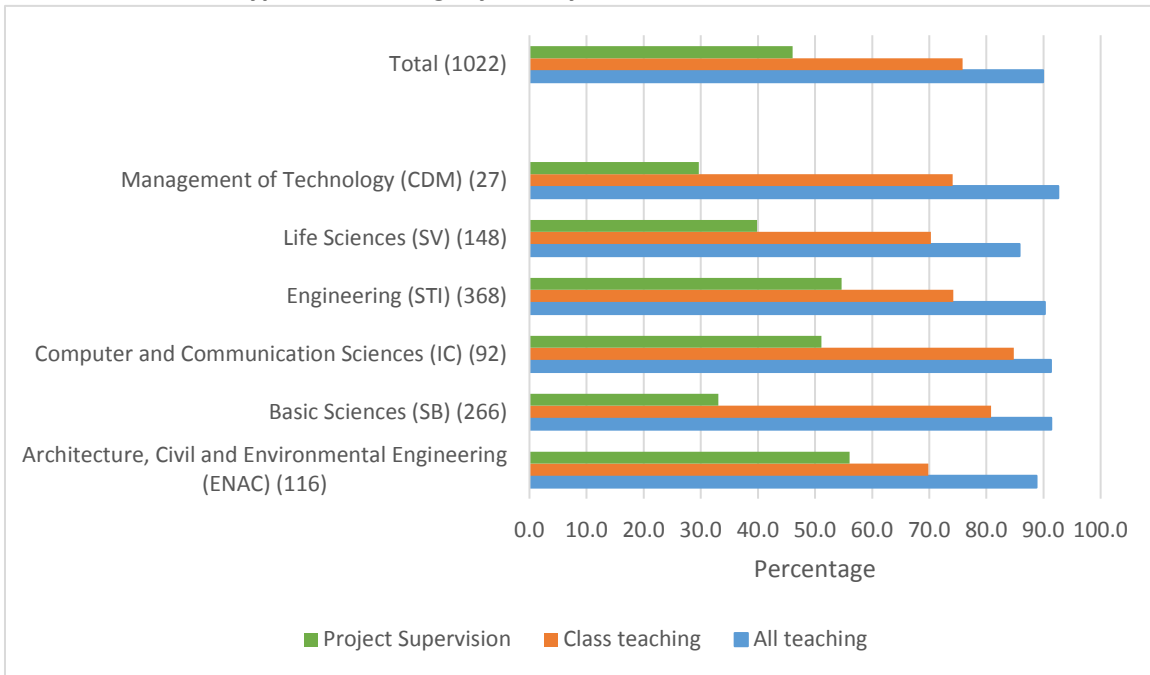


Chart B: Average satisfaction with supervision experience, by doctoral program

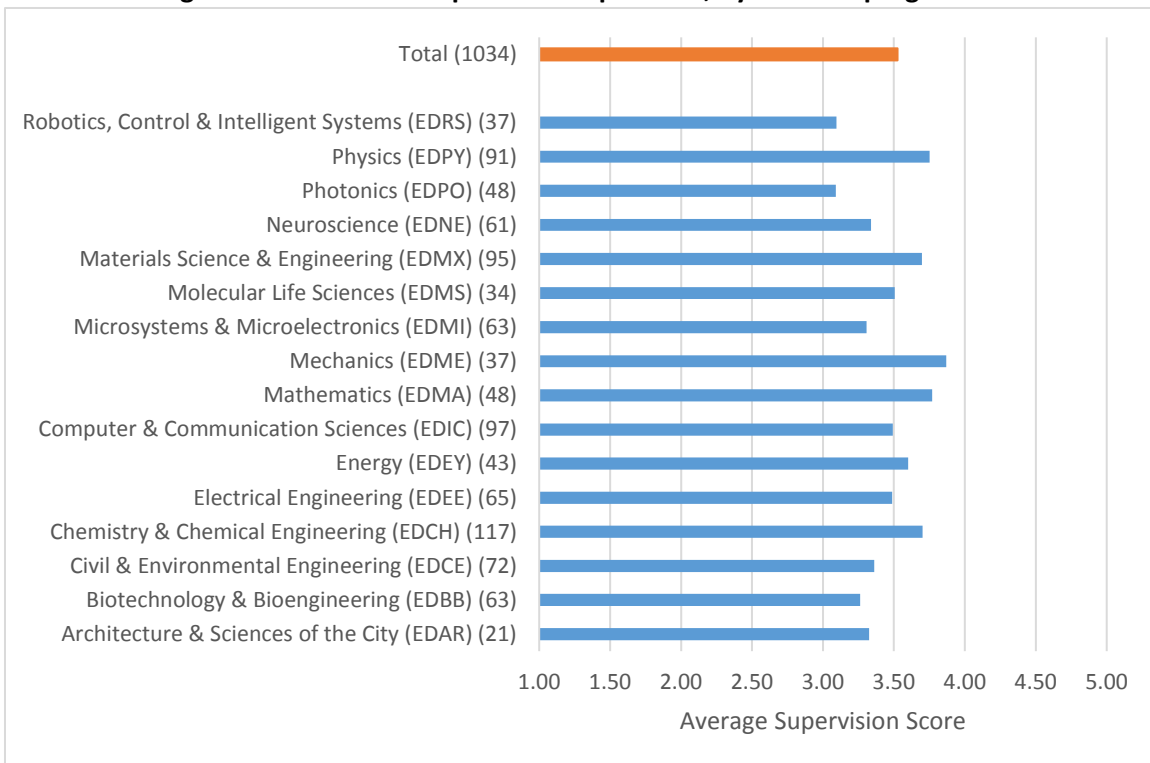


Chart C: Average satisfaction with supervision experience, by faculty

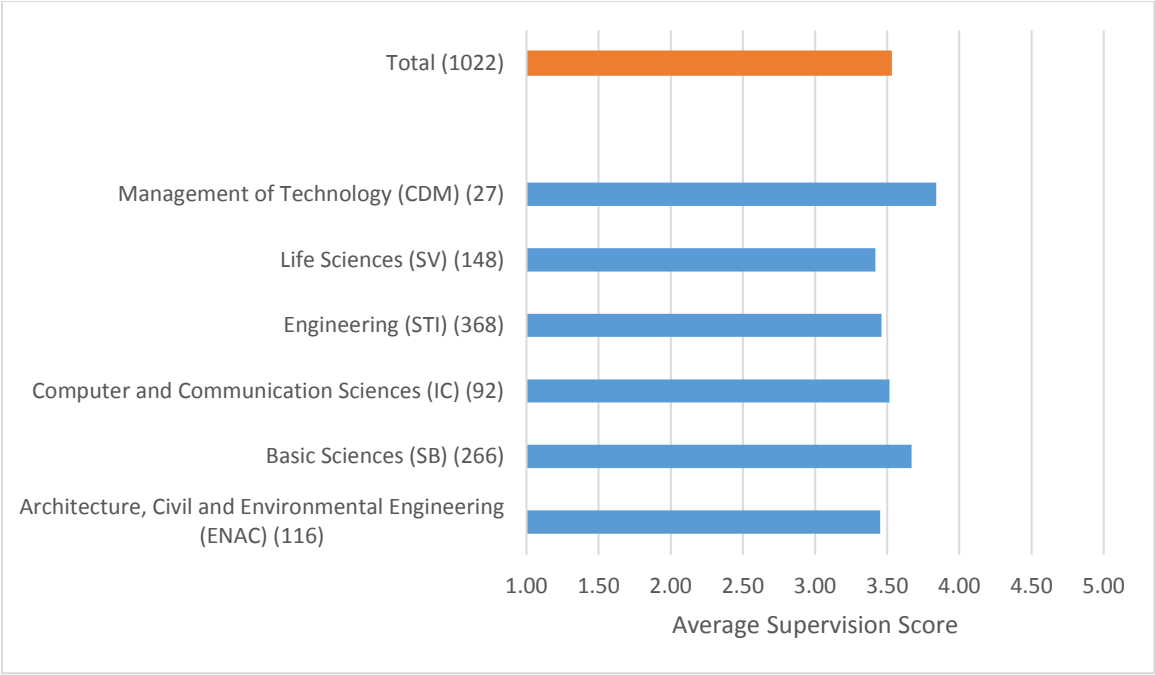


Chart D: Average satisfaction with supervision, by prior university location

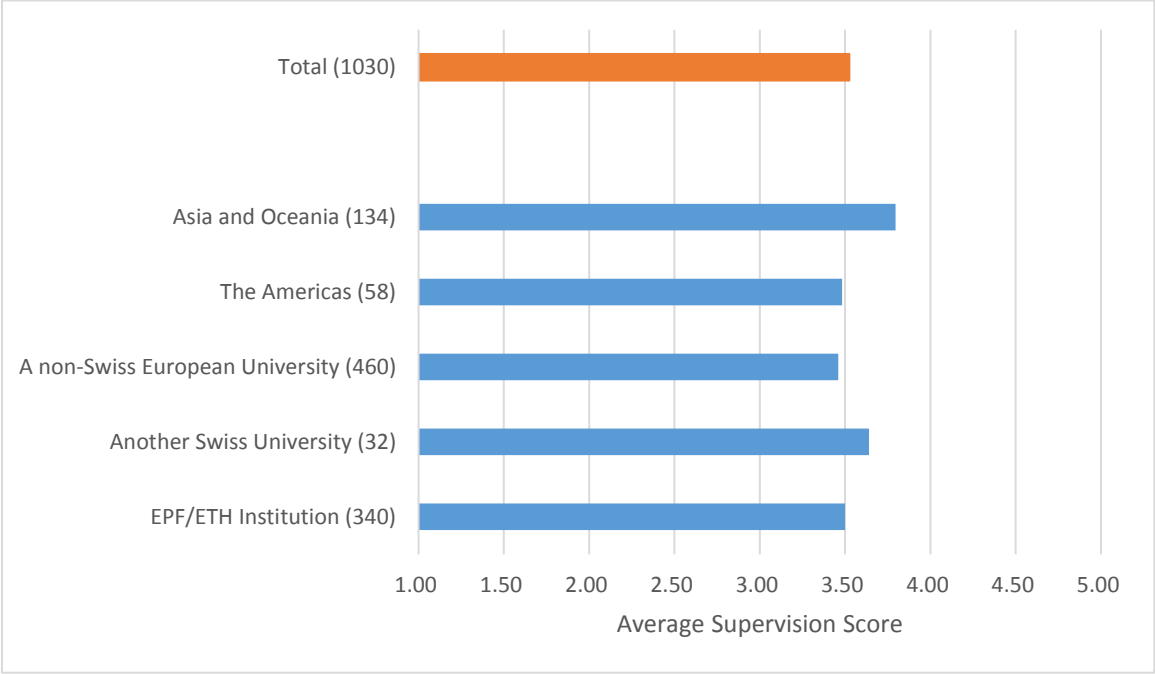


Chart E: Average satisfaction with intellectual climate, by doctoral program

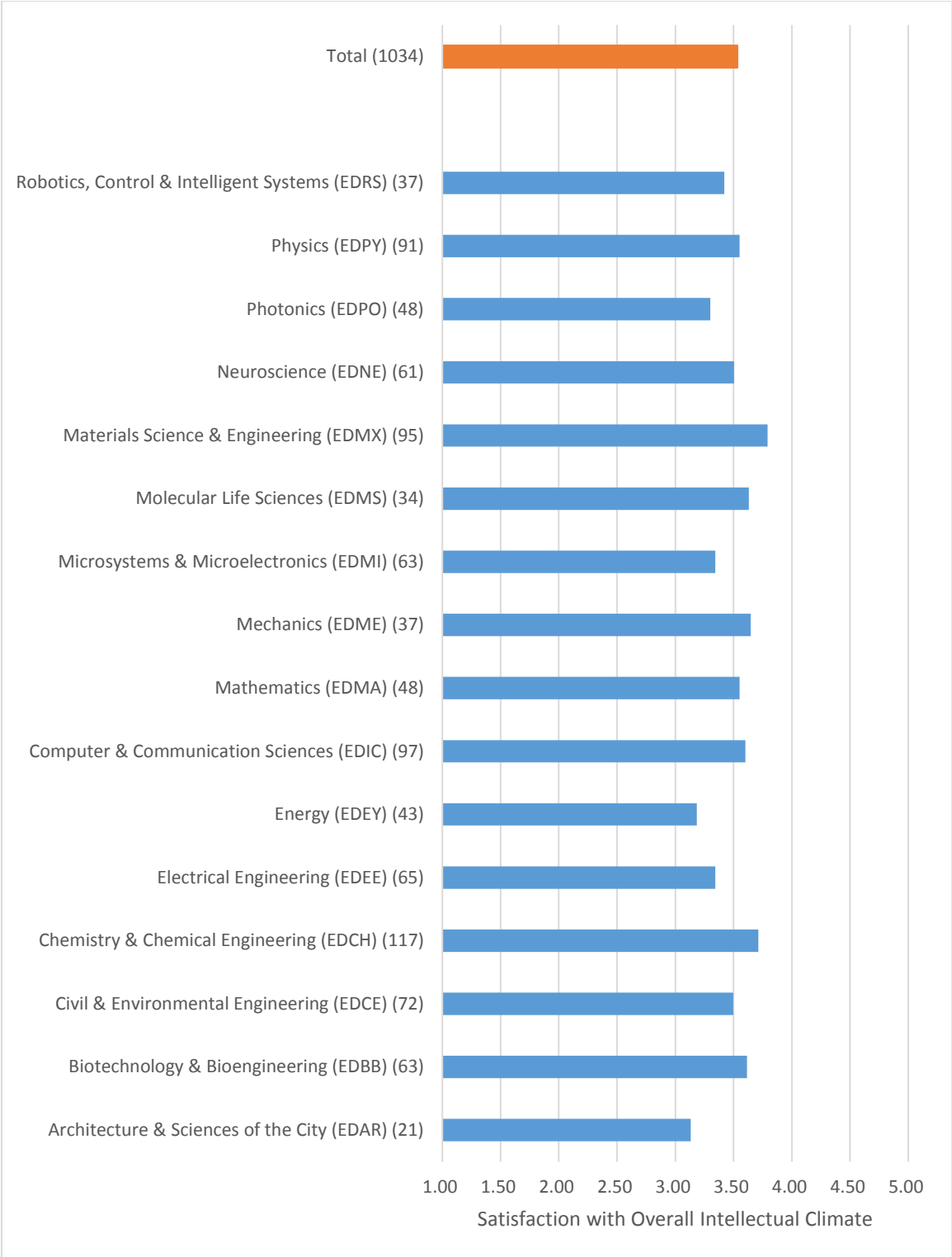


