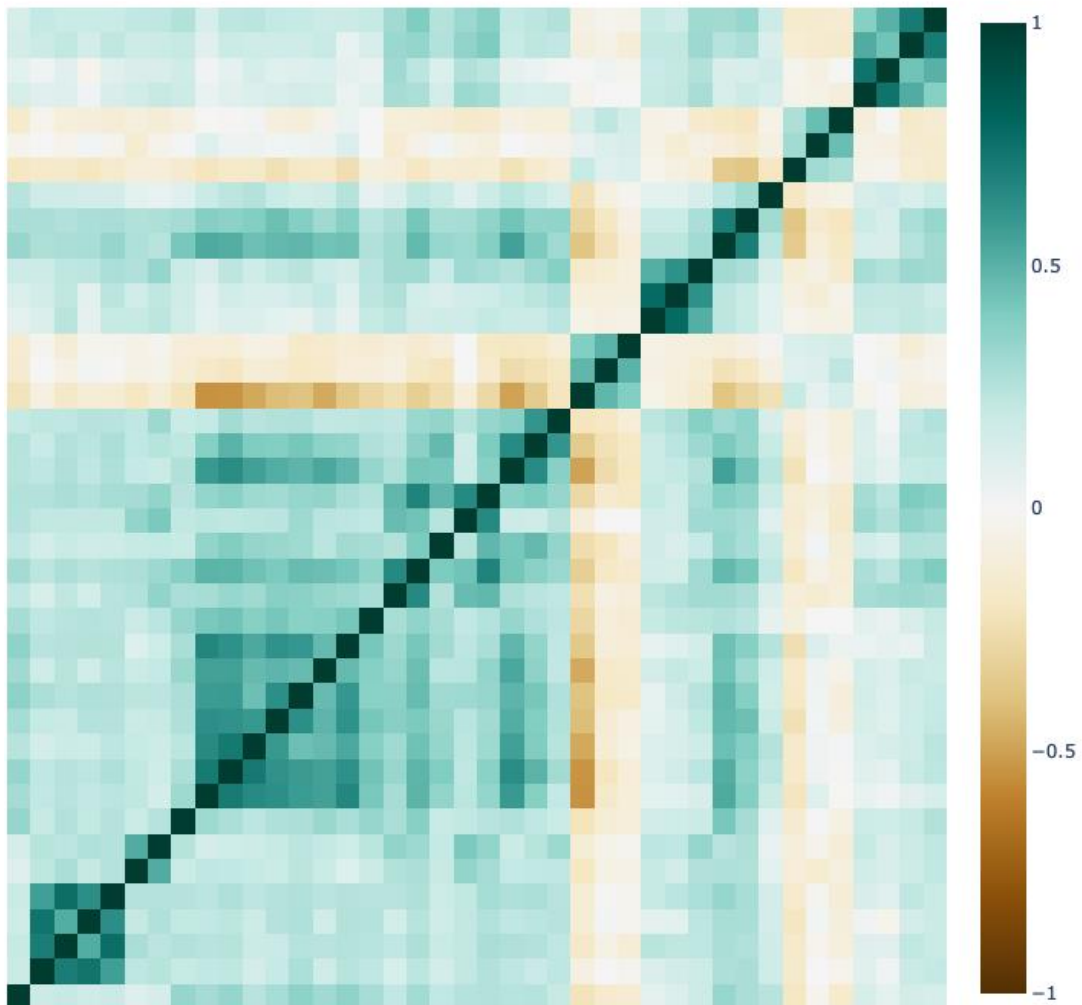


DS SURVEY REPORT 2020

Doctoral student survey 2020

This report summarizes the results of the doctoral student survey 2020.
The doctoral student survey is executed biennially by the Chalmers Doctoral Student Guild.



Chalmers Doctoral Student Guild
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General information about the survey

The survey was carried out between February 19th and March 18th, 2020.

It was sent out via e-mail to all doctoral students registered in the student union during that time.

In total, 468 doctoral students participated in the survey. Of the respondents, 162 (34.6%) were women, 287 (61.3%) were men and 19 (4.1%) were non-binary or did not specify their gender. 195 (41.7%) of the respondents were Swedish, 245 (52.4%) were not Swedish, and 28 (6%) did not specify a country of origin or did not fit into this classification.

Table 1: Response rate by department

Departments	Response rate ¹
ACE - Architecture and Civil Engineering	64% (48%/75%)
BIO - Biology and Biological Engineering	67% (66%/52%)
CSE - Computer Science and Engineering	43% (34%/41%)
E2 - Electrical Engineering	54% (50%/68%)
F - Physics	52% (53%/45%)
IMS - Industrial and Material Science	40% (39%/38%)
K - Chemistry and Chemical Engineering	51% (52%/48%)
M2 - Mechanics and Maritime Sciences	61% (52%/87%)
MC2 - Microtechnology and Nanoscience	31% (25%/43%)
MV - Mathematical Sciences	50% (50%/50%)
SEE - Space, Earth and Environment	48% (47%/50%)
TME - Technology Management and Economics	64% (55%/66%)
Chalmers	51% (46%/56%)

The respondents answered about 100 questions on their experiences at Chalmers regarding focus fields Research education, Supervision, Employment, Departmental duties, Work environment, Health and well-being and Support systems.

In the following, first a summary of the highlights ('What is working well?') is presented. Then, issues that were observed in the survey are summarized by focus area. The selection of topics is based both on the quantitative analysis of the survey data as well as a qualitative assessment of the comments in each section. Furthermore, two indicator statements are evaluated based on different sub-groups to identify statistically significant trends within respective groups. Lastly, the high levels of reported stress are investigated more in depth.

This report is intended as a tool to focus the efforts of the Chalmers Doctoral Student Guild (DS) as well as the relevant bodies in the Chalmers administration in the upcoming two years.

A quantitative analysis of most of the questions per department can be found at https://www.dokt.chs.chalmers.se/ds_survey_2020/chalmers_overview.html

¹ Response rate of Chalmers-employed Ph.D. students (excluding industrial Ph.D. students), based on employment data from March 2020. Response rate by gender specified in parenthesis (male/female).

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Highlights – what is working well?

- Doctoral students feel involved and taken seriously. 87% state that they feel that their ideas matter and are considered.
- Generally, the immediate working climate is perceived as very well. 86% of the respondents agree that there is an atmosphere of openness and trust in their research team.
- Most doctoral students are satisfied with their supervision. 84% of the students agree or strongly agree that the interaction with their supervisor(s) works well overall. In the same way, 82% of doctoral students feel that their supervisor acts in their best interest and 81% agree that their supervisor cares for their personal well-being.
- Of all respondents, 75% agree or strongly agree that they are overall satisfied with their life as doctoral students. For many departments, this number is close to 80%.

Focus areas

Research education

- Only half (53%) of the respondents agreed to be familiar with the objectives for a doctoral degree set by Chalmers. The doctoral students have a higher familiarity (72%) with the requirements set by their research school.
- Many doctoral students state that their graduate school does not offer sufficiently many courses at a doctoral level to satisfy the minimum credits required for their doctoral education (39.5%), or that the offered courses are irrelevant to their research (28.2%). Further, PhD-students experience that it is difficult to find courses, for example available options outside of their research schools.
- Only about half of the respondents (48%) feel that their education prepares them for a continued career after the PhD education.

Supervision

- Only 62% of the respondents agreed that their supervisors have clear expectations on them.
- There is a difference between male and female doctoral students regarding whether they feel that their supervisor(s) act in their best interest. Female doctoral students are more likely to feel that their supervisor(s) do not act in their best interest, see Figure 1: Responses to the question "I feel that my supervisor(s) acts in my best interest", separated by gender (the 'male' columns and 'female' columns each add up to 100%). Almost 10% of women (compared to 4% of men) stated that they disagree or strongly disagree that their supervisors act in their best interest.

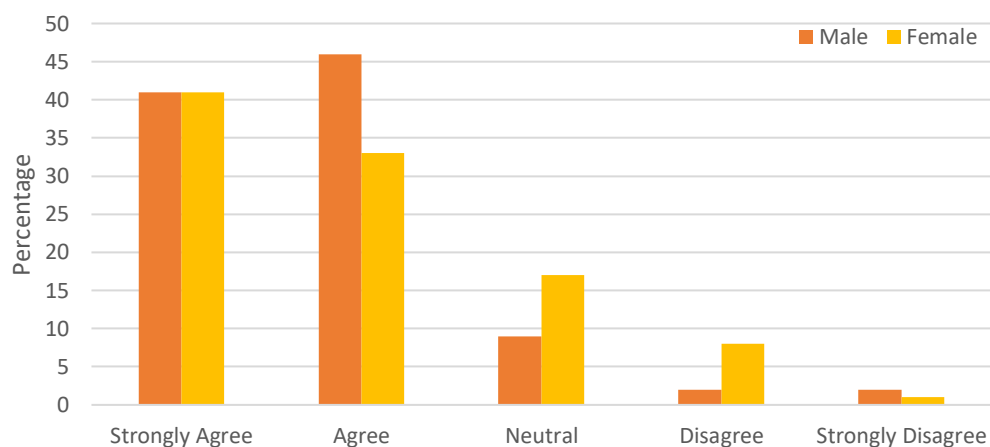


Figure 1: Responses to the question "I feel that my supervisor(s) acts in my best interest", separated by gender (the 'male' columns and 'female' columns each add up to 100%).

- 75% of the doctoral students know where to seek help when they experience a problem with their supervision. However, only 66% feel safe seeking help. 9% do not know how to seek help, and 14% do not feel safe seeking help when experiencing problems in their supervision. Not feeling safe to seek for help and therefore not addressing problems with supervision early often leads to larger problems later on.

Employment

- The opinions are split about whether the hiring freeze will have a negative effect on the doctoral student's research and departmental duties. 43% think it will, whereas 26% do not think they will be affected. Those who commented expressed a fear of an indirect negative effect, as the hiring freeze may affect other colleagues and key stakeholders.

Departmental duties

- Only 43% of doctoral students agree or strongly agree that the official records of hours spent on departmental duties reflect the actual hours spent on departmental duties. Multiple comments state that no such records of departmental duties exist (to their knowledge). Only 53% of respondents state that these records are transparent to them. This is also reflected in the number of students who keep track of the time spend on departmental duties (64.3%). Some commented that even though they tracked their time and reported them, they were not given the hours to prolong their employment.
- Significantly more female doctoral students (56%) than male doctoral students (42%) experienced negative stress because of departmental duties during the last year, see Figure 2.

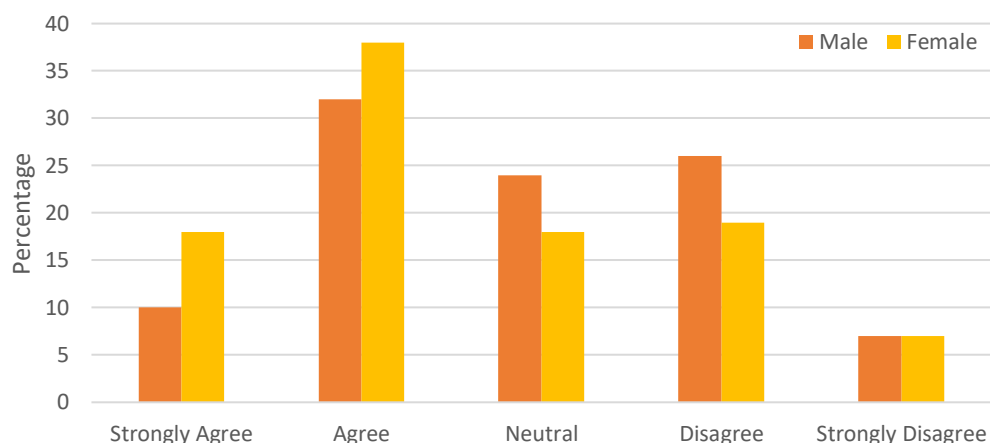


Figure 2: Responses to the question 'I feel or have felt during the past year negative stress because of departmental duties.', separated by gender.

Work environment

- There is a difference between male and female doctoral students regarding whether there is an atmosphere of openness and trust in their research team. 11% of female doctoral students, compared to 6% of male doctoral students, disagree or strongly disagree that there is an atmosphere of openness and trust in their research team. This approximate 2:1 trend is seen on division level (women 12% / men 6.6%) and on department level (women 20% / men 10%).
- 15% of female doctoral students state that they have been negatively affected by conflicts with supervisors in the last year, compared to 8% of male doctoral students.

Health and well-being

- 13% of doctoral students feel that they are expected to work when on vacation.
- About 15% of doctoral students have worked while on sick leave during the last year. About 18% said that they do not report sick leave.
- Most of the doctoral students (74%) have experienced negative stress because of their research.
- Only half of doctoral students (53%) agree or strongly agree that they feel safe seeking help when experiencing mental illness. Reasons mentioned for not seeking help were that seeking help for mental illness is stigmatized, or they did not want their manager or supervisor to know.
- 4 of 5 doctoral students experience symptoms of stress because of work related issues. Female doctoral students are more likely to experience these symptoms than male doctoral students (see Figure 3).
- The agencies which aid in counseling for mental and physical illnesses at Chalmers are perceived as non-visible and hard to find.