Chart F: Average satisfaction with the intellectual climate in doctoral programs and labs

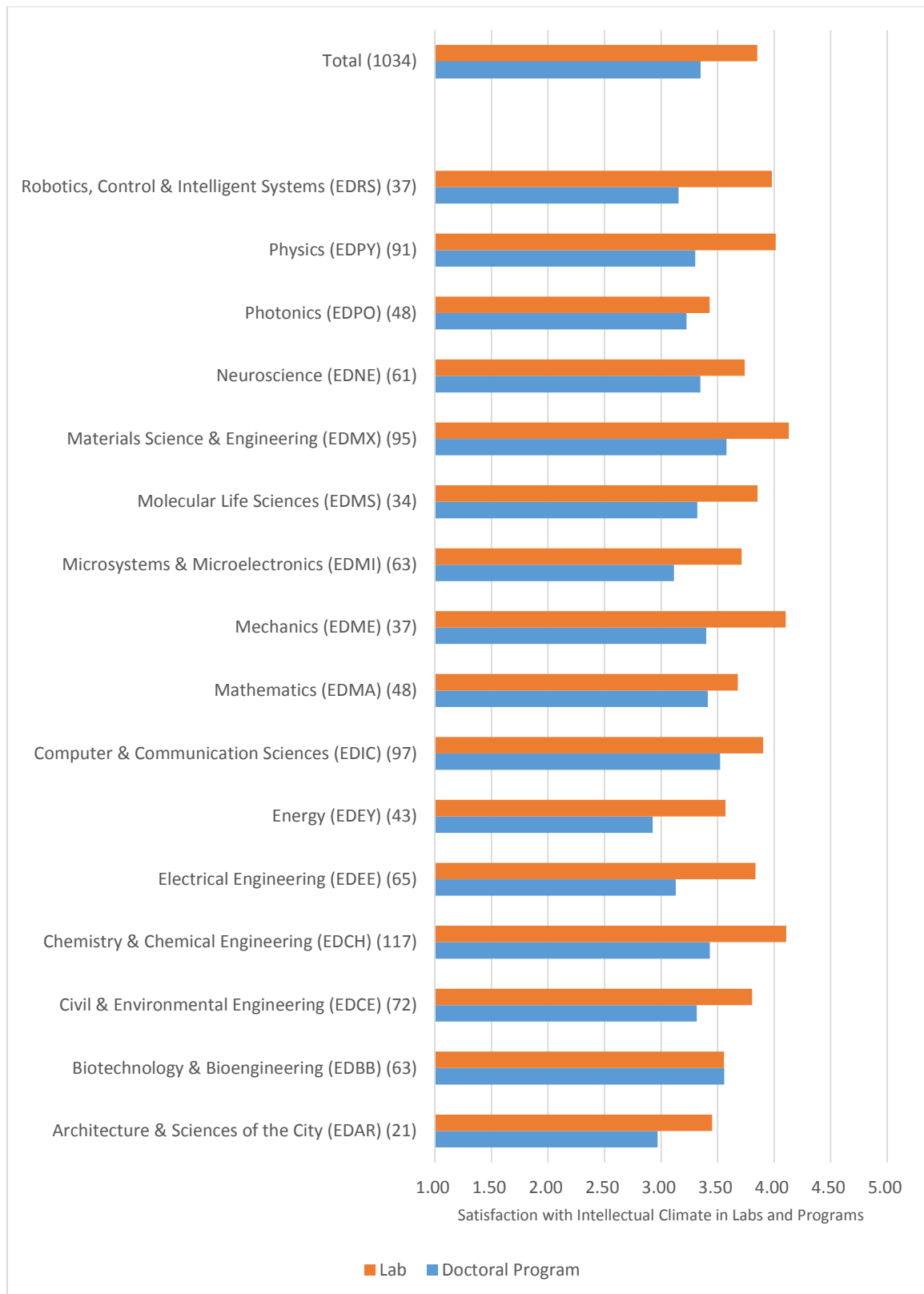


Chart G: Average rating of skills development, by doctoral program

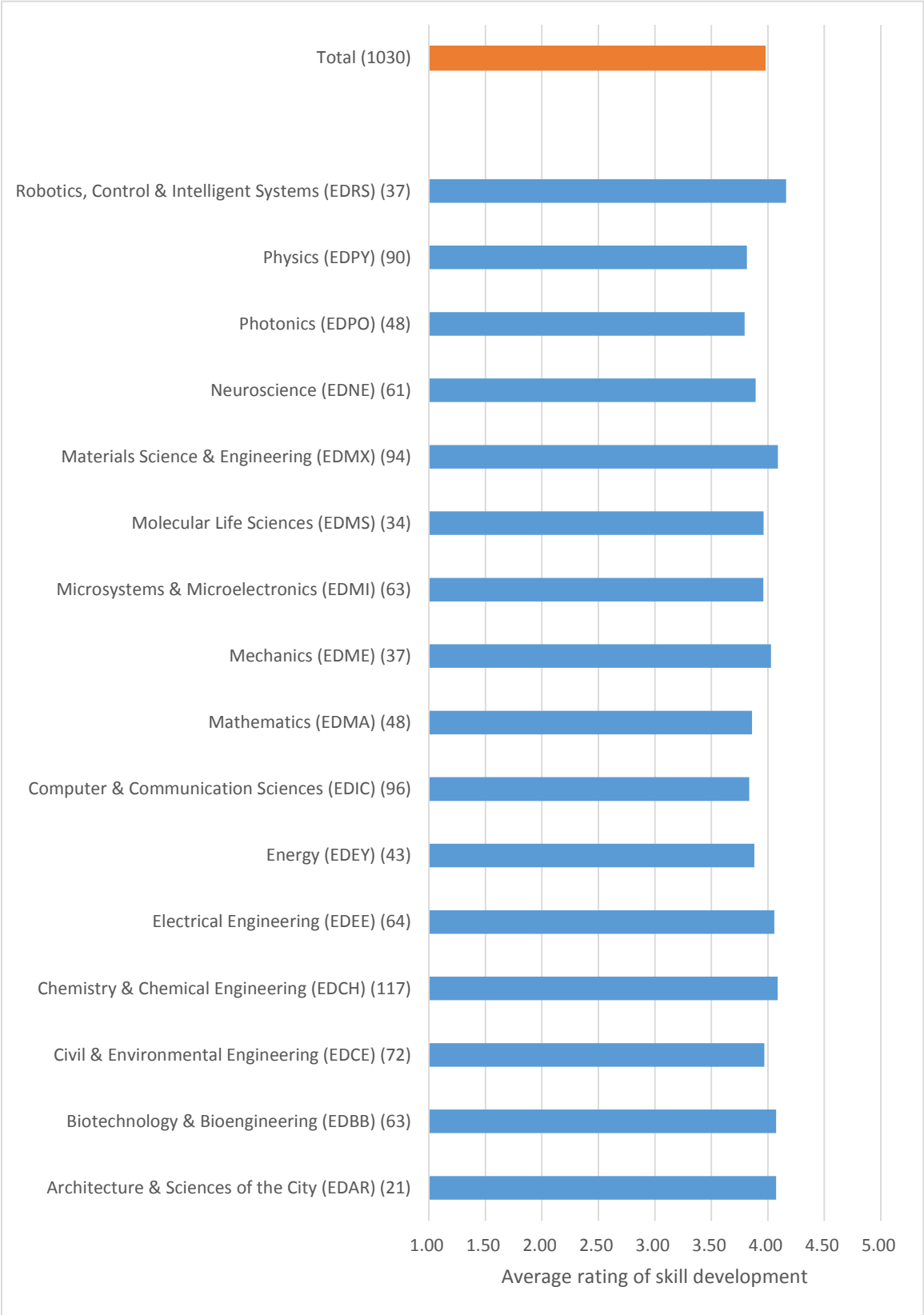


Chart H: Average satisfaction with infrastructure, by doctoral program

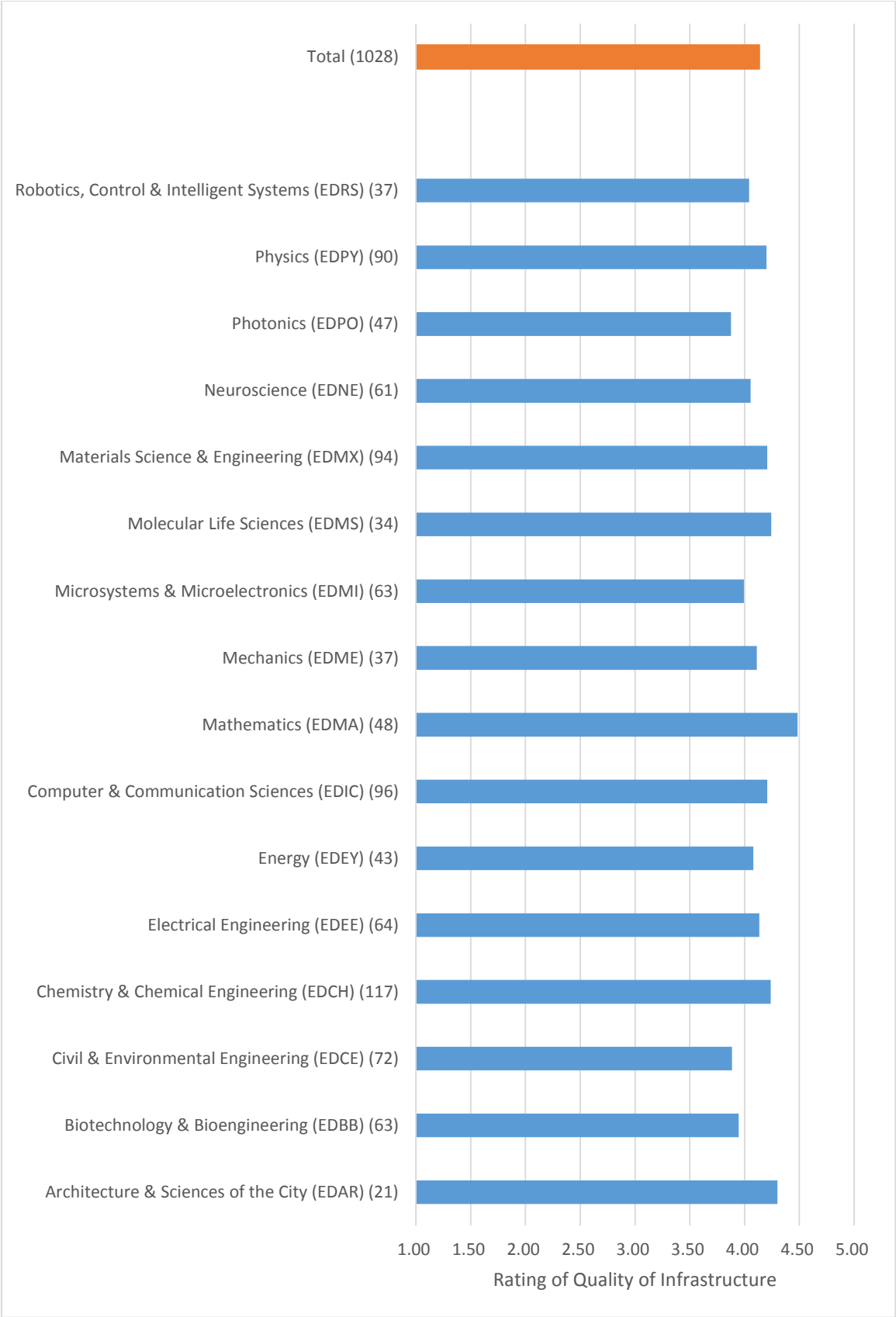


Chart I: Responses to the question “The administration in the doctoral program and lab are effective in supporting my research” by doctoral program