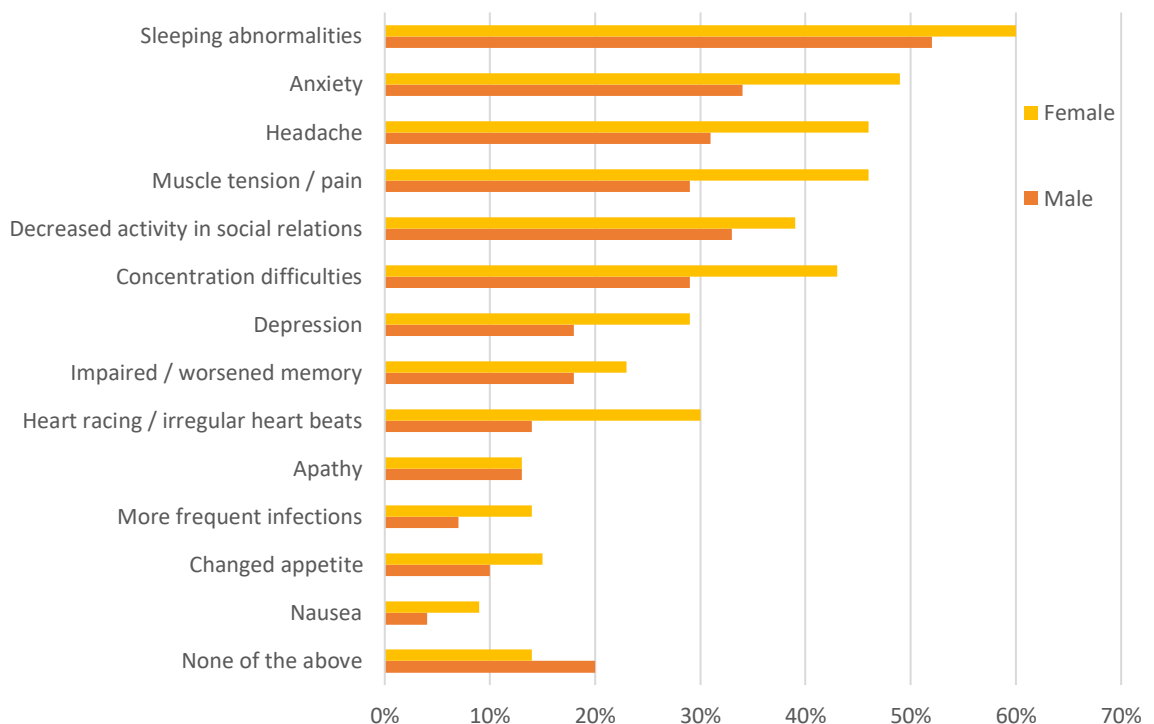


Figure 3: Self-reported occurrences of symptoms of stress. Answers to the question 'I have experienced the following symptoms during the last year because of work related issues:'. Multiple answers possible.

Support systems

- Some doctoral students do not know that the Doktorandombud (DOMB) can help them in their situation (19%), and 16% do not know that the DOMB exists.
- There is no (visible) Chalmers-wide routine or welcoming service to help international PhD students into the Swedish systems (such as healthcare and housing).

Indicators

The purpose of this section is to evaluate the general level of satisfaction and stress for different sub-groups (Department, Gender, Nationality, Year of enrollment).

The following two statements are used as indicators for these general levels:

1. *"I think that in general, I am satisfied with my life as a doctoral student."*
2. *"I think that in general, my work situation affects my personal life positively."*

The respondents were asked to what extent they agreed to these phrases. The responses for the first statement were used to measure a general satisfaction level for different sub-groups and the second statement as an indication of the level of stress. The reason for using both these statements instead of just one is the curious observation that even though we may observe high levels of negative stress in the responses, the overall satisfaction level is high. It is possible that answering to *"I am satisfied with my life as a doctoral student"* may be biased by expectations on what it means to be a Ph.D. student, as for example high levels of negative stress might be expected / tolerated. By adding the second statement *"My work situation affects my personal life positively"*; it may help display the effect that the time spent at work has on each person.

When asked to what extent they agreed to these two statements, the respondents were able to choose between Strongly agree, Agree, Neutral, Disagree and Strongly disagree. The first graph in Figure 4 displays the answers for each statement. The left column shows the answers to statement 1, *"I think that in general, I am satisfied with my life as a doctoral student"*. As mentioned in the Highlights section, it shows that 75% of the participants either Agree or Strongly agree to that statement. Another 15% answered Neutral, and around 10% answered Disagree or Strongly disagree. When looking at statement 2 *"the effect of the work situation on the personal life"*, the results show that 47% of doctoral students feel that work has a positive impact on their lives, while 27% answered with Neutral and 26% disagreed or strongly disagreed.

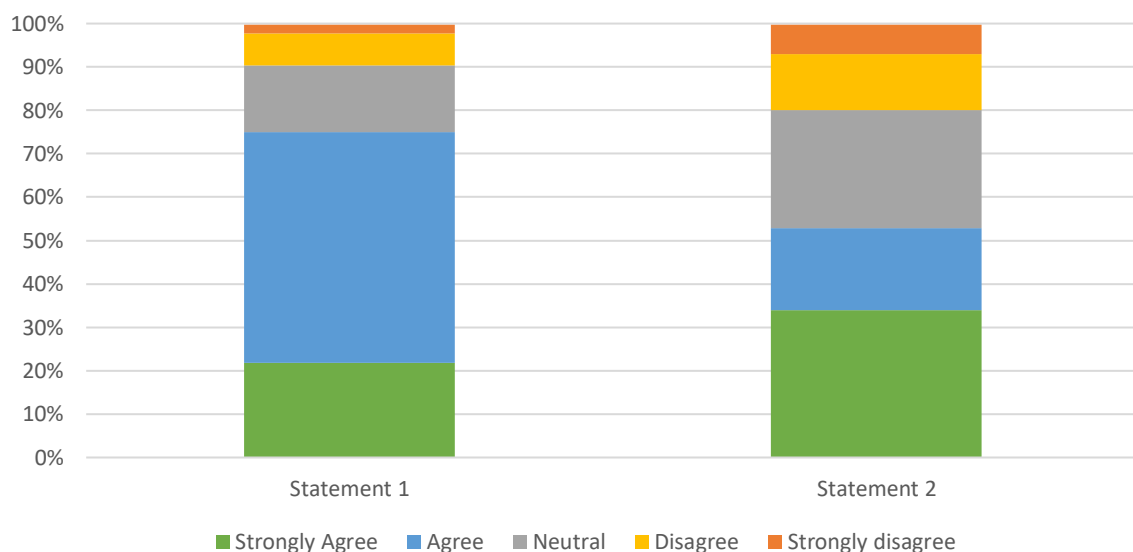


Figure 4: Response to general satisfaction indicators.

Indicators by sub-groups

To better understand trends in the total population, the results were filtered by the following criteria and then analyzed individually:

- Department
- Gender
- Nationality
- Year of enrollment

To reduce the complexity of the graphs, the subsequent graphs focus on the groups that state 'Agree' or 'Strongly agree' with the statements (the 'Neutral' responses were removed). Further, the two indicators are just called "Statement 1" and "Statement 2".

The agreement to statement 1: *"I think that in general, I am satisfied with my life as a doctoral student."* varies between the different departments, from 54% at ACE and 86% at SEE, see Figure 5. Regarding statement 2: *"I think that in general, my work situation affects my personal life positively"*, the level of agreement of respondents is on average lower than for statement 1. For example, students from CSE (that for statement 1 showed a level of agreement of 74%) showed an average level of agreement of 32% for statement 2. Doctoral students within the departments of SEE and E2, which for statement 1 showed average levels of agreement above 80%, for statement 2, only 44% of SEE doctoral students agree and 51% for E2. Doctoral students within the department of IMS have the highest percentage of agreement with statement 2; 64%. The difference between perceptions of the statements is systematic across departments. Less doctoral students agree that work is having a positive influence on their lives.



Figure 5: Satisfaction indicators, by department.

In Figure 6, the percentage of agreement to these statements by the year of enrollment is represented. Results show that new doctoral students, on average have a higher level of satisfaction than doctoral students that have been enrolled for a longer time. For the first statement, on average doctoral students enrolled in 2020 90% agree to be satisfied with

student life whereas 65% of the doctoral students that started in 2015 agreed on the statement. A similar trend is followed by statement 2.

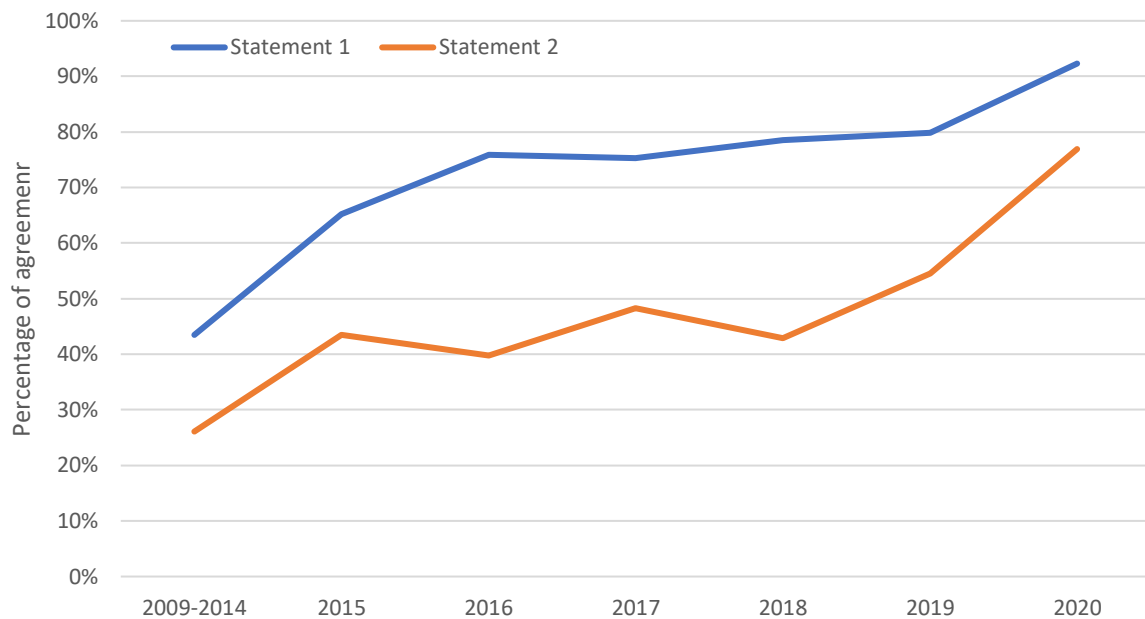


Figure 6: Satisfaction indicators, by year of enrollment

Figure 7 shows the agreement with the statements separated by gender. While 78% of the male doctoral students agree or strongly agree with Statement 1, only 71% of female doctoral students agree. A 6% difference is found for statement 2, where men indicate a higher positive effect of work on their private life.



Figure 7: Satisfaction indicators, by gender.

In Figure 8 the satisfaction indicators are presented based on the specified nationality of the participants. While no large difference seems to be present in statement 1, international Ph.D. students seem to more often experience a positive effect of their work on their private life, finding a 43% agreement with statement 2 for Swedes compared to 51% agreement for internationals.

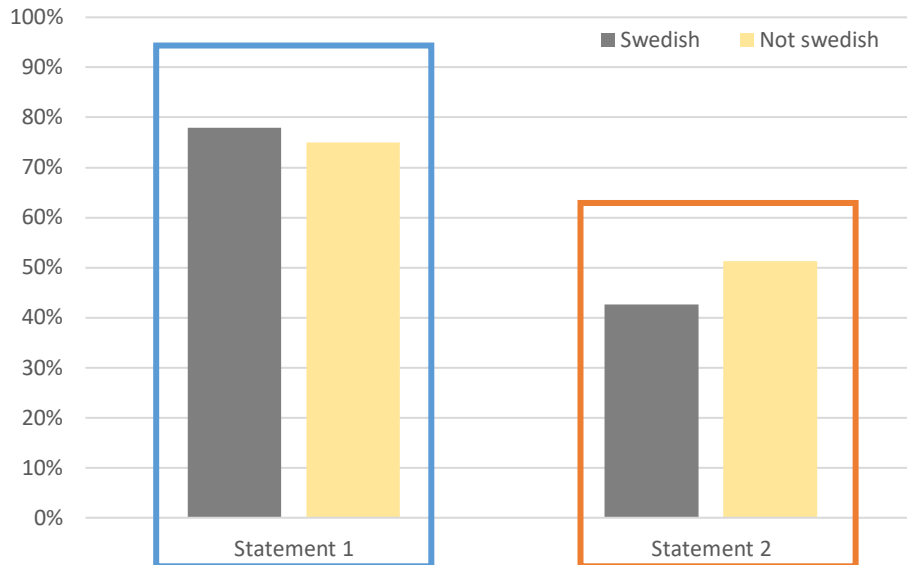


Figure 8: Satisfaction indicators, by nationality.