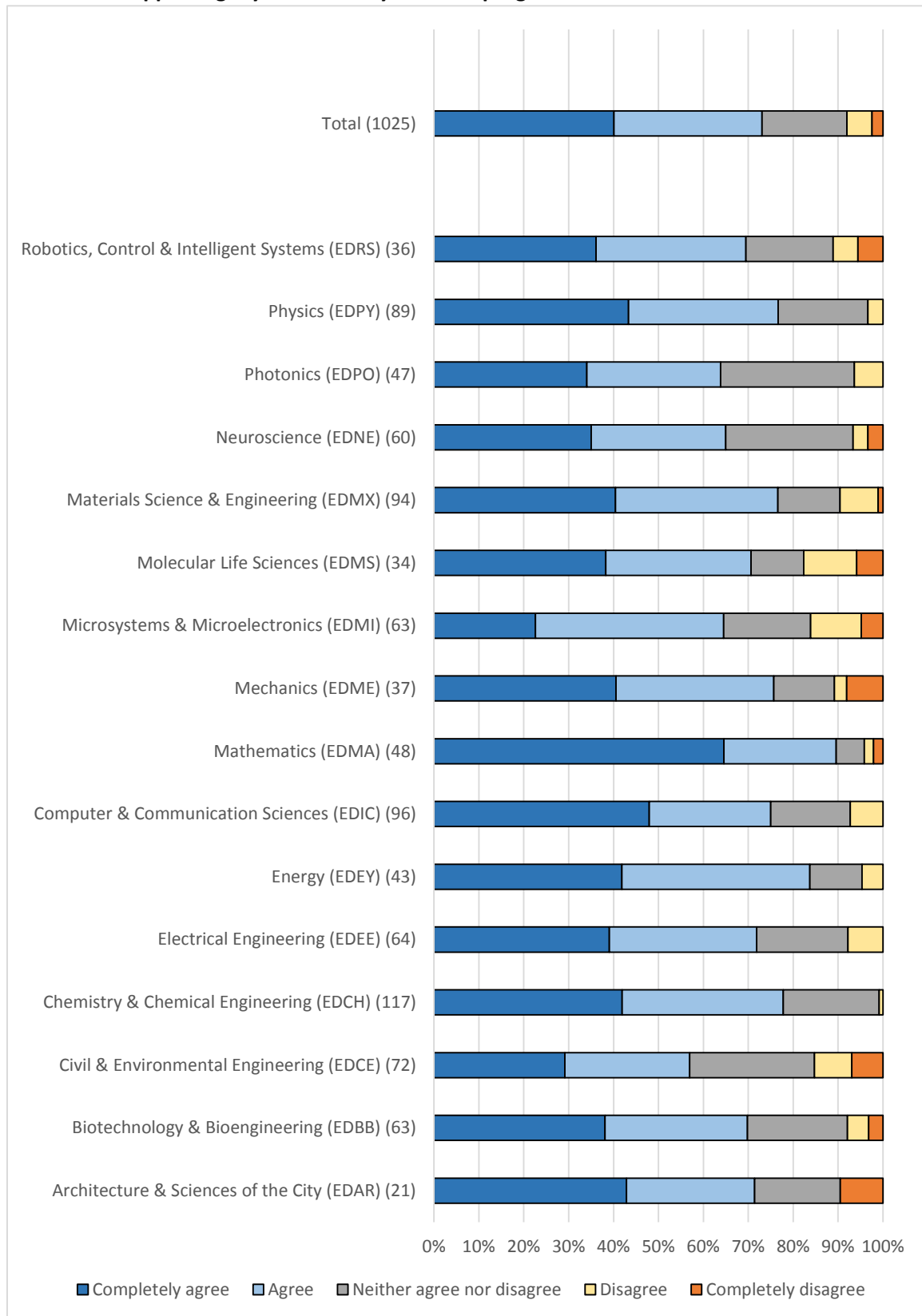


Chart J: Responses to the question “The administration in the doctoral program and lab are effective in supporting my research”, by faculty

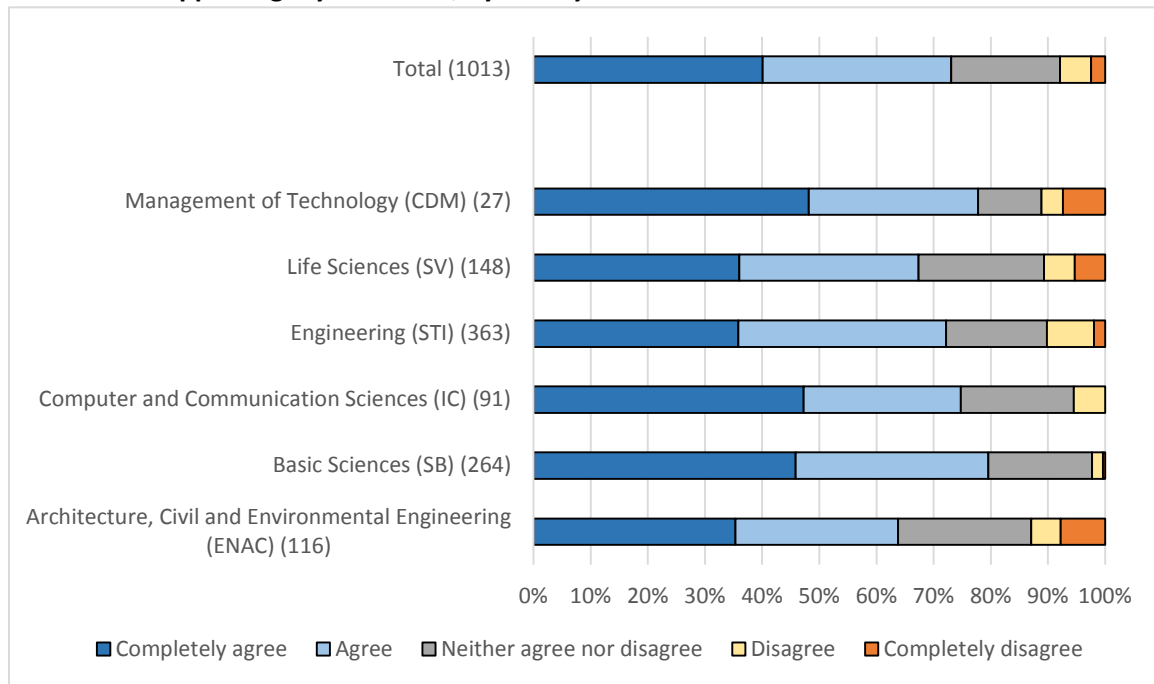


Chart K: Average rating of awareness of assessment criteria and systems, by doctoral program

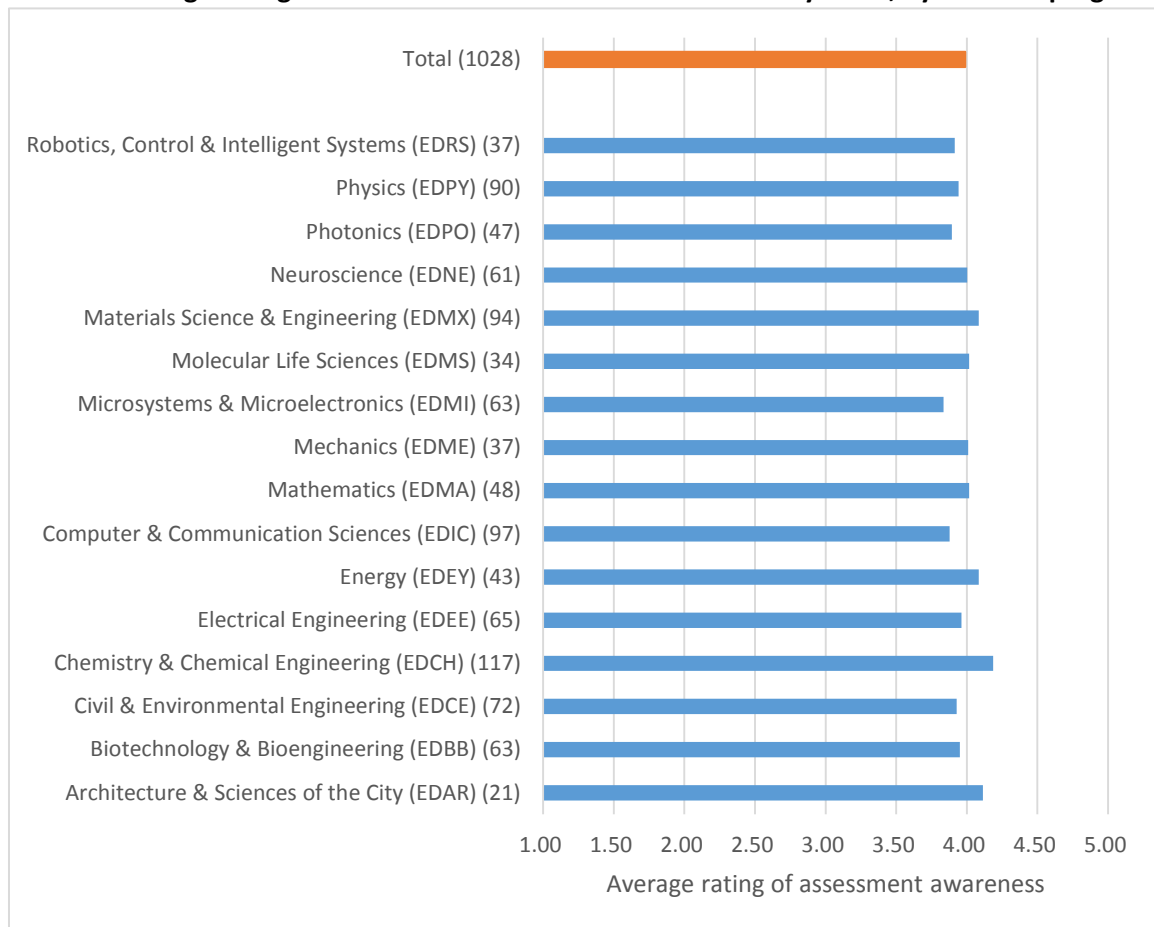
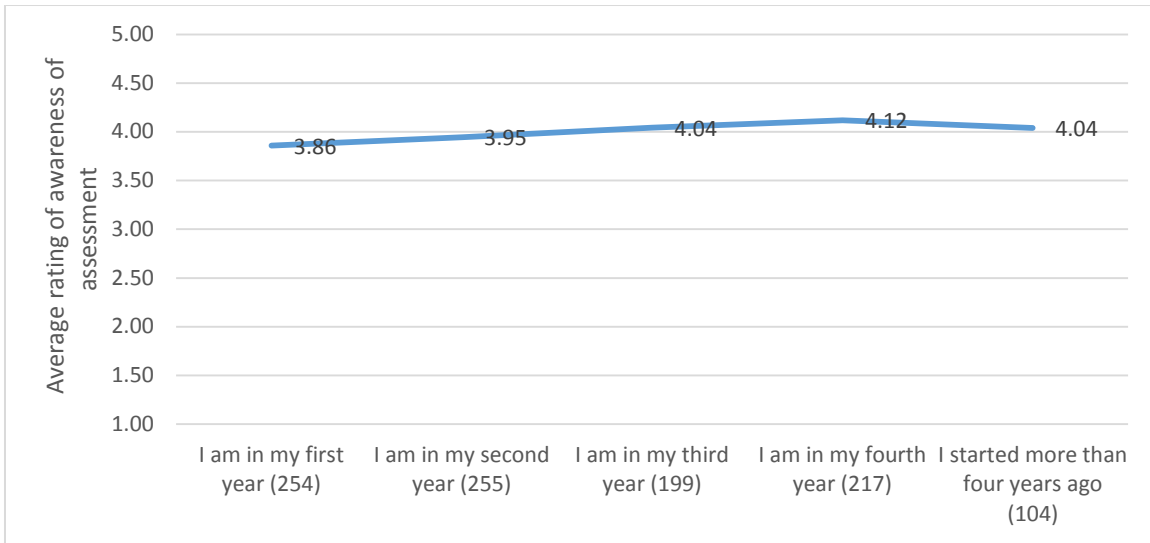


Chart L: Average rating of awareness of assessment criteria and processes, by year of study



Note: N=1027

Chart M: Average rating of industry engagement, by doctoral program

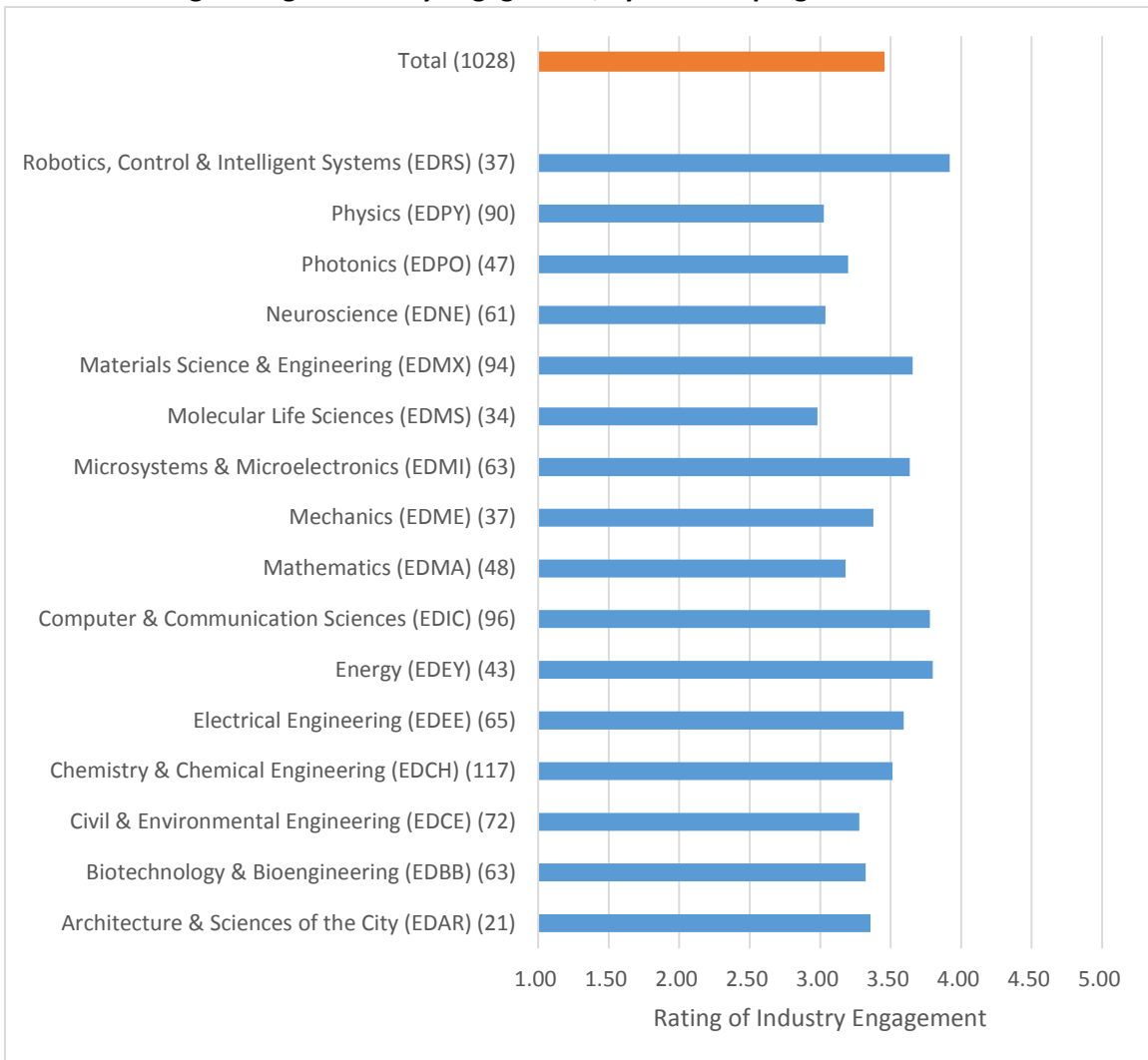


Chart N: Average rating of industry engagement, by faculty

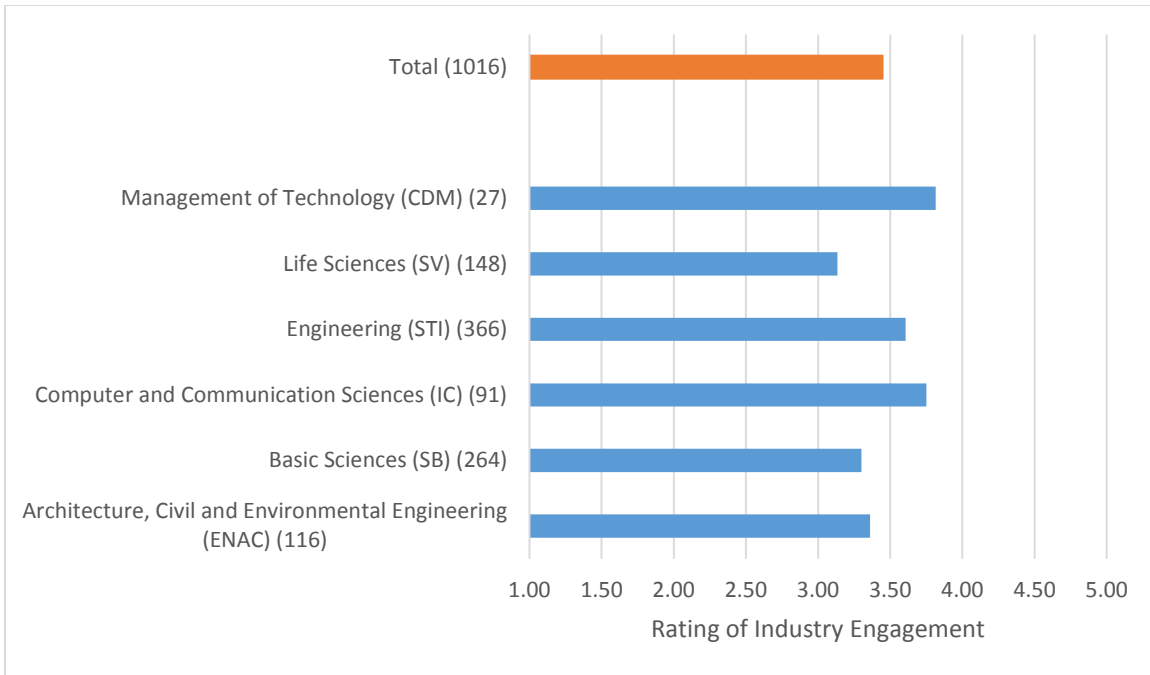


Chart O: Perceived Stress Score, by doctoral program

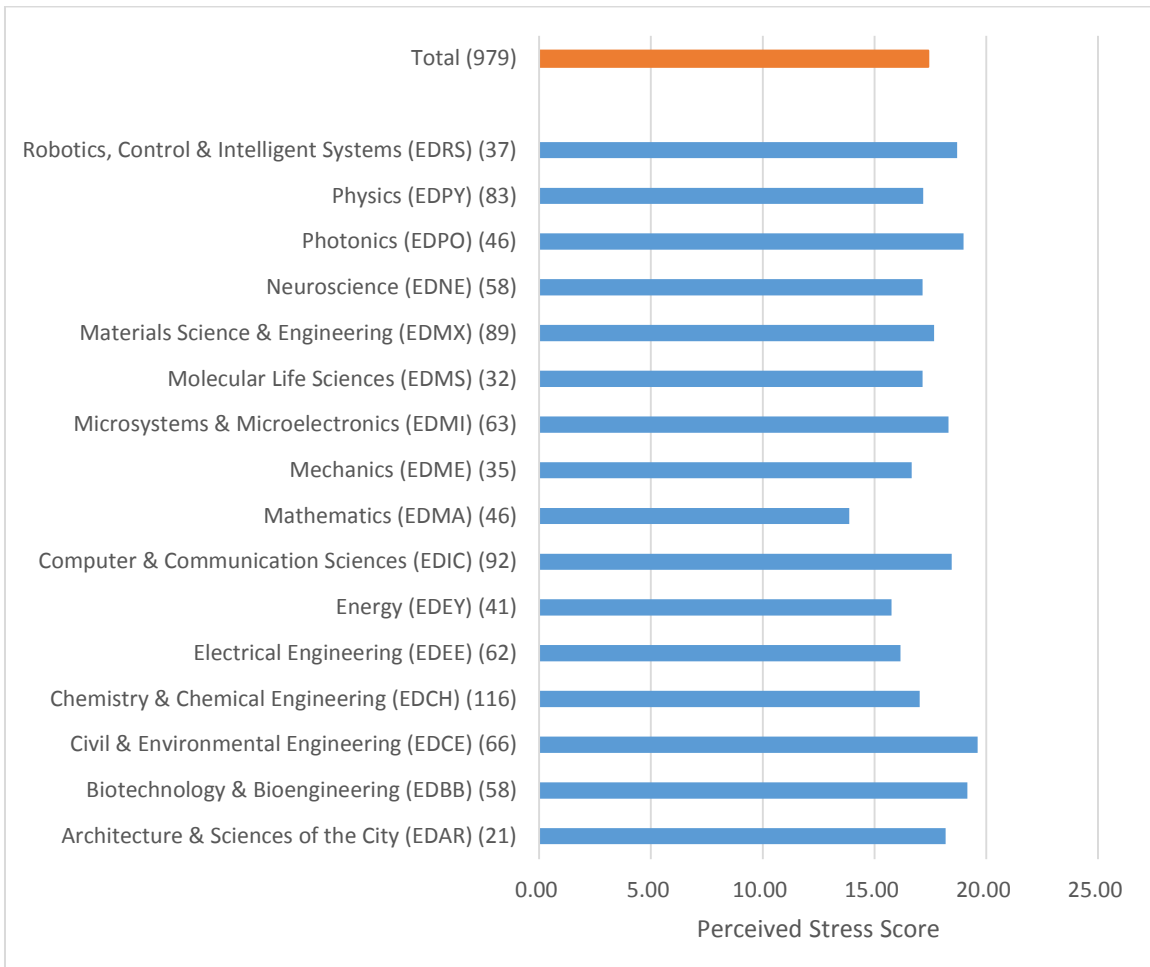


Chart P: Perceived Stress Score, by faculty

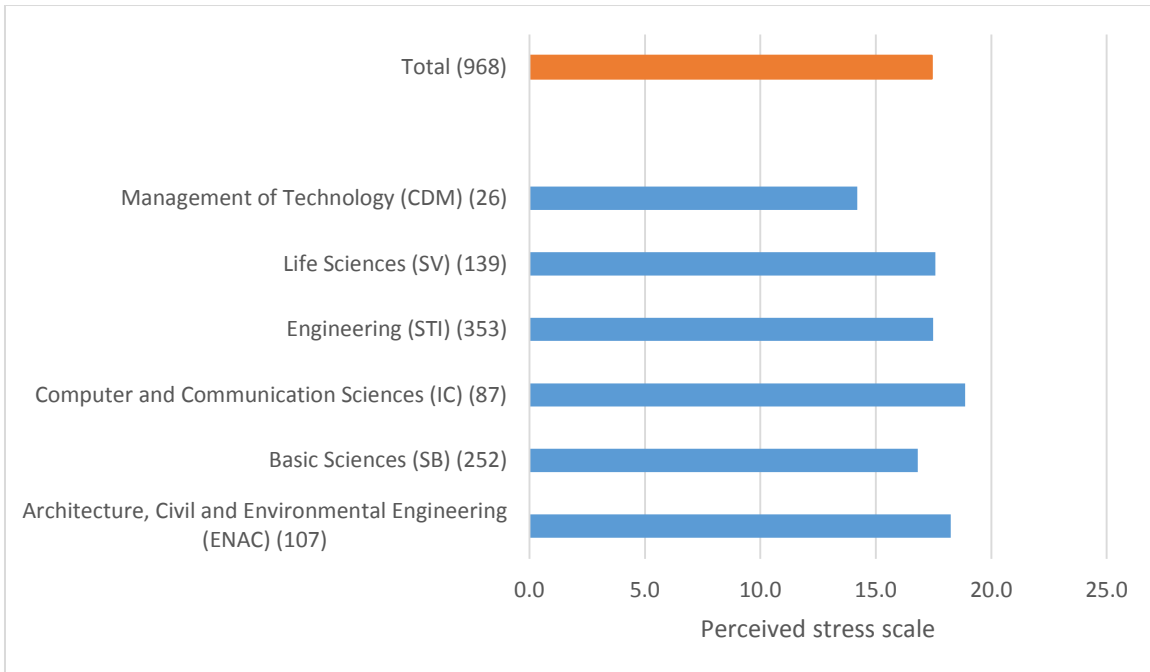


Chart Q: Prevalence of bullying, mobbing or harassing interactions (SNAQ), by doctoral program