Test for statistical significance

To understand to what extent the differences found in these groups is relevant and statistically significant, mean comparison tests are calculated. The two tables below have the same structure, Table 2 shows the differences for statement 1, and Table 3 shows the results for statement 2. For instance, the percentage of agreement with student life was 75.5%. Within male doctoral students 71% agreed to this statement, and within female doctoral students 78%. The difference between groups is 7,3% and this result is statistically significant at 5%. Meaning that with a 95% of confidence we can affirm that men (on average) agree more than women with statement 1.

Table 2: Mean test comparison for statement 1²

Variable	N	Mean	Diff	Sig
Sub group				
Student life satisfaction	448	75,7%		
Male	286	78,3%	7,3%	**
Female	162	71,0%		
Swedish	272	73,2%	-4,8%	
Non-Swedish	195	77,9%		
No ISP	58	58,6%	-19,0%	***
With ISP	388	77,6%		
Exam=Sup	128	79,7%	6,0%	
Exam!=Sup	327	73,7%		
Good relation with supervisor	195	72,8%	38,2%	***
Not good relation with supervisor	75	34,7%		
No signs of Stress	96	94%	23,4%	***
Signs of stress	371	70%		
Keep track of time	257	72%	-4,2%	
Do not keep track	128	77%		
Transparent time track	186	81%	17,1%	***
Non-transparent time track	170	64%		
Reflect actual time spent	151	84%	18,4%	***
Do not reflect actual time spent	204	66%		

² Note: * Statistically significant at 10%, ** statistically significant at 5% and *** statistically significant at 1%

Agreement for statement 1: *“I think that in general, I am satisfied with my life as a doctoral student.”*

Differences in gender, having a good relationship with the supervisor(s), not having symptoms of stress, having an updated ISP and a transparent handling of departmental duty hour tracking are found to be statistically significant (meaning that a systematic difference between groups is observed).

- 73% of doctoral students that declared to have a good relationship with their supervisor agree with statement 1, compared with 35% among those that do not have a good relationship. This difference is statistically significant.
- 94 % of doctoral students that declared not to be stressed with their work agree with statement 1 and this percentage decreases to 70% for those students which declared to be stressed. This difference is found to be statistically significant. A good relationship with their supervisor agrees with statement 1, compared with 35% among those that do not have a good relationship. This difference is statistically significant.
- 59% of doctoral students without an updated ISP, agree to be satisfied with their student life, whereas 78% of the doctoral students with an up-to-date ISP agree with the statement.
- Regarding the department it can be appreciated that students that believe that the time tracking in the department is transparent, on average the level of student life satisfaction reaches 84%, while for those students that stated the time tracking was not transparent, on average the student life satisfaction dropped to 64%. Similar results are found if the departmental duties times reflect reality. Both results being statistically significant.

Agreement for statement 2: *“I think that in general, my work situation affects my personal life positively”*

Swedish nationality, having a good relationship with the supervisor, and declaring to have no signs of stress are found to be statistically significant variables.

- Experiencing symptoms of stress shows the biggest difference (35%). 75% of the students that are not stressed agreed on the fact that work has a positive effect on life, but for the students that showed signs of stress the percentage of agreement decreases to 40%.
- The second biggest factor showing differences is having a good relationship with their supervisors. Students that reported having a good relationship on average 46% of them believe that work affects positively their lives, but for the other group this percentage decreases to 16%.
- Transparency in tracking departmental duties and reflecting actual times spent on the tasks are also statistically significant factors to explain how work affects life.

Table 3: Mean test comparison for statement 2²

Variable Sub group	N	Mean	Diff	Sig
Work has a possitive effect	448	47,8%		
Male	286	49,7%	5,2%	
Female	162	44,4%		
Swedish	195	42,6%	-7,4%	*
Non-Swedish	272	50,0%		
No ISP	58	39,7%	-7,8%	
With ISP	388	47,4%		
Exam=Sup	128	45,3%	-1,5%	
Exam!=Sup	327	46,8%		
Good relation with supervisor	195	46,7%	30,7%	***
Not good relation with supervisor	75	16,0%		
No signs of Stress	96	75,0%	35,4%	***
Signs of stress	371	39,6%		
Keep track of time	257	49%	2,2%	
Do not keep track	128	47%		
Transparent time track	186	54%	11,9%	**
Non-transparent time track	170	42%		
Reflect actual time spent	151	56%	14,1%	***
Do not reflect actual time spent	204	42%		

Correlation of influence factors to indicator statements

The correlation between the indicator statements and each of the questions that were answered on a Likert-scale (“Strongly agree” to “Strongly Disagree”) has been calculated and is presented in the Table in Appendix B: Correlation. These correlation values can be used to quantify and compare the influence of different parameters on the PhD student experience. Among other important factors, two are identified as the primary indicators of a ‘satisfying’ PhD student experience:

1. A well-functioning supervisor interaction is of major significance. Among others, the supervisor acting in the PhD student’s best interest, and clear communication of expectations are important factors.
2. Experiencing an atmosphere of openness and trust in the research team is found to have an even higher correlation with both statements than the supervisor interaction.

Other important factors include

- feeling safe to seek help when there are problems with supervision
- getting prepared for a continued career after the PhD
- not experiencing negative stress because of research
- not experiencing conflicts with supervisors

See Appendix B: Correlation for details.

Statistics on sickness and stress

An extra focus in this report is put on the high levels of self-reported health problems. In this section, first the symptoms of stress are researched, and then

This section first focusses on outcome, i.e. the self-reported symptoms of stress as anxiety, depression, sleeping abnormalities, etc. Then, three reasons for stress are investigated more in depth.

Self-reported symptoms of stress

In the survey, the respondents were asked to indicate whether they had experienced any work-related sickness or symptoms of stress.

- Overall, only 17% has not registered any sort of symptoms of stress due to work related issues.
- 34% of the participants reported to have experienced at least one symptom of stress
- On average, the students surveyed declared to have experienced sickness more than 3 times related to work.
 - If the group with no sickness is excluded, the mean value increases to 4, meaning that those students who experienced sickness on average they show 4 symptoms.
- 60% of the students declare to have 3 or more symptoms of sickness related to work, see Figure 7.
- 150 students out of 468 have 5 or more health issues related to work, see Figure 9.

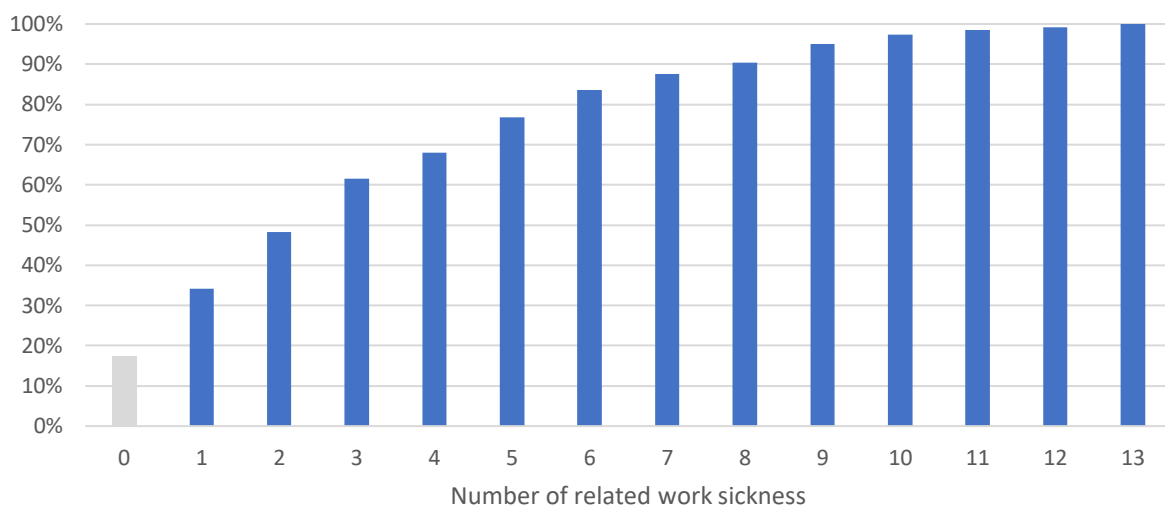


Figure 9: Number of work-related sicknesses / stress symptoms experienced by doctoral students during the last year.

In order to study if there are statistically significant differences between how different doctoral student groups are affected by work, mean test comparison tests were executed for different groups. A total of 449 students answered the question related to sickness due to work and on average 3,3 health issues are declared. Table 4 shows the mean values for each different group and the differences between them. Gender, having an updated ISP, having a good relationship with the supervisor and stress levels are related to the amount of health problems found in students.

Table 4: Mean test comparison for the number of work-related illnesses.²

Variable Sub group	N	Mean	Diff	Sig
Sum of sickness due to work	449	3,3		
Men	286	4,17	-1,23	***
Women	162	2,94		
Swedish	195	3,42	0,004	
Non-Swedish	272	3,42		
No ISP	58	3,96	0,59	*
With ISP	388	3,37		
Exam=Sup	128	3,22	0,34	
Exam!=Sup	327	3,55		
Good relation with supervisor	195	3,59	1,33	***
Not good relation with supervisor	75	4,93		
No signs of Stress	96	1,16	-2,8	***
Signs of stress	371	4,01		
Keep track of time	257	3,66	0,17	
Do not keep track	128	3,49		
Transparent time track	186	3,12	-0,83	***
Non-transparent time track	170	3,95		
Reflect actual time spent	151	2,95	-1,07	***
Do not reflect actual time spent	204	4,02		

Reasons for stress

In the survey, the doctoral students were asked to select which areas of their work they experienced negative stress from: *I feel or have felt during the past year negative stress because of ... (i) ... my research, (ii)... ongoing or planned courses I am taking and (iii)... departmental duties.*

How the answers are distributed is displayed in Figure 10 and Table 5 below.

- 21% of students declared not to be stressed.
- 29% are stressed by only one component, 28% by two and 22% by all the parts of the PhD, see Figure 10.
- 47% of the stressed cases are caused by research, followed by departmental duties (29%) and 22% due to courses, see Table 5.

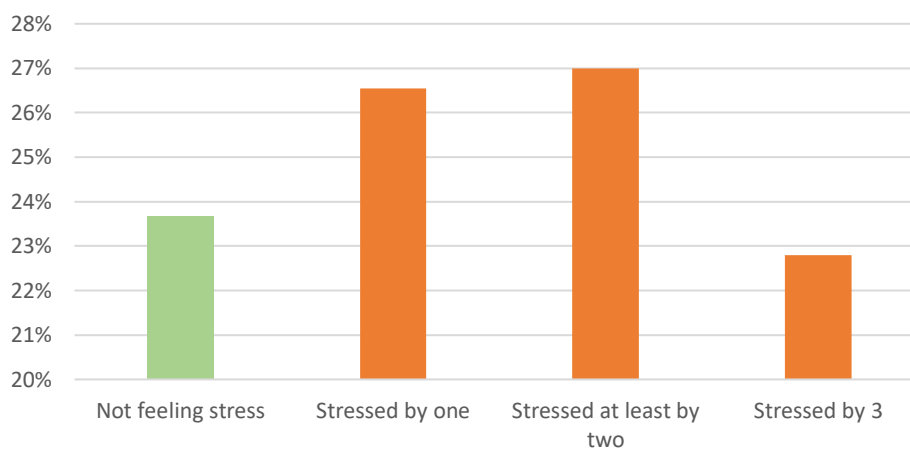


Figure 10: Number of areas doctoral students have experienced negative stress from.

Table 5: Proportion of doctoral students experiencing negative stress from research, courses, and departmental duties.

Statistics	Stress by research	Stressed by courses	Stressed by departmental duties	All causes
Respondents	451	438	428	468
Percentage of students	73%	38%	48%	79%
Sum of positives	333	169	207	709
Percentage of the stressing factor	47%	24%	29%	100%

When looking if different doctoral student groups are affected unequally; a mean comparison test was performed. In this case the 3 question were transformed into one, summing all the causes of stress. As a result, students can have no stress ($=0$), 1 or up to 3 causes of stress. To see the results of testing equality in means, see Table 6.

- Swedish students on average report being more stressed than non-Swedish PhD students, and the difference is statistically significant. This difference is on average of 0.28 out of 3 and this can be seen with a confidence of 99%.
- Gender as well as overlapping the roles of the examiner with the supervisor show significant differences at 10%.

Table 6: Mean test comparison for the number of stressing factors.

Variable Sub group	N	Mean	Diff	Sig
Sum of stress	448	1,5		
Men	286	1,59	-0,13	*
Women	162	1,45		
Swedish	195	1,68	-0,28	***
Non-Swedish	272	1,39		
No ISP	58	1,45	-0,09	
With ISP	388	1,54		
Exam=Sup	128	1,43	0,14	*
Exam!=Sup	327	1,57		
Good relation with supervisor	195	1,5	0,87	
Not good relation with supervisor	75	1,6		
Keep track of time	257	1,56	0,05	
Do not keep track	128	1,51		
Transparent time track	186	1,39	-0,28	**
Non-transparent time track	170	1,66		
Reflect actual time spent	151	1,38	-0,26	*
Do not reflect actual time spent	204	1,64		

Summary

The Ph.D. survey was conducted mid-February to mid-March 2020. With the active support of the department-level Ph.D. councils, a high level of participation with 468 participants could be achieved.

It was found that most PhD students are satisfied with their work, describe their immediate working environment as having an atmosphere of openness and trust and have a good relationship with their supervisor(s).

With the help of both a quantitative and a qualitative analysis of the data, focus areas could be identified that can guide the efforts of the DS as well as the relevant bodies in the administration at Chalmers University.

Statistically significant influence factors could be identified on indicator values describing e.g. student satisfaction, stress levels and work-related sickness for different sub-groups in the student population. A good relationship between the PhD student and their supervisor(s) was found to be of outstanding importance. The gender of a doctoral student plays a significant role in their life as a Ph.D. student at Chalmers.

Appendix A: List of all questions

This is a complete list of questions asked in the DS 2020 survey.

The answer type is given in brackets, e.g. *[Likert Scale]*.

The Likert scales were 5 step discrete scales containing 'Strongly Agree', 'Agree', 'Neutral', 'Disagree', 'Strongly Disagree' and an option to answer 'N/A'.

General questions

Which department do you belong to? *[choose one from list]*

Which division do you belong to? *[choose one from list]*

Which research school do you belong to? *[choose one from list]*

Gender *[choose one from list]*

I am a ... PhD student *[choose one from list: Swedish / non-Swedish / ...]*

Which year are you expected to finish your doctoral thesis? *[choose one from list]*

Enrollment and research education

Which year were you enrolled as a doctoral student? *[choose one from list]*

To which degree were you admitted? *[choose one from list]*

After how long time as a doctoral student did/will you acquire your licentiate degree / licentiate level seminar? *[choose one from list]*

What were/are reasons for the delay? *[free text]*

I feel that I have been able to influence the time of my licentiate seminar. *[Likert Scale]*

My graduate school offers sufficiently many courses (at a doctoral level) to satisfy the minimum credits for my doctoral education. *[choose one from list]*

I have an up-to-date individual study plan (ISP) that is signed by myself, my supervisor(s), my examiner and my head of research school. *[choose one from list]*

The ISP is a useful tool for... *[Likert Scale]*

... following up on my research progress

... following up on my progress in research education

... planning my research

... planning my research education

Regarding my doctoral degree, I am familiar with the... *[Likert Scale]*

... requirements set by my graduate school

... objectives for a doctoral degree set by Chalmers

I feel that I get prepared for my continued career after the PhD. *[Likert Scale]*

Comments and reflections on my enrollment and research education *[free text]*

Supervision

Is your main supervisor the same person as your examiner? *[choose one from list]*

The interaction with my supervisor(s) works well overall *[Likert Scale]*

I feel that my supervisor(s) *[Likert Scale]*

... acts in my best interest

... cares for my personal well-being

... helps me prioritize my time if needed

... has clear expectations of me

I feel that my ideas and suggestions matter and are considered. *[Likert Scale]*

I feel I get the supervision needed to meet deadlines. *[Likert Scale]*

I feel that my supervisor(s) encourages me to engage in professional networks/activities outside of Chalmers (conferences, cooperation with other universities, etc.) *[Likert Scale]*

When there are problems with my supervision, ... *[Likert Scale]*

... I know where to seek help.

... I feel safe seeking help.

Comments and reflections regarding my supervision *[free text]*

Employment

The person responsible for your work environment is your line manager. Do you know who your line manager at Chalmers is? *[choose one from list]*

My line manager is... (check all that applies) *[choose multiple from list]*

I feel my line manager is capable of taking his/her responsibility for my work environment according to the Swedish law (i.e. preventing bullying, stress, discrimination, etc.) *[Likert Scale]*

I feel my yearly appraisal talks (medarbetarsamtal) are useful *[Likert Scale]*

When there are problems with my line manager, ... *[Likert Scale]*

... I know where to seek help

... I feel safe seeking help

I feel that my research and duties are or will be negatively affected by the ongoing Chalmers-wide hiring freeze. *[Likert Scale / added option: I don't know]*

Other comments and reflections regarding my employment *[free text]*

Departmental duties

I am teaching as a part of my departmental duties. *[choose one from list]*

The (realistic) time I spend on departmental duties corresponds to *[choose one from list]*

I personally keep track of the time I spend on departmental duties. *[choose one from list]*

I feel that the official records of my departmental duty hours spent... *[Likert Scale]*

... are transparent to me.

... are reflecting the actual time I spend.

Comments and reflections on my departmental duties *[free text]*

My immediate work environment

I feel that there is an atmosphere of openness and trust... *[Likert Scale]*

... in my research team.

... in my division.

... in my department.

In the last year, I have been negatively affected by conflicts with... *[Likert Scale]*

... supervisor(s).

... other personnel at Chalmers.

... undergraduate students.

I feel that ... is working towards a better environment for me. *[Likert Scale]*

My local PhD Council

The DS (Doctoral Students Guild)

The Student Union

Comments and reflections on my immediate work environment *[free text]*

Health and well-being

I think that overall, ... *[Likert Scale]*

... I am satisfied with my life as a doctoral student.

... my work situation affects my personal life positively.

The number of hours per week I spend working on my PhD (incl. courses and departmental duties) is *[choose one from list]*

I feel that I am not expected to work when I am on vacation *[Likert Scale]*

I feel or have felt during the past year negative stress because of ... *[Likert Scale]*

... my research.

... ongoing or planned courses I am taking.

... departmental duties.

I have experienced the following symptoms during the last year because of work related issues: *[choose multiple from list]*

I have worked while on sick leave during the last year. *[choose one from list]*

I did not report it, because... *[free text]*

I know where at Chalmers I can turn to when... *[Likert Scale]*

... I experience physical illness

... I experience mental illness

I feel safe seeking help at Chalmers when... *[Likert Scale]*

... I experience physical illness

... I experience mental illness

Comments and reflections on health and well-being *[free text]*

Available support

I am aware that I can contact the Chalmers doctoral student ombudsman (DOMB) confidentially and free of charge, about any potential issue related to my doctoral education? *[choose one from list]*

I am satisfied with the HR support (with regards to contract extension and other employment related matters) at my department. *[Likert Scale]*

Comments and reflection on available support *[free text]*

Appendix B: Correlation analysis

This section analyses the correlation between a selection of questions in the survey. The following Table 7 shows the pair-wise correlation between these statements and the previously used indicator statements:

1. *"I think that in general, I am satisfied with my life as a doctoral student."*
2. *"I think that in general, my work situation affects my personal life positively."*

In Figure 11, this correlation is shown for all pairs of questions.

Table 7: Pair-wise correlation between Likert-scale questions and 'Satisfaction'-indicators. Positive values refer to positive correlation. The correlation values can lie between -1 and 1.

	Statement 1	Statement 2
Enrollment and research education		
I feel that I have been able to influence the time of my licentiate seminar.	0.329	0.282
The ISP is a useful tool for ...		
... following up on my research progress	0.270	0.282
... following up on my progress in research education	0.280	0.263
... planning my research	0.285	0.283
... planning my research education	0.338	0.286
Regarding my doctoral degree, I am familiar with the...		
... requirements set by my graduate school	0.265	0.259
... objectives for a doctoral degree set by Chalmers	0.243	0.270
I feel that I get prepared for my continued career after the PhD.	0.418	0.293
Supervision		
The interaction with my supervisor(s) works well overall	0.531	0.386
I feel that my supervisor(s)...		
... acts in my best interest	0.516	0.367
... cares for my personal well-being	0.450	0.388
... helps me prioritize my time if needed	0.474	0.448
... has clear expectations of me	0.483	0.385
I feel that my ideas and suggestions matter and are considered.	0.434	0.309
I feel I get the supervision needed to meet deadlines.	0.444	0.379
I feel that my supervisor(s) encourages me to engage in professional networks/activities outside of Chalmers (conferences, cooperation with other universities, etc.	0.263	0.235
When there are problems with my supervision, ...		
... I know where to seek help.	0.304	0.272
... I feel safe seeking help.	0.471	0.423
Employment		
I feel my line manager is capable of taking his/her responsibility for my work environment according to the Swedish law (i.e. preventing bullying, stress, discrimination, etc.	0.333	0.284
When there are problems with my line manager, ...		
... I know where to seek help	0.312	0.291
... I feel safe seeking help	0.383	0.348

Work Environment

I feel that there is an atmosphere of openness and trust ...

... in my research team.

0.562	0.434
-------	-------

... in my division.

0.404	0.346
-------	-------

... in my department.

0.308	0.351
-------	-------

In the last year, I have been negatively affected by conflicts with ...

... supervisor(s).

-0.381	-0.299
--------	--------

... other personnel at Chalmers.

-0.229	-0.194
--------	--------

... undergraduate students.

-0.115	-0.074
--------	--------

I feel that ... is working towards a better environment for me.

My local PhD Council

0.225	0.186
-------	-------

The DS (Doctoral Students Guild)

0.226	0.184
-------	-------

The Student Union

0.303	0.278
-------	-------

Health and Well-Being

I think that overall, ...

... I am satisfied with my life as a doctoral student.

1.000	0.697
-------	-------

... my work situation affects my personal life positively.

0.697	1.000
-------	-------

I feel that I am not expected to work when I am on vacation

0.227	0.303
-------	-------

I feel or have felt during the past year negative stress because of ...

... my research.

-0.350	-0.371
--------	--------

... ongoing or planned courses I am taking.

-0.109	-0.157
--------	--------

... departmental duties.

-0.186	-0.204
--------	--------

I know where at Chalmers I can turn to when...

... I experience physical illness

0.132	0.173
-------	-------

... I experience mental illness

0.120	0.124
-------	-------

I feel safe seeking help at Chalmers when...

... I experience physical illness

0.249	0.277
-------	-------

... I experience mental illness

0.301	0.332
-------	-------



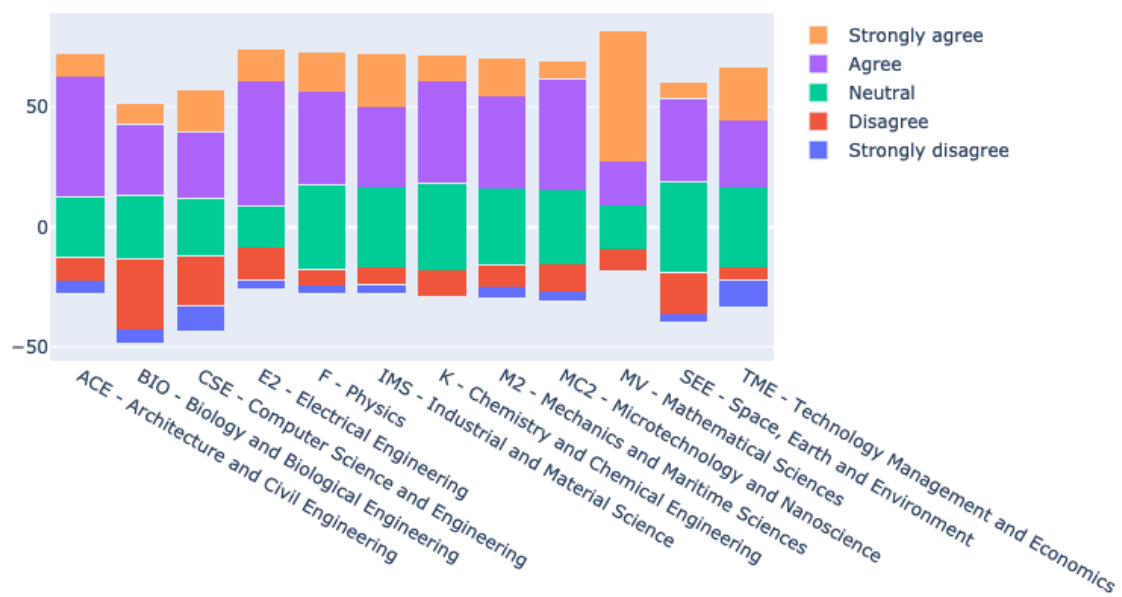
Figure 11: Pair-wise correlation of statements measured using the Likert-scale.

Appendix C: Detailed responses to all Likert-scale questions on department-level

The aim of this section is to assist each department in identifying their strengths and weaknesses to focus their future work. In the following graphs, the bars represent 100% of the respondents excluding those who answered 'Not applicable'. The bars positioned such that the 'Neutral' section is centered at 0. This means e.g. if there are only 'Agree' and 'Strongly Agree' answers, the bar reaches up to 100%.