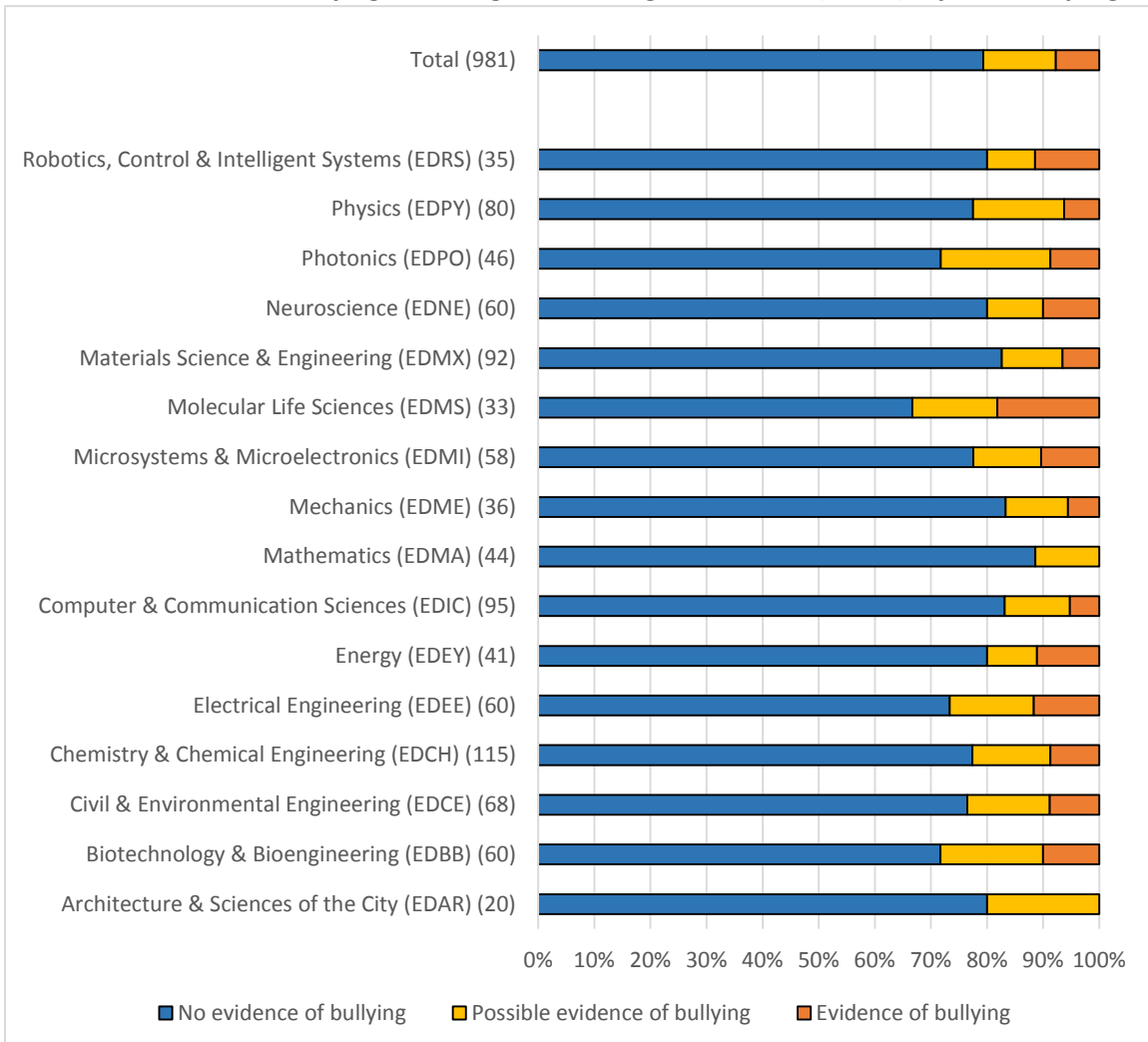


Chart R: Prevalence of bullying, mobbing or harassing interactions (SNAQ), by year of study

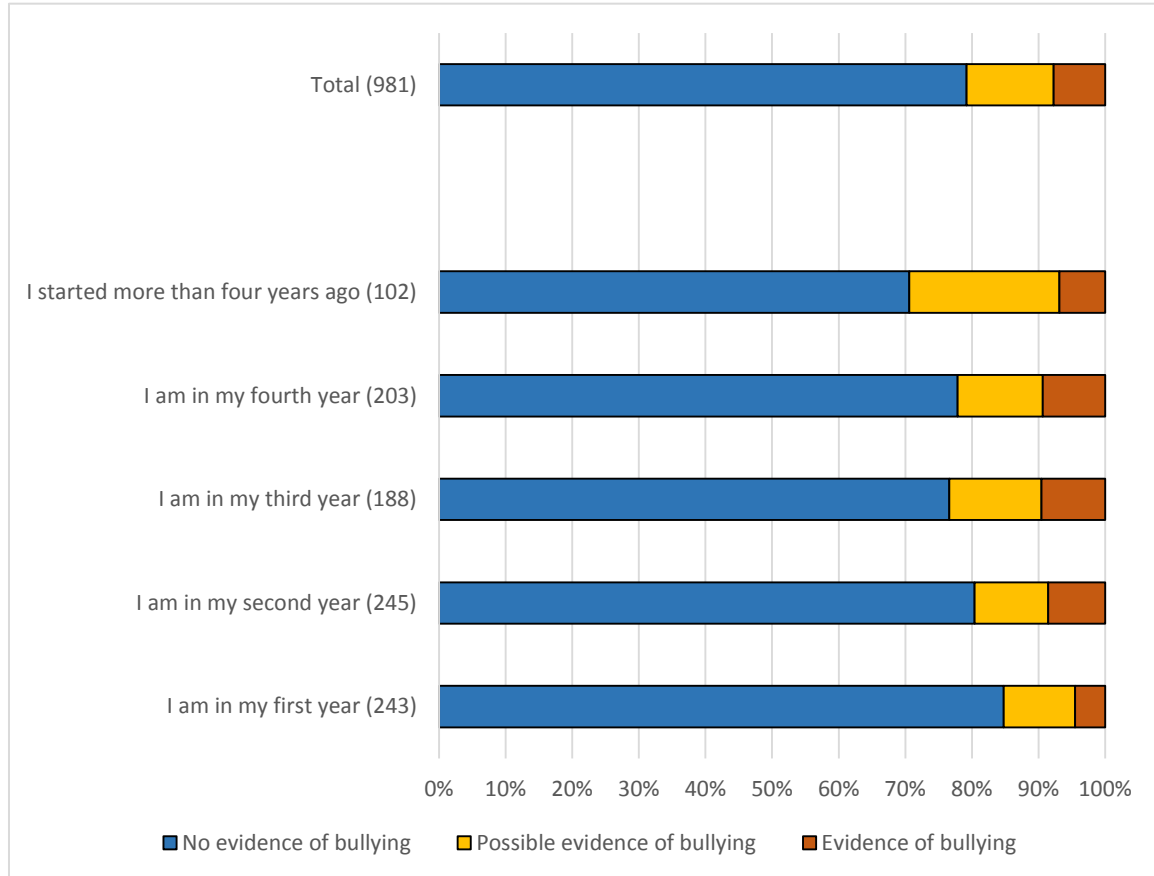


Chart S: Prevalence of bullying, mobbing or harassing interactions (SNAQ), by working location

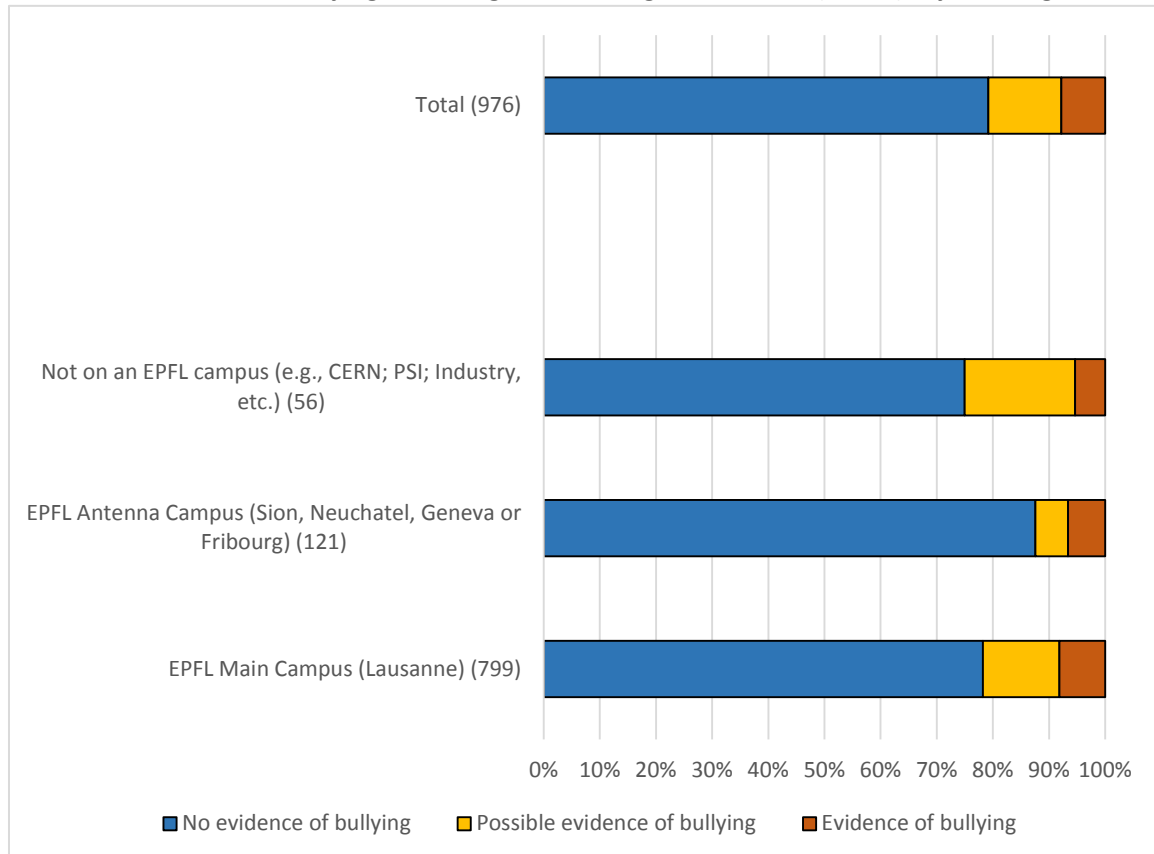


Chart T: Frequency of coming under pressure to work unreasonable hours or during holidays, by doctoral program