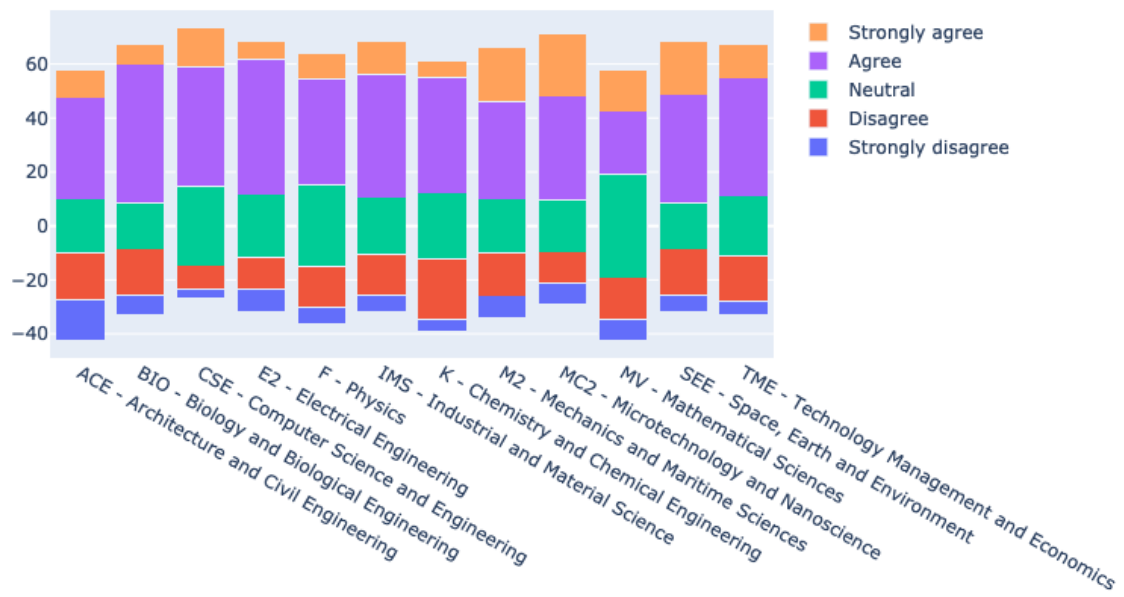
Enrollment and research education

I feel that I have been able to influence the time of my licentiate seminar.

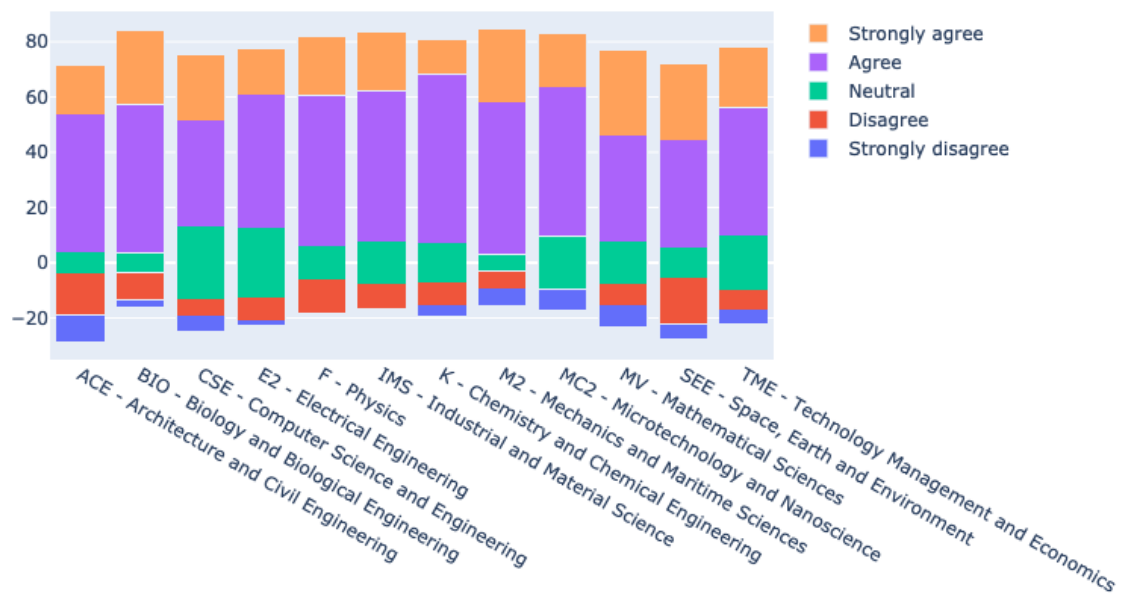


The ISP is a useful tool for ...

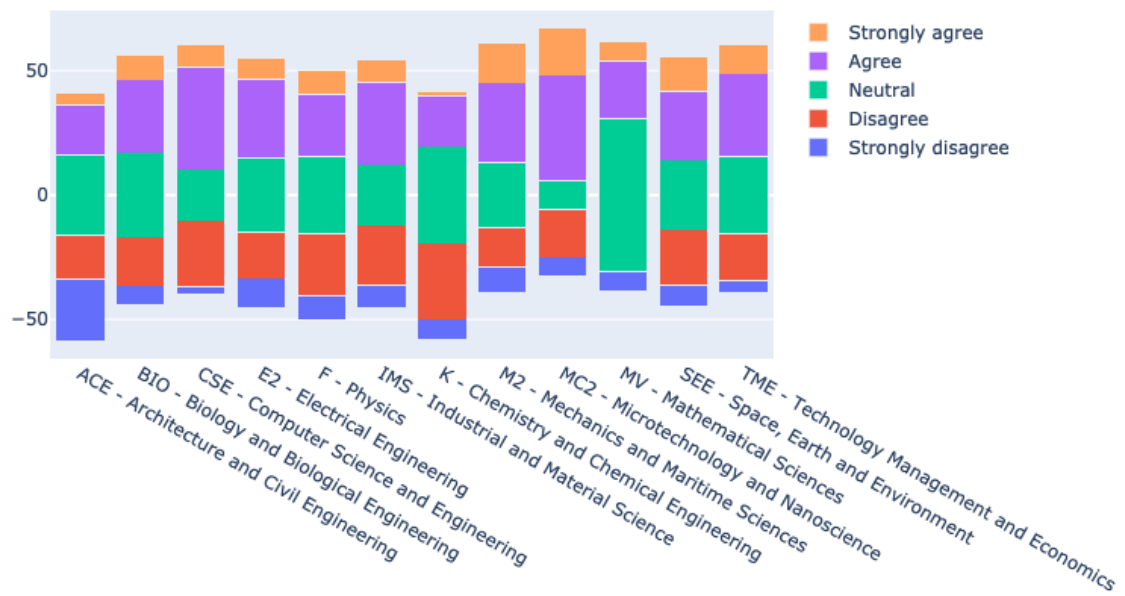
... following up on my research progress



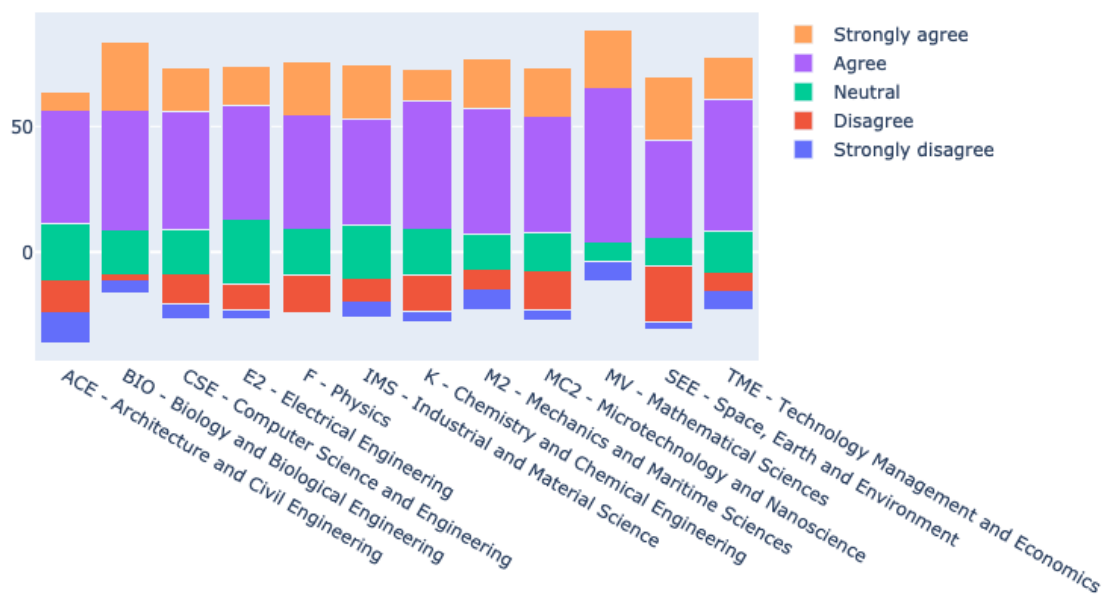
... following up on my progress in research education



... planning my research

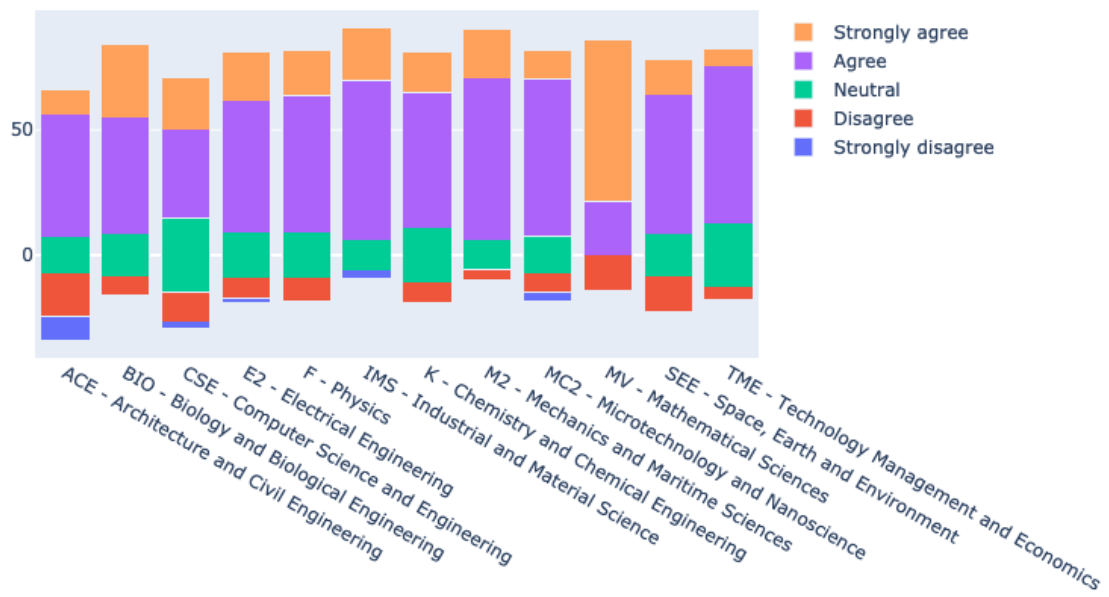


... planning my research education

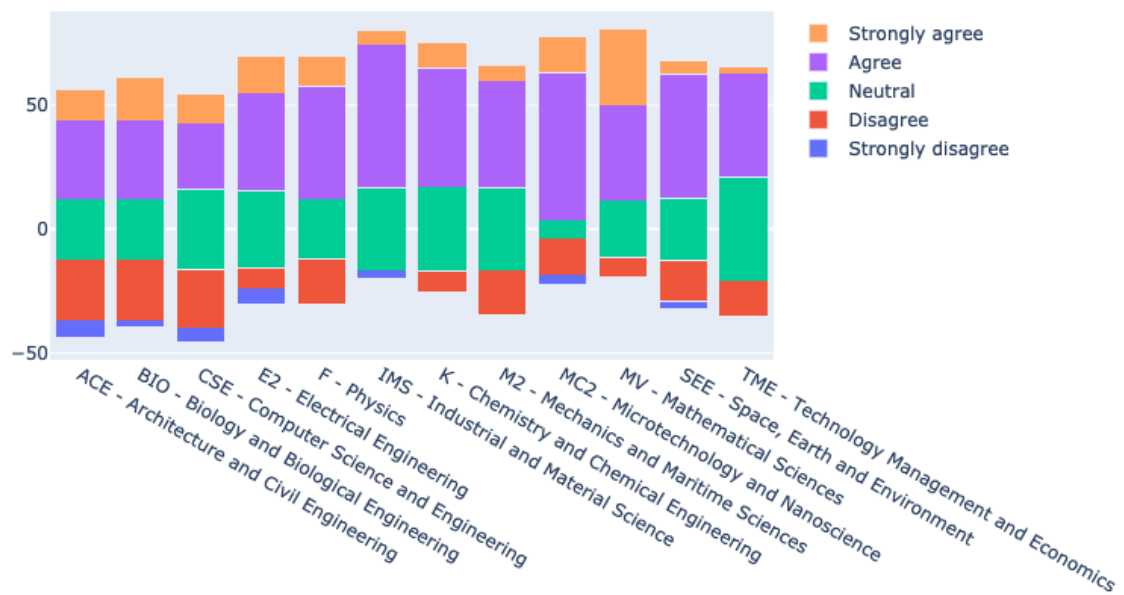


Regarding my doctoral degree, I am familiar with the...

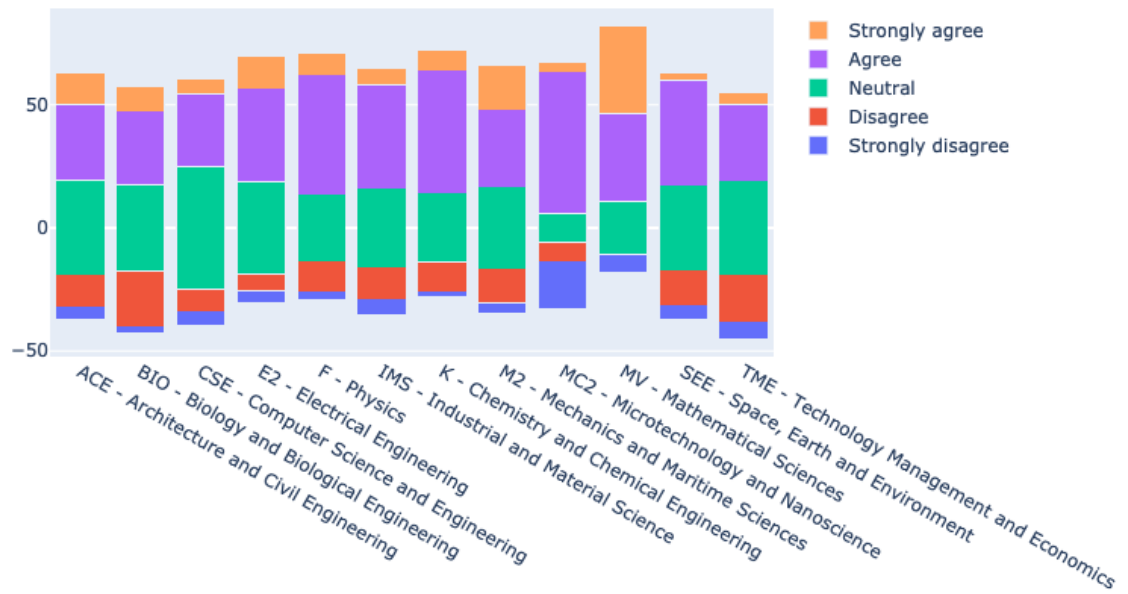
... requirements set by my graduate school



... objectives for a doctoral degree set by Chalmers

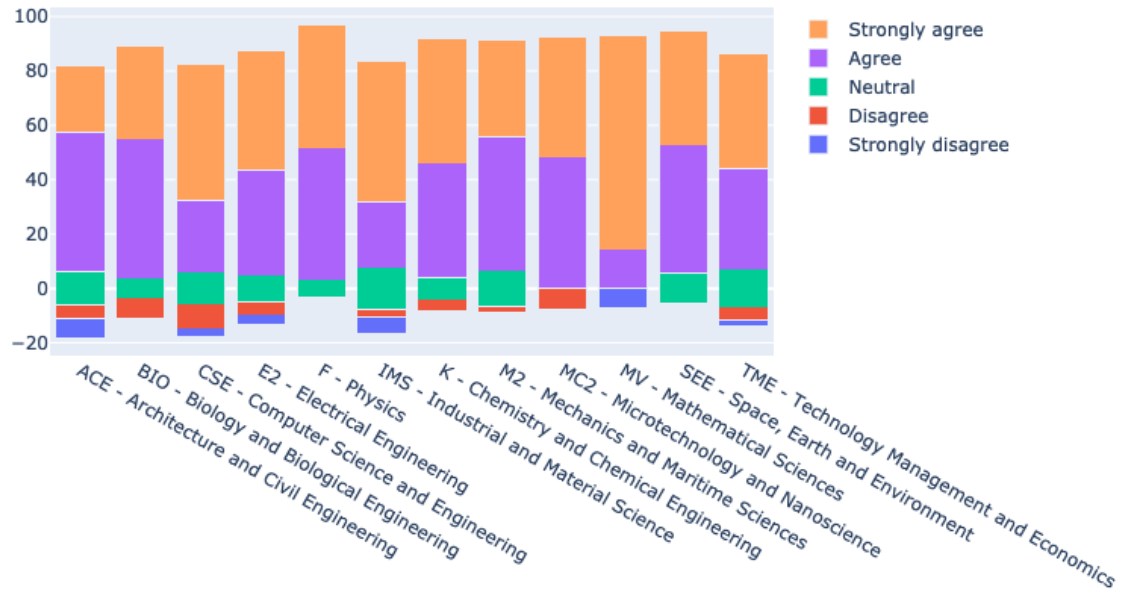


I feel that I get prepared for my continued career after the PhD.



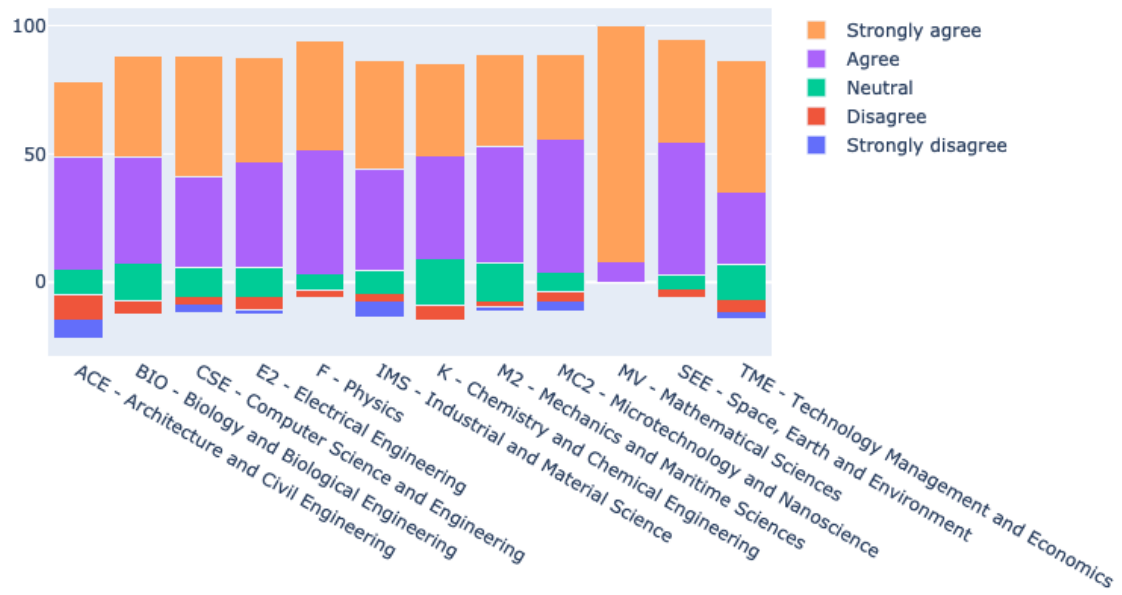
Supervision

The interaction with my supervisor(s) works well overall

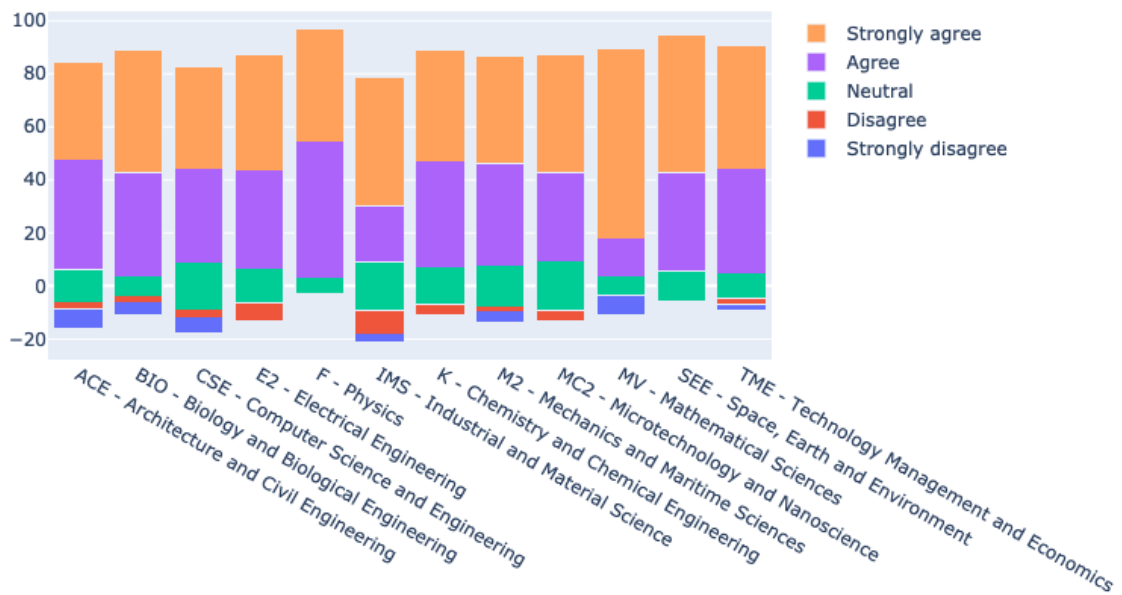


I feel that my supervisor(s)...

... acts in my best interest

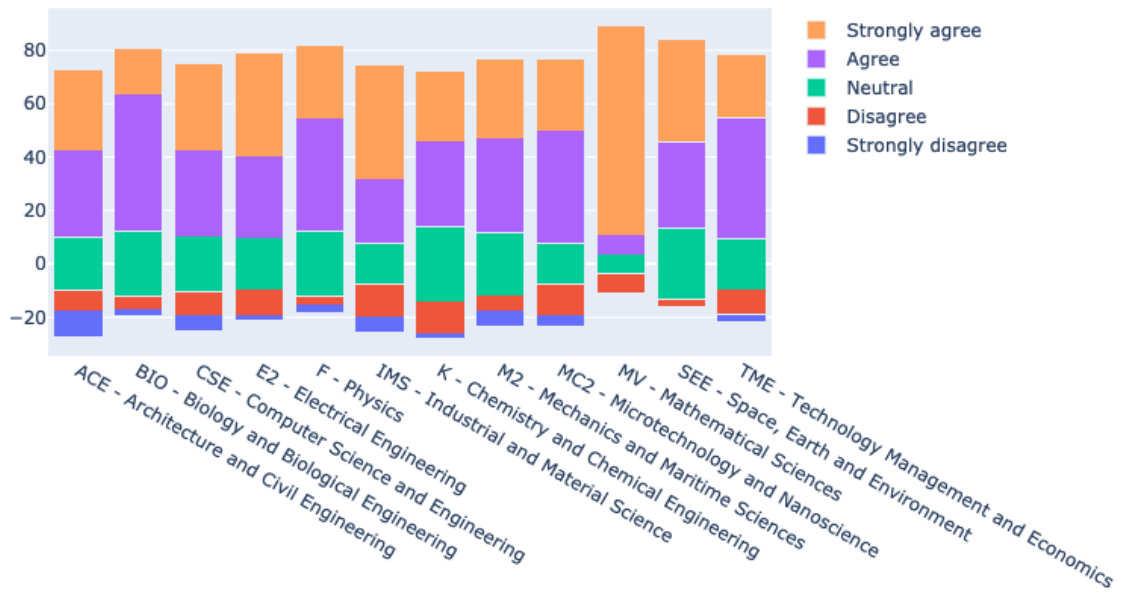


... cares for my personal well-being

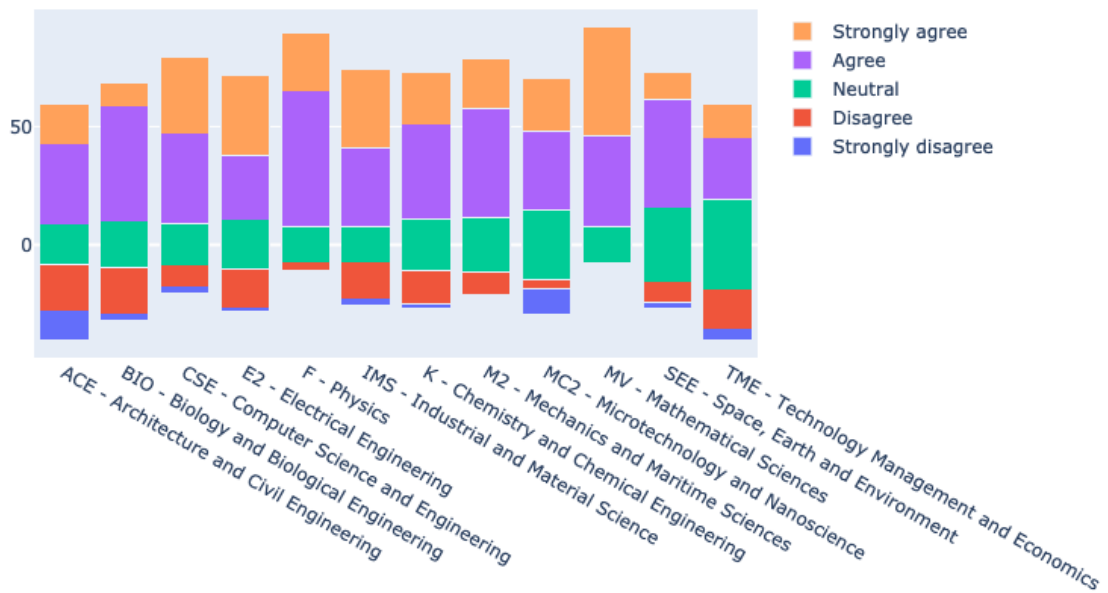


I feel that my supervisor(s)...