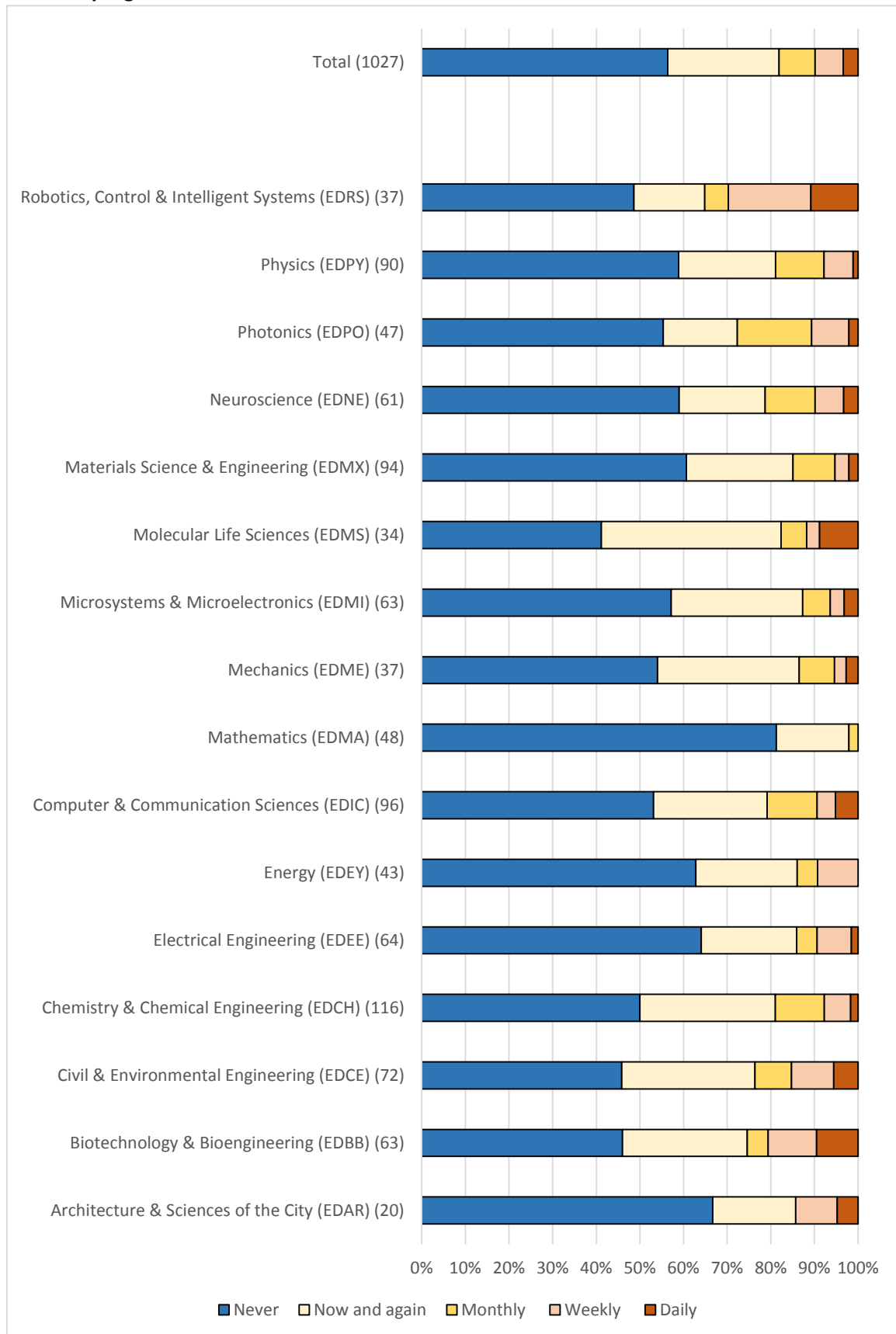


Chart U: Teacher performance self-efficacy, by doctoral program

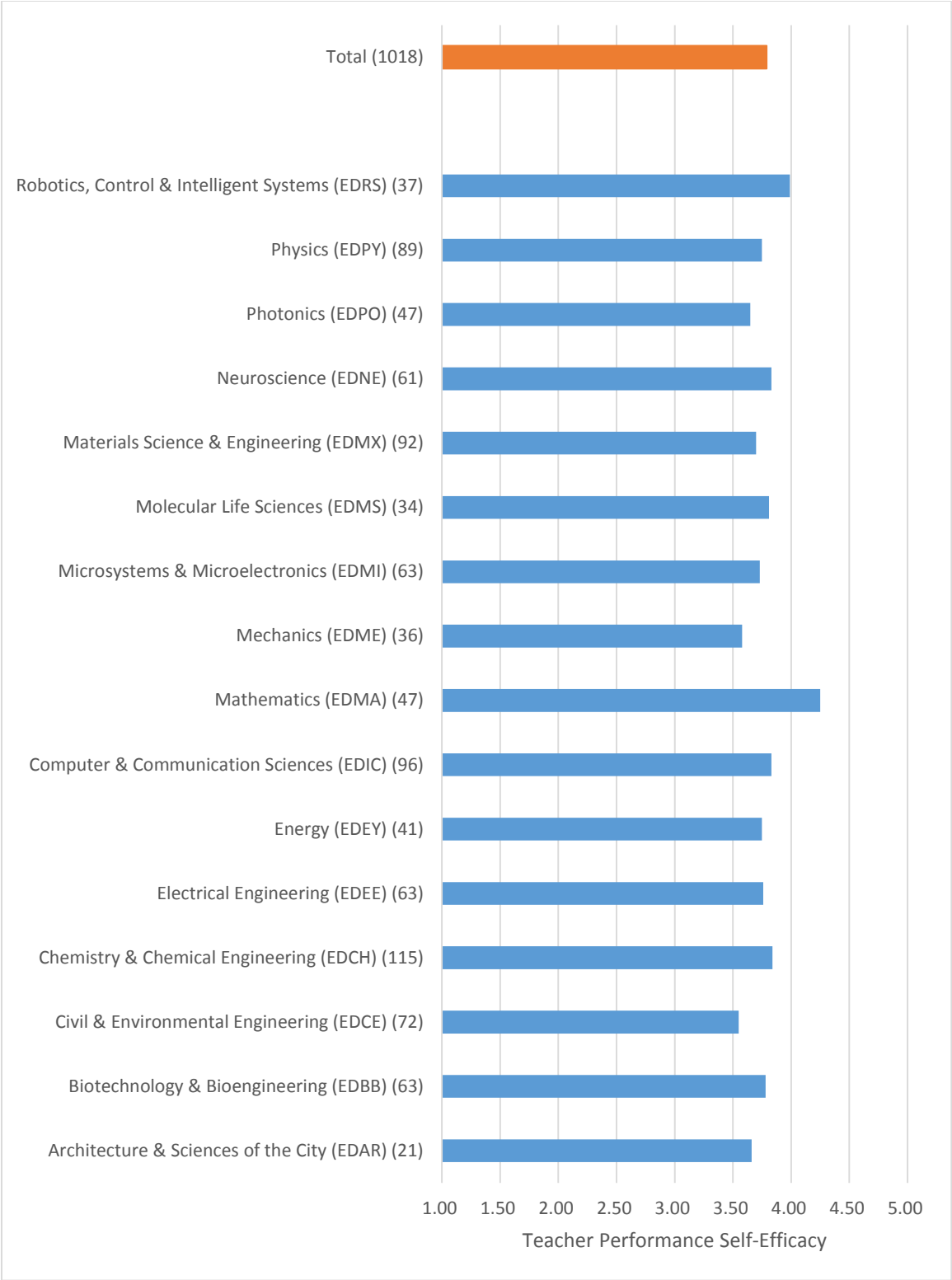


Chart V: Facilitation of learning self-efficacy elements

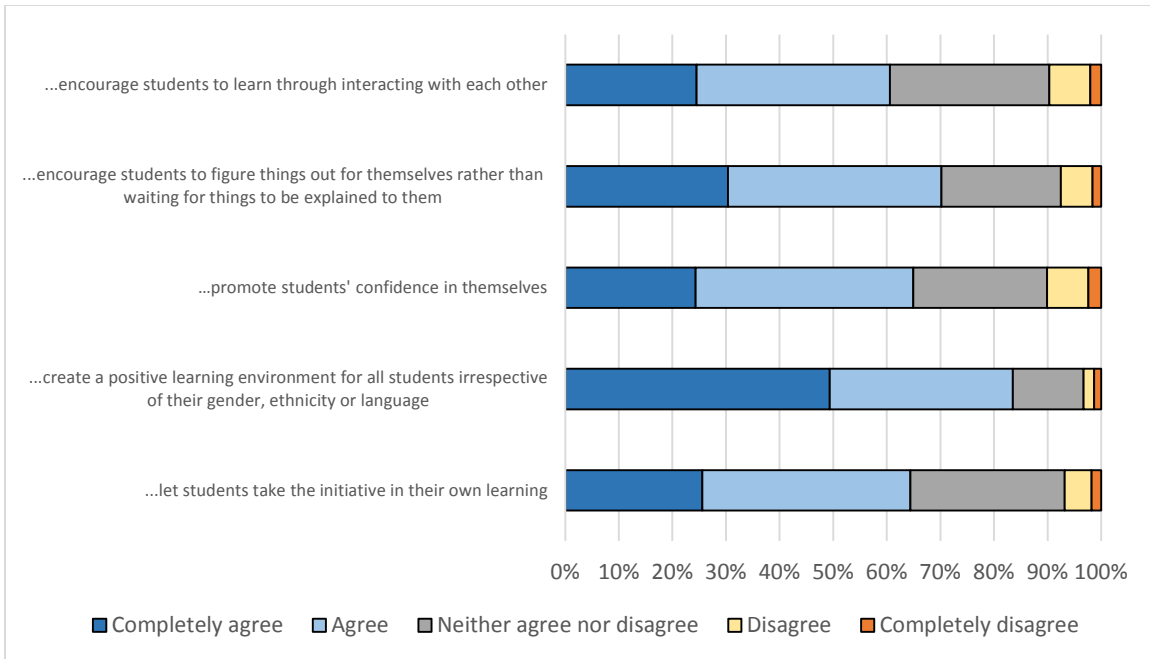
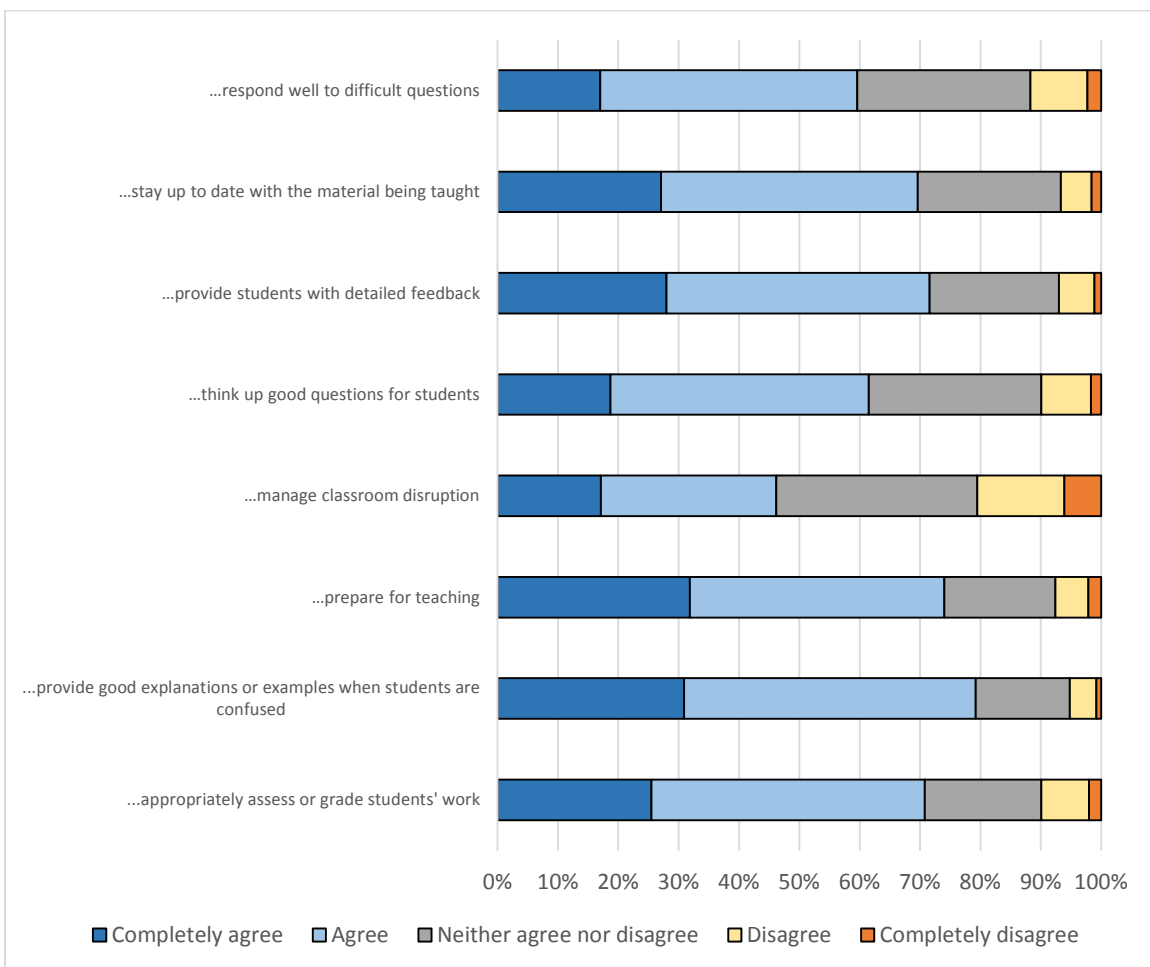


Chart W: Teacher performance self-efficacy elements



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EvaSys

Doctoral School Survey 2018

Electric Paper
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Cocher : Veuillez utiliser un stylo ou un marqueur fin. Ce questionnaire sera traité automatiquement.
Corriger : Remplissez complètement la case faussement cochée, puis cochez votre nouveau choix.

1. Expectations in Doctoral Research

The EPFL Doctoral Survey is designed to provide information on your experiences and expectations in doctoral research. Previous surveys were carried out in 2005 and 2012.

Almost all of the questions included follow a similar template which means that it should not take long to complete the questionnaire.

The questionnaire is anonymous and you are not asked to provide your identity. The survey is intended to uncover general patterns rather than individual experiences, and therefore any reporting of the data will ensure that no person is identifiable.

This first section asks you questions about how you think PhD research **should normally** be conducted.

Read each pair of statements below and then estimate your position on each. For example, with the first statement, if you believe very strongly that it is the supervisor's responsibility to select a good topic you would select the left-hand box. If you think that both the supervisor and student should equally be involved you should select the centre box, and if you think it is definitely the student's responsibility to select a topic, select the right-hand box.

1.1 Research topic

It is the The
supervisor's
responsibility
to select a
research topic
student is
responsible
for selecting
her/his own
topic

1.2 Theoretical framework and methodology

It is the Students
supervisor
who decides
which
theoretical
framework
or
methodology
is most
appropriate
should
decide
which
theoretical
framework or
methodology
they wish to
use

1.3 Program and timetable

The The
supervisor
should
develop an
appropriate
program
and
timetable of
research
and study for
the student
supervisor
should
leave the
development
of the
program of
study to the
student

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1. Expectations in Doctoral Research [suite]

1.4 Getting settled	<p>The supervisor is responsible for ensuring that the student is introduced to the appropriate services and facilities of the School and the University</p> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<p>It is the student's responsibility to ensure that she/he has located and accessed all relevant services and facilities for research</p>
1.5 Specialization	<p>Supervisors should only accept students when they have specific knowledge of the student's chosen topic</p> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<p>Supervisors should feel free to accept students, even if they do not have specific knowledge of the student's topic</p>
1.6 Relationship	<p>A warm, supportive relationship between supervisor and student is important for successful candidature</p> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<p>A personal, supportive relationship is inadvisable because it may obstruct objectivity for both student and supervisor</p>
1.7 Meetings	<p>The supervisor should insist on regular meetings with the student</p> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<p>The student should decide when she/he wants to meet with the supervisor</p>
1.8 Oversight	<p>The supervisor should check regularly that the student is working consistently and on task</p> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<p>The student should work independently and not have to account for how and where time is spent</p>

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1. Expectations in Doctoral Research [suite]

1.9 Personal support	The supervisor is responsible for providing emotional support and encouragement to the student	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Personal counselling and support are not the responsibility of the supervisor - students should look elsewhere
1.10 Writing process	The supervisor should insist on seeing all drafts of work to ensure that the student is on the right track	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Students should submit drafts of work only when they want constructive criticism from the supervisor
1.11 Drafting process	The supervisor should assist in the writing of the thesis if necessary	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	The writing of the thesis should only ever be the student's own work
1.12 Setting quality requirements	The supervisor is responsible for decisions regarding the quality level required for the thesis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	The student is responsible for decisions concerning the quality level required for the thesis

2. Your Experiences doing Doctoral Research

This section and the next ask you about your experiences during your PhD here in EPFL.

For question 2.1 to question 3.27 please indicate the extent to which you 'agree' or 'disagree' with each statement.

2.1 Supervision is available when I need it	Completely agree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Completely disagree
2.2 My supervisor(s) make a real effort to understand the difficulties I face	Completely agree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Completely disagree
2.3 My supervisor(s) provide additional information relevant to my topic	Completely agree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Completely disagree
2.4 I am given good guidance in topic selection and refinement	Completely agree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Completely disagree
2.5 My supervisor(s) provide helpful feedback on my progress	Completely agree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Completely disagree
2.6 I receive good guidance in my literature search	Completely agree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Completely disagree
2.7 The doctoral program provides opportunities for social contact with other doctoral students	Completely agree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Completely disagree
2.8 I feel integrated into the research community in the doctoral program	Completely agree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Completely disagree
2.9 I feel integrated into the research community in the lab	Completely agree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Completely disagree

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2. Your Experiences doing Doctoral Research [suite]

2.10	I have experienced sexual harassment (e.g. harassing behaviour of a sexual nature that adversely affects the dignity of either women or men) during my time in the doctoral program	Completely agree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Completely disagree
2.11	I have experienced psychological harassment, mobbing or bullying during my time in the doctoral program	Completely agree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Completely disagree
2.12	I feel that other doctoral students in my doctoral program are supportive	Completely agree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Completely disagree
2.13	The doctoral program provides opportunities for me to become involved in the broader research culture	Completely agree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Completely disagree
2.14	The lab provides opportunities for me to become involved in the broader research culture	Completely agree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Completely disagree
2.15	The doctoral program provides opportunities to become involved in an international research environment	Completely agree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Completely disagree
2.16	The lab provides opportunities to become involved in an international research environment	Completely agree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Completely disagree
2.17	Interaction with other doctoral students is actively encouraged in my doctoral program	Completely agree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Completely disagree
2.18	I feel respected as a fellow researcher in my doctoral program	Completely agree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Completely disagree
2.19	A good seminar programme for doctoral students is provided	Completely agree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Completely disagree
2.20	The range of courses available to doctoral students meets my needs	Completely agree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Completely disagree
2.21	The research environment in the doctoral program stimulates my work	Completely agree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Completely disagree
2.22	The research environment in the lab stimulates my work	Completely agree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Completely disagree
2.23	I have developed an awareness of the wider research community in my discipline as a whole	Completely agree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Completely disagree

3. Your Experiences doing Doctoral Research (Continued)

3.1	My research has further developed my problem-solving skills	Completely agree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Completely disagree
3.2	I have improved my ability to communicate information effectively to diverse audiences	Completely agree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Completely disagree
3.3	I have developed my skills in critical analysis and evaluation	Completely agree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Completely disagree
3.4	My research has helped to develop my awareness of what I need to manage my own career progression	Completely agree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Completely disagree
3.5	I have improved my ability to plan and manage my time effectively	Completely agree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Completely disagree
3.6	As a result of my research, I feel confident about tackling unfamiliar problems	Completely agree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Completely disagree
3.7	As a result of my research, I have developed the ability to work collaboratively with other researchers	Completely agree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Completely disagree
3.8	I have gained confidence in leading and influencing others	Completely agree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Completely disagree
3.9	I have improved my ability to design and implement projects effectively	Completely agree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Completely disagree
3.10	As a result of my research, I have developed the ability to learn independently	Completely agree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Completely disagree
3.11	I have developed my understanding of research integrity (e.g. rigour, ethics, transparency, attributing the contribution of others)	Completely agree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Completely disagree
3.12	I have access to a suitable working space	Completely agree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Completely disagree
3.13	I have good access to the technical support I need	Completely agree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Completely disagree

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3. Your Experiences doing Doctoral Research (Continued) [suite]

3.14	I can organize good access to necessary equipment	Completely agree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Completely disagree
3.15	I have good access to computing facilities and services	Completely agree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Completely disagree
3.16	There is appropriate financial support for research activities	Completely agree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Completely disagree
3.17	I can achieve an appropriate work-life balance	Completely agree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Completely disagree
3.18	The administration in the doctoral program and lab are effective in supporting my research	Completely agree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Completely disagree
3.19	I understand the quality of work expected of me	Completely agree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Completely disagree
3.20	I understand the quality level required for the dissertation	Completely agree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Completely disagree
3.21	I understand the process for the candidacy exam at the end of the first year	Completely agree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Completely disagree
3.22	I understand the purpose of the annual report process	Completely agree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Completely disagree
3.23	I understand the requirements of the overall thesis examination	Completely agree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Completely disagree
3.24	I am confident I can apply my skills outside the university sector	Completely agree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Completely disagree
3.25	I have opportunities to develop professional connections outside the university sector	Completely agree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Completely disagree
3.26	I have opportunities to work on research problems with real-world or industry applications	Completely agree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Completely disagree
3.27	Overall I am satisfied with the quality of my PhD experience	Completely agree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Completely disagree

The next three questions ask you to estimate how often you have undertaken different kinds of tasks in the last 12 months.

3.28	In the last 12 months, how regularly did you meet your supervisor (choose the option that is the closest approximation to your situation)?	<input type="checkbox"/> More often than once per week	<input type="checkbox"/> About once per week	<input type="checkbox"/> About once every two weeks
		<input type="checkbox"/> About once per month	<input type="checkbox"/> Less often than once per month	
3.29	In the last 12 months, have you attended a research conference or workshop (please select all that apply)?	<input type="checkbox"/> Local research workshop/ network meeting	<input type="checkbox"/> Swiss national-level conference	<input type="checkbox"/> International conference
3.30	In the last 12 months, what forms of teaching, if any, have you been assigned in EPFL (please select all that apply)?	<input type="checkbox"/> Master project supervision	<input type="checkbox"/> Other student project supervision	<input type="checkbox"/> Laboratory teaching assistant
		<input type="checkbox"/> Teaching assistant in exercise sessions	<input type="checkbox"/> Teaching assistant on a MOOC	<input type="checkbox"/> Development of teaching materials
		<input type="checkbox"/> Other		

4. Negative workplace experiences

This section asks about potentially negative experiences you may have had during your PhD studies at EPFL.

The following behaviours are often seen as examples of negative workplace behaviour. Over the **last six months**, how often have you experienced the following negative acts in EPFL while working on your PhD?

4.1	Someone withholding information which affects your performance	<input type="checkbox"/> Never	<input type="checkbox"/> Now and then	<input type="checkbox"/> Monthly
		<input type="checkbox"/> Weekly	<input type="checkbox"/> Daily	
4.2	Spreading gossip and rumours about you	<input type="checkbox"/> Never	<input type="checkbox"/> Now and then	<input type="checkbox"/> Monthly
		<input type="checkbox"/> Weekly	<input type="checkbox"/> Daily	
4.3	Being ignored by people at work	<input type="checkbox"/> Never	<input type="checkbox"/> Now and then	<input type="checkbox"/> Monthly
		<input type="checkbox"/> Weekly	<input type="checkbox"/> Daily	

4. Negative workplace experiences [suite]

- | | | | | |
|------|--|---------------------------------|---------------------------------------|----------------------------------|
| 4.4 | Having insulting or offensive remarks made about you (i.e. habits, background, attitude or private life) | <input type="checkbox"/> Never | <input type="checkbox"/> Now and then | <input type="checkbox"/> Monthly |
| | | <input type="checkbox"/> Weekly | <input type="checkbox"/> Daily | |
| 4.5 | Being shouted at | <input type="checkbox"/> Never | <input type="checkbox"/> Now and then | <input type="checkbox"/> Monthly |
| | | <input type="checkbox"/> Weekly | <input type="checkbox"/> Daily | |
| 4.6 | Repeated reminders of your errors or mistakes | <input type="checkbox"/> Never | <input type="checkbox"/> Now and then | <input type="checkbox"/> Monthly |
| | | <input type="checkbox"/> Weekly | <input type="checkbox"/> Daily | |
| 4.7 | Facing a hostile reaction when you approach others | <input type="checkbox"/> Never | <input type="checkbox"/> Now and then | <input type="checkbox"/> Monthly |
| | | <input type="checkbox"/> Weekly | <input type="checkbox"/> Daily | |
| 4.8 | Persistent criticism of your work or performance | <input type="checkbox"/> Never | <input type="checkbox"/> Now and then | <input type="checkbox"/> Monthly |
| | | <input type="checkbox"/> Weekly | <input type="checkbox"/> Daily | |
| 4.9 | Being the subject of unwanted practical jokes | <input type="checkbox"/> Never | <input type="checkbox"/> Now and then | <input type="checkbox"/> Monthly |
| | | <input type="checkbox"/> Weekly | <input type="checkbox"/> Daily | |
| 4.10 | Coming under pressure to work unreasonable hours or during holidays | <input type="checkbox"/> Never | <input type="checkbox"/> Now and then | <input type="checkbox"/> Monthly |
| | | <input type="checkbox"/> Weekly | <input type="checkbox"/> Daily | |

5. Perceived Stress Levels

The questions in this scale are designed to identify how stressed you feel.