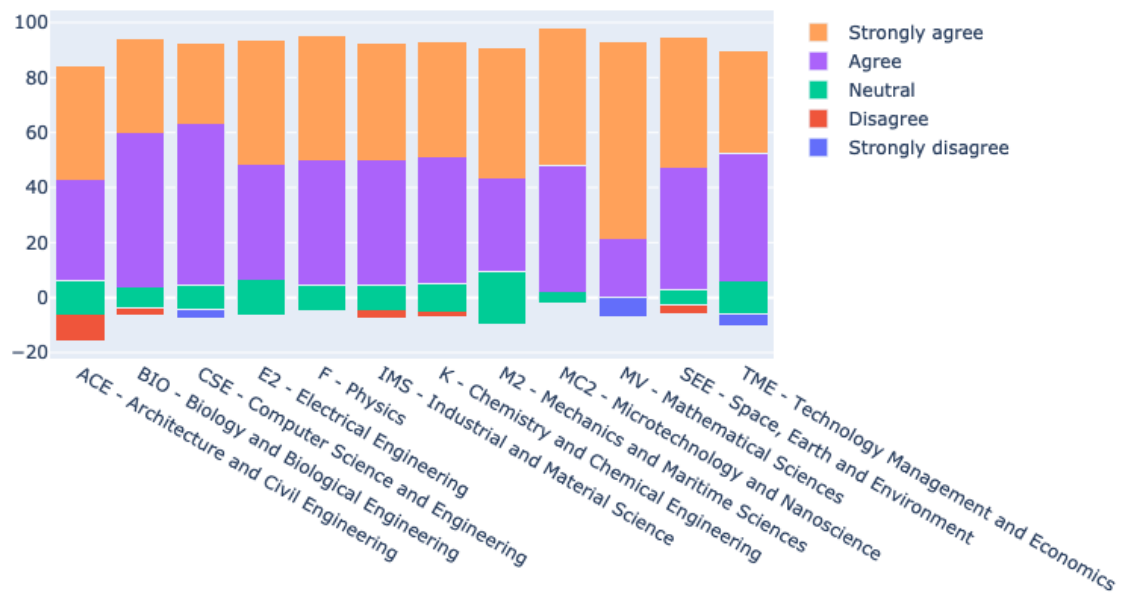
... helps me prioritize my time if needed



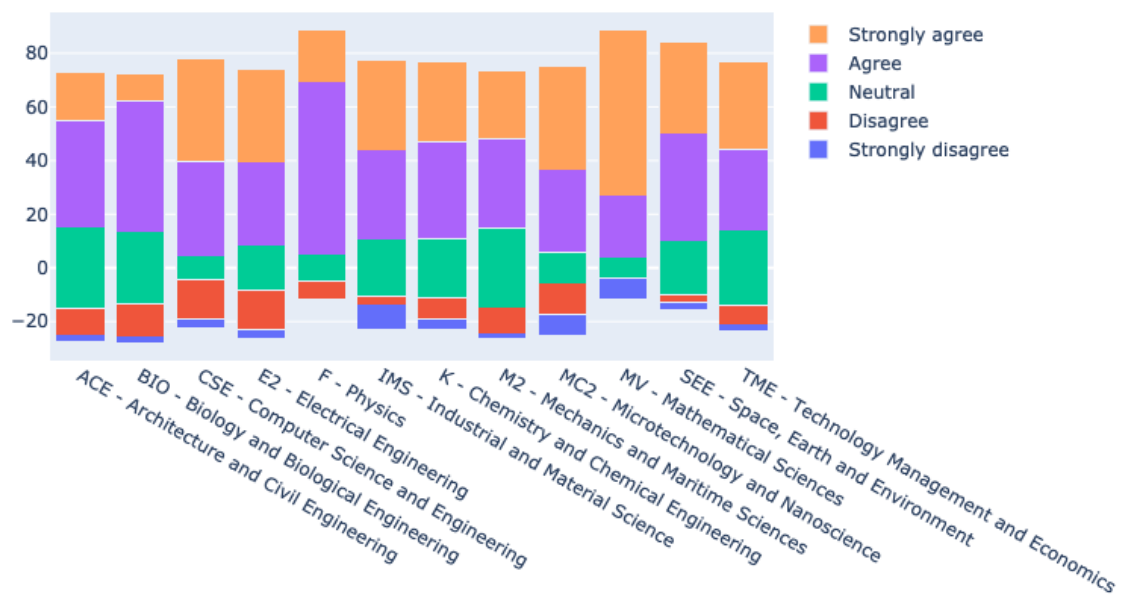
... has clear expectations of me



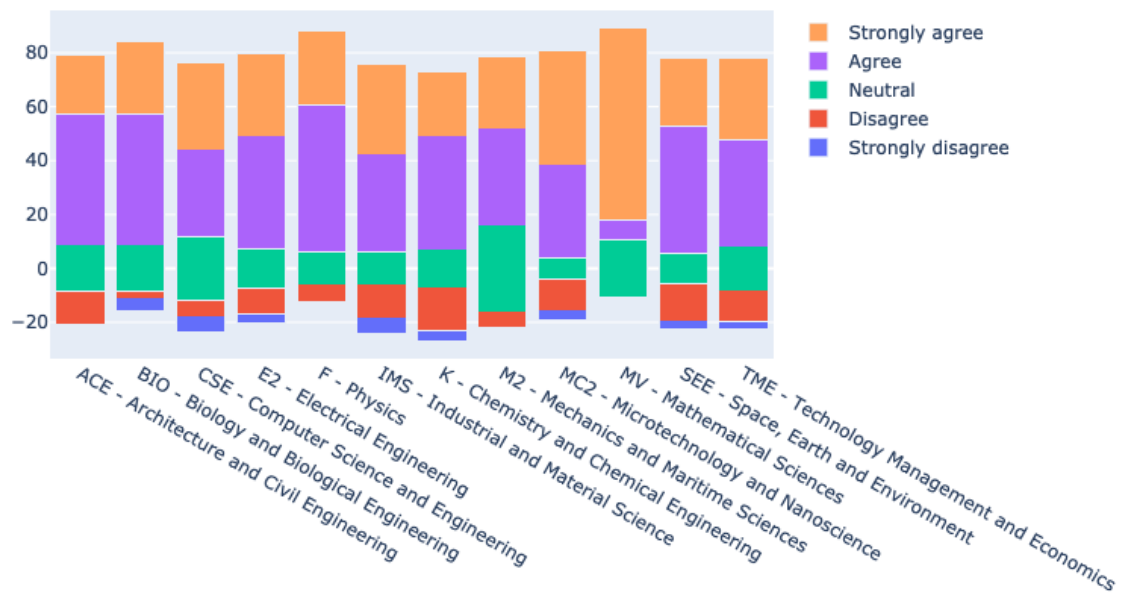
I feel that my ideas and suggestions matter and are considered.



I feel I get the supervision needed to meet deadlines.

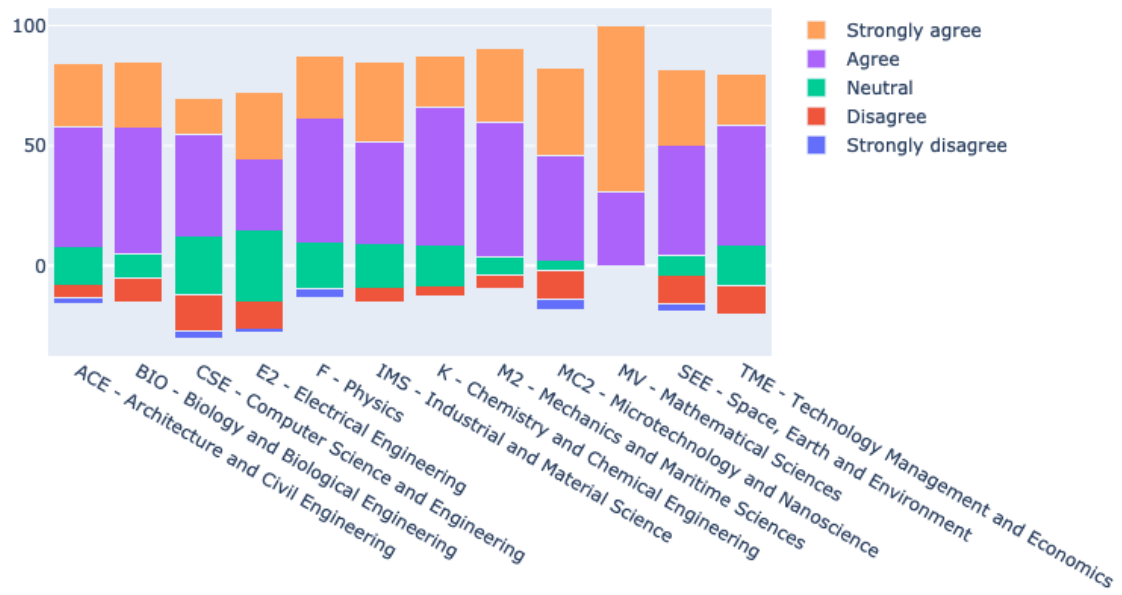


I feel that my supervisor(s) encourages me to engage in professional networks/activities

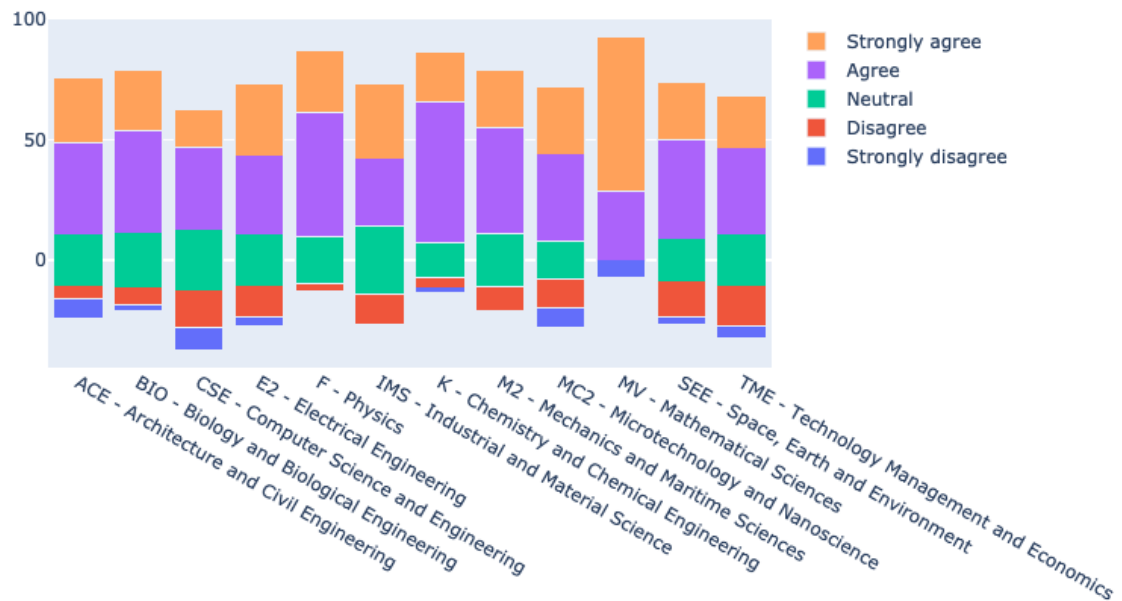


When there are problems with my supervisor(s)...

... I know where to seek help.