This scale asks about your feelings and thoughts **during the last month**. In each case, you will be asked to indicate how often you felt or thought a certain way. Although some of the questions are similar, there are differences between them and you should treat each one as a separate question. The best approach is to answer fairly quickly. That is, don't try to count up the number of times you felt a particular way; rather indicate the option that seems like a reasonable estimate.

- | | | | | |
|------|--|---------------------------------------|---------------------------------------|------------------------------------|
| 5.1 | In the last month, how often have you been upset by something that happened unexpectedly? | <input type="checkbox"/> Never | <input type="checkbox"/> Almost never | <input type="checkbox"/> Sometimes |
| | | <input type="checkbox"/> Fairly often | <input type="checkbox"/> Very often | |
| 5.2 | In the last month, how often have you felt that you were unable to control the important things in your life? | <input type="checkbox"/> Never | <input type="checkbox"/> Almost never | <input type="checkbox"/> Sometimes |
| | | <input type="checkbox"/> Fairly often | <input type="checkbox"/> Very often | |
| 5.3 | In the last month, how often have you felt nervous and "stressed"? | <input type="checkbox"/> Never | <input type="checkbox"/> Almost never | <input type="checkbox"/> Sometimes |
| | | <input type="checkbox"/> Fairly often | <input type="checkbox"/> Very often | |
| 5.4 | In the last month, how often have you felt confident in your ability to handle your personal problems? | <input type="checkbox"/> Never | <input type="checkbox"/> Almost never | <input type="checkbox"/> Sometimes |
| | | <input type="checkbox"/> Fairly often | <input type="checkbox"/> Very often | |
| 5.5 | In the last month, how often have you felt that things were going your way? | <input type="checkbox"/> Never | <input type="checkbox"/> Almost never | <input type="checkbox"/> Sometimes |
| | | <input type="checkbox"/> Fairly often | <input type="checkbox"/> Very often | |
| 5.6 | In the last month, how often have you found that you could not cope with all the things that you had to do? | <input type="checkbox"/> Never | <input type="checkbox"/> Almost never | <input type="checkbox"/> Sometimes |
| | | <input type="checkbox"/> Fairly often | <input type="checkbox"/> Very often | |
| 5.7 | In the last month, how often have you been able to control irritations in your life? | <input type="checkbox"/> Never | <input type="checkbox"/> Almost never | <input type="checkbox"/> Sometimes |
| | | <input type="checkbox"/> Fairly often | <input type="checkbox"/> Very often | |
| 5.8 | In the last month, how often have you felt that you were on top of things? | <input type="checkbox"/> Never | <input type="checkbox"/> Almost never | <input type="checkbox"/> Sometimes |
| | | <input type="checkbox"/> Fairly often | <input type="checkbox"/> Very often | |
| 5.9 | In the last month, how often have you been angered because of things that were outside of your control? | <input type="checkbox"/> Never | <input type="checkbox"/> Almost never | <input type="checkbox"/> Sometimes |
| | | <input type="checkbox"/> Fairly often | <input type="checkbox"/> Very often | |
| 5.10 | In the last month, how often have you felt difficulties were piling up so high that you could not overcome them? | <input type="checkbox"/> Never | <input type="checkbox"/> Almost never | <input type="checkbox"/> Sometimes |
| | | <input type="checkbox"/> Fairly often | <input type="checkbox"/> Very often | |

6. Personal Well-being

Over the **last two weeks**, how often have you been bothered by any of the following problems?

- | | | | | |
|-----|--|---|---------------------------------------|--|
| 6.1 | Little interest or pleasure in doing things? | <input type="checkbox"/> Not at all | <input type="checkbox"/> Several days | <input type="checkbox"/> More than half the days |
| | | <input type="checkbox"/> Nearly every day | | |
| 6.2 | Feeling down, depressed, or hopeless? | <input type="checkbox"/> Not at all | <input type="checkbox"/> Several days | <input type="checkbox"/> More than half the days |
| | | <input type="checkbox"/> Nearly every day | | |
| 6.3 | Trouble falling or staying asleep, or sleeping too much? | <input type="checkbox"/> Not at all | <input type="checkbox"/> Several days | <input type="checkbox"/> More than half the days |
| | | <input type="checkbox"/> Nearly every day | | |

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6. Personal Well-being [suite]

- | | | | | |
|-----|--|---|---------------------------------------|--|
| 6.4 | Feeling tired or having little energy? | <input type="checkbox"/> Not at all | <input type="checkbox"/> Several days | <input type="checkbox"/> More than half the days |
| | | <input type="checkbox"/> Nearly every day | | |
| 6.5 | Poor appetite or overeating? | <input type="checkbox"/> Not at all | <input type="checkbox"/> Several days | <input type="checkbox"/> More than half the days |
| | | <input type="checkbox"/> Nearly every day | | |
| 6.6 | Feeling bad about yourself - or that you are a failure or have let yourself or your family down? | <input type="checkbox"/> Not at all | <input type="checkbox"/> Several days | <input type="checkbox"/> More than half the days |
| | | <input type="checkbox"/> Nearly every day | | |
| 6.7 | Trouble concentrating on things, such as reading the newspaper or watching television? | <input type="checkbox"/> Not at all | <input type="checkbox"/> Several days | <input type="checkbox"/> More than half the days |
| | | <input type="checkbox"/> Nearly every day | | |
| 6.8 | Moving or speaking so slowly that other people could have noticed?
Or the opposite - being so fidgety or restless that you have been moving around a lot more than usual? | <input type="checkbox"/> Not at all | <input type="checkbox"/> Several days | <input type="checkbox"/> More than half the days |
| | | <input type="checkbox"/> Nearly every day | | |
| 6.9 | Thoughts that you would be better off dead, or of hurting yourself in some way? | <input type="checkbox"/> Not at all | <input type="checkbox"/> Several days | <input type="checkbox"/> More than half the days |
| | | <input type="checkbox"/> Nearly every day | | |

If you would like to talk to someone about any of the issues raised in this questionnaire, please contact the Head of Student Affairs (+41) 021 693 2284

7. Teaching Challenges and Strengths

This section asks questions about teaching.

The questions are designed to help us get a better understanding of the kinds of things that create difficulties for doctoral teaching assistants. Please indicate how strongly you 'agree' or 'disagree' with each statement.

I am confident that I know how to...

- | | | | | | | | | |
|------|--|------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|---------------------|
| 7.1 | ...appropriately assess or grade students' work | Completely agree | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Completely disagree |
| 7.2 | ...provide good explanations or examples when students are confused | Completely agree | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Completely disagree |
| 7.3 | ...prepare for teaching | Completely agree | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Completely disagree |
| 7.4 | ...manage classroom disruption | Completely agree | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Completely disagree |
| 7.5 | ...think up good questions for students | Completely agree | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Completely disagree |
| 7.6 | ...provide students with detailed feedback | Completely agree | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Completely disagree |
| 7.7 | ...stay up to date with the material being taught | Completely agree | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Completely disagree |
| 7.8 | ...respond well to difficult questions | Completely agree | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Completely disagree |
| 7.9 | ...encourage students to figure things out for themselves rather than waiting for things to be explained to them | Completely agree | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Completely disagree |
| 7.10 | ...get through to even the most challenging students | Completely agree | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Completely disagree |
| 7.11 | ...promote students' confidence in themselves | Completely agree | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Completely disagree |
| 7.12 | ...create a positive learning environment for all students irrespective of their gender, ethnicity or language | Completely agree | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Completely disagree |
| 7.13 | ...encourage students to learn through interacting with each other | Completely agree | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Completely disagree |

7. Teaching Challenges and Strengths [suite]

7.14 ...let students take the initiative in their own learning Completely agree Completely disagree

8. Your Final Thoughts and Your Demographic Information

We would like to know if you have any further thoughts that you would like to share.

8.1 What are the most positive things about doing a PhD at EPFL?

8.2 What are the most negative things about doing a PhD at EPFL?

In order to be able to better understand how experiences differ across the campus, we would like to ask you some demographic questions.

The purpose of this questionnaire is to look at general patterns and not to look at the experience or responses of any individual. Please note that this questionnaire is **anonymous**. It does not collect any identifying information such as name or SCIPER ID and any reporting from this questionnaire will ensure that no individual responses are identifiable.

8.3 In which doctoral program are you registered?

- | | | |
|--|---|---|
| <input type="checkbox"/> Advanced Manufacturing (EDAM) | <input type="checkbox"/> Architecture & Sciences of the City (EDAR) | <input type="checkbox"/> Biotechnology & Bioengineering (EDBB) |
| <input type="checkbox"/> Computational & Quantitative Biology (EDCB) | <input type="checkbox"/> Civil & Environmental Engineering (EDCE) | <input type="checkbox"/> Chemistry & Chemical Engineering (EDCH) |
| <input type="checkbox"/> Digital Humanities (EDDH) | <input type="checkbox"/> Electrical Engineering (EDEE) | <input type="checkbox"/> Energy (EDEY) |
| <input type="checkbox"/> Finance (EDFI) | <input type="checkbox"/> Computer & Communication Sciences (EDIC) | <input type="checkbox"/> Mathematics (EDMA) |
| <input type="checkbox"/> Mechanics (EDME) | <input type="checkbox"/> Microsystems & Microelectronics (EDMI) | <input type="checkbox"/> Molecular Life Sciences (EDMS) |
| <input type="checkbox"/> Management of Technology (EDMT) | <input type="checkbox"/> Materials Science & Engineering (EDMX) | <input type="checkbox"/> Neuroscience (EDNE) |
| <input type="checkbox"/> Photonics (EDPO) | <input type="checkbox"/> Physics (EDPY) | <input type="checkbox"/> Robotics, Control & Intelligent Systems (EDRS) |

8.4 What is your school?

- | | | |
|---|--|--|
| <input type="checkbox"/> Architecture, Civil and Environmental Engineering (ENAC) | <input type="checkbox"/> Basic Sciences (SB) | <input type="checkbox"/> College of Humanities (CDH) |
| <input type="checkbox"/> Computer and Communication Sciences (IC) | <input type="checkbox"/> Engineering (STI) | <input type="checkbox"/> Life Sciences (SV) |
| <input type="checkbox"/> Management of Technology (CDM) | | |

8.5 How long is it since you began your PhD in EPFL?

- | | | |
|---|---|--|
| <input type="checkbox"/> I am in my first year | <input type="checkbox"/> I am in my second year | <input type="checkbox"/> I am in my third year |
| <input type="checkbox"/> I am in my fourth year | <input type="checkbox"/> I started more than four years ago | |

8.6 What is your gender?

- | | | |
|---------------------------------|-------------------------------|--------------------------------|
| <input type="checkbox"/> Female | <input type="checkbox"/> Male | <input type="checkbox"/> Other |
|---------------------------------|-------------------------------|--------------------------------|

8. Your Final Thoughts and Your Demographic Information [suite]

- 8.7 Where are you normally based during your doctoral work?
- | | | |
|--|---|--|
| <input type="checkbox"/> EPFL Main Campus (Lausanne) | <input type="checkbox"/> EPFL Antena Campus (Sion, Neuchatel, Geneva or Fribourg) | <input type="checkbox"/> Not on an EPFL campus (e.g., CERN; PSI; Industry, etc.) |
|--|---|--|
- 8.8 Where did you complete your degree which qualified you for entry to an EPFL doctoral program?
- | | | |
|--|---|--|
| <input type="checkbox"/> EPF/ETH Institution | <input type="checkbox"/> Another Swiss University | <input type="checkbox"/> A non-Swiss European University |
| <input type="checkbox"/> The Americas | <input type="checkbox"/> Africa | <input type="checkbox"/> Asia and Oceania |