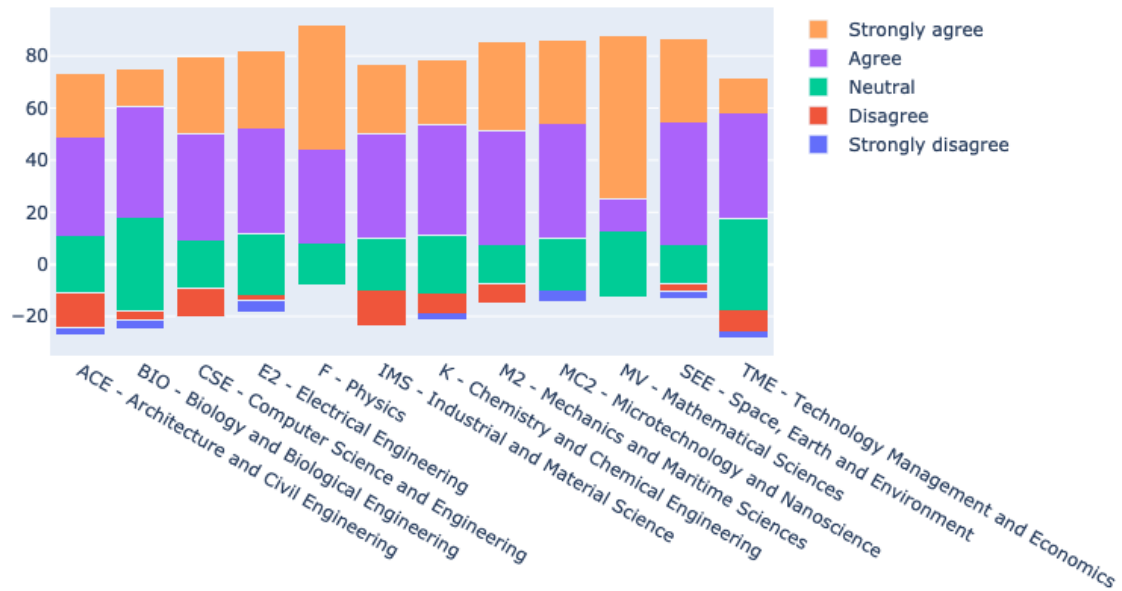


... I feel safe seeking help.

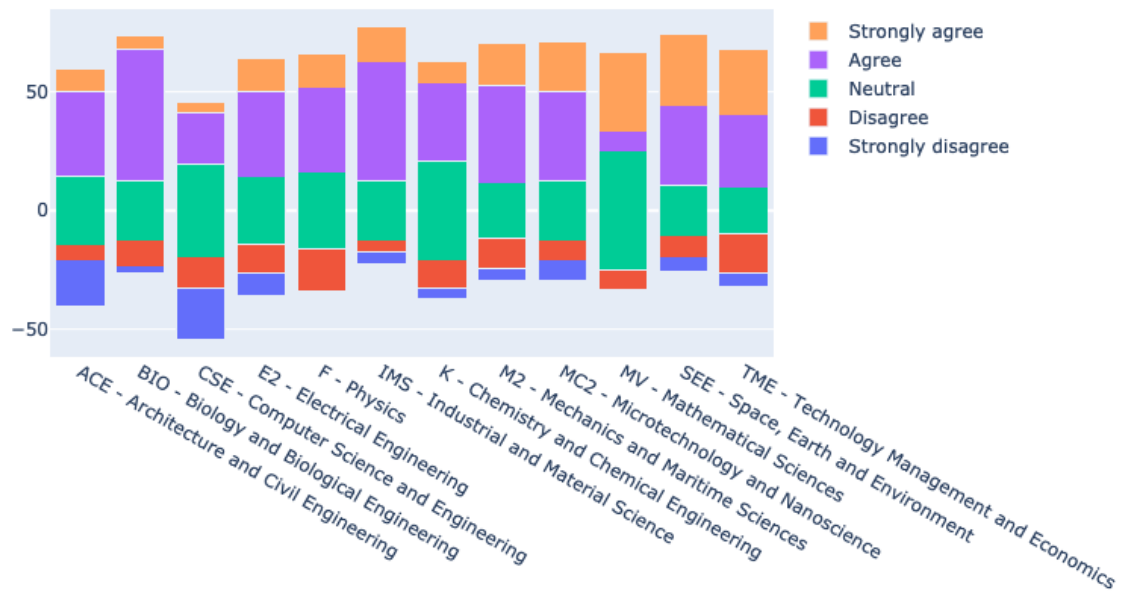


Employment

I feel my line manager is capable of taking his/her responsibility for my work environment

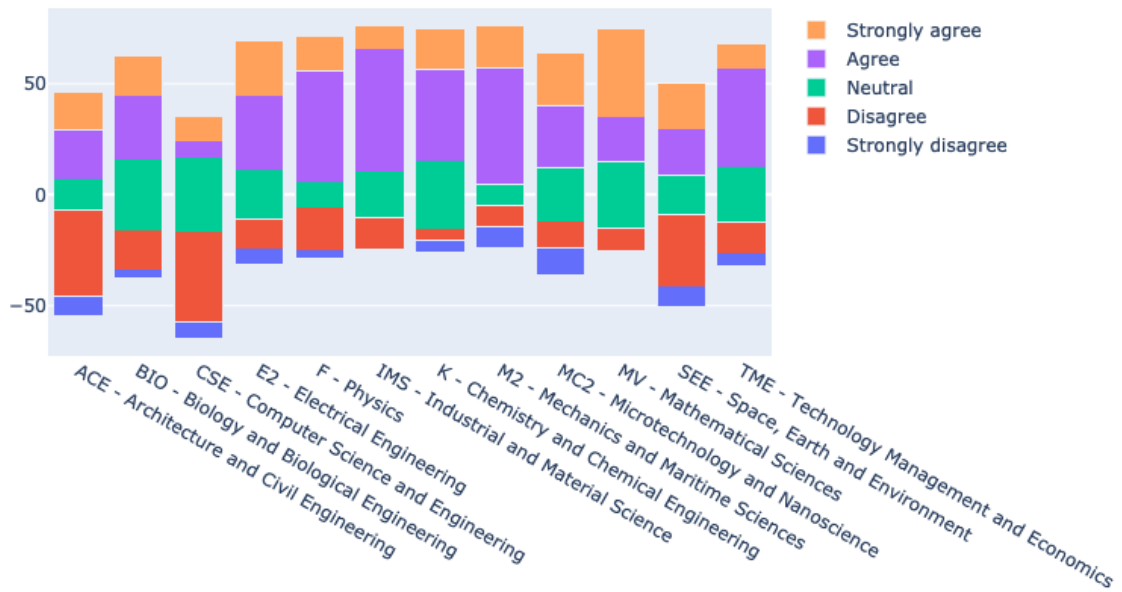


I feel my yearly appraisal talks (medarbetarsamtal) are useful

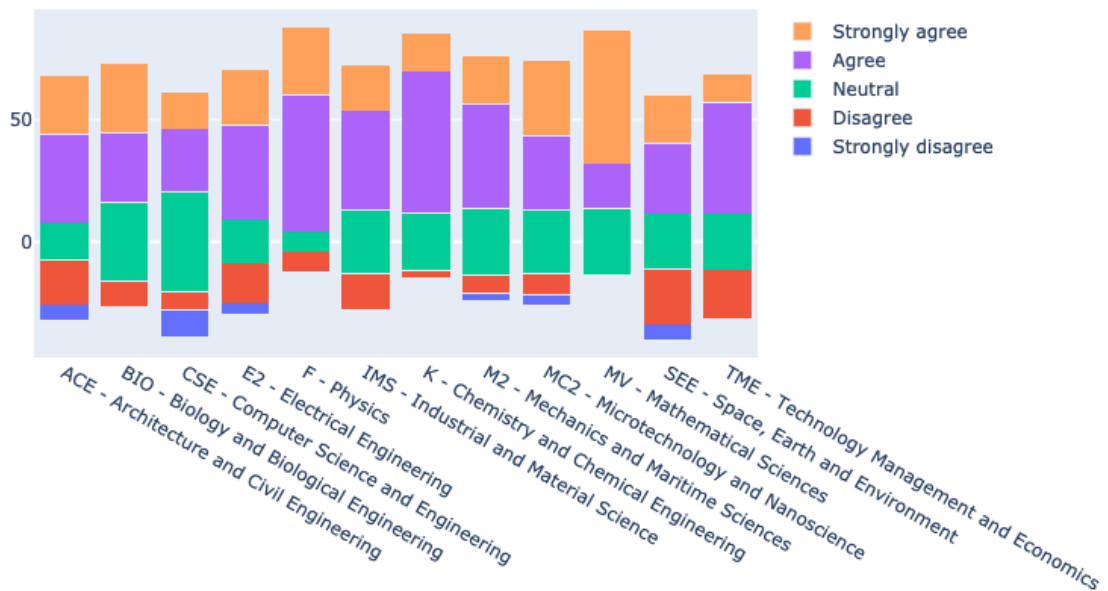


When there are problems with my line manager, ...

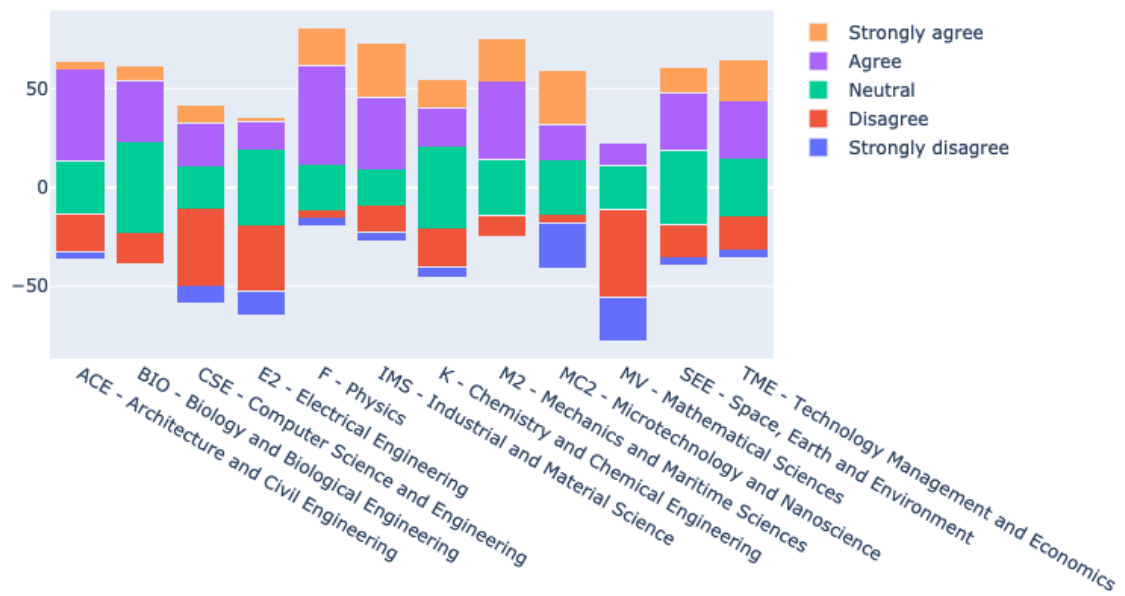
... I know where to seek help



... I feel safe seeking help



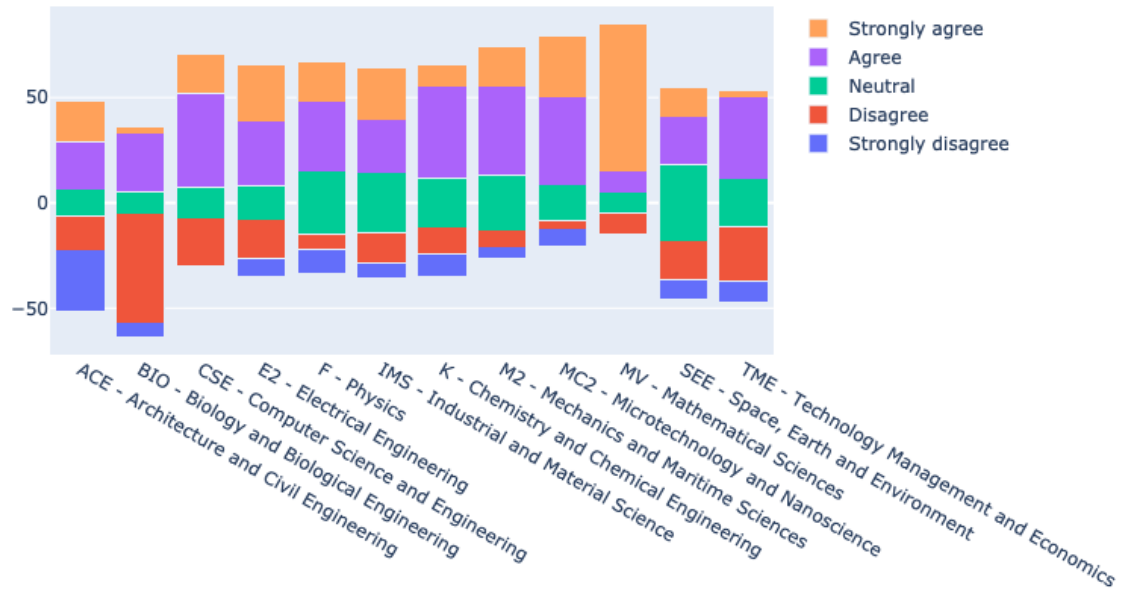
I feel that my research and duties are or will be negatively affected by the ongoing Chalr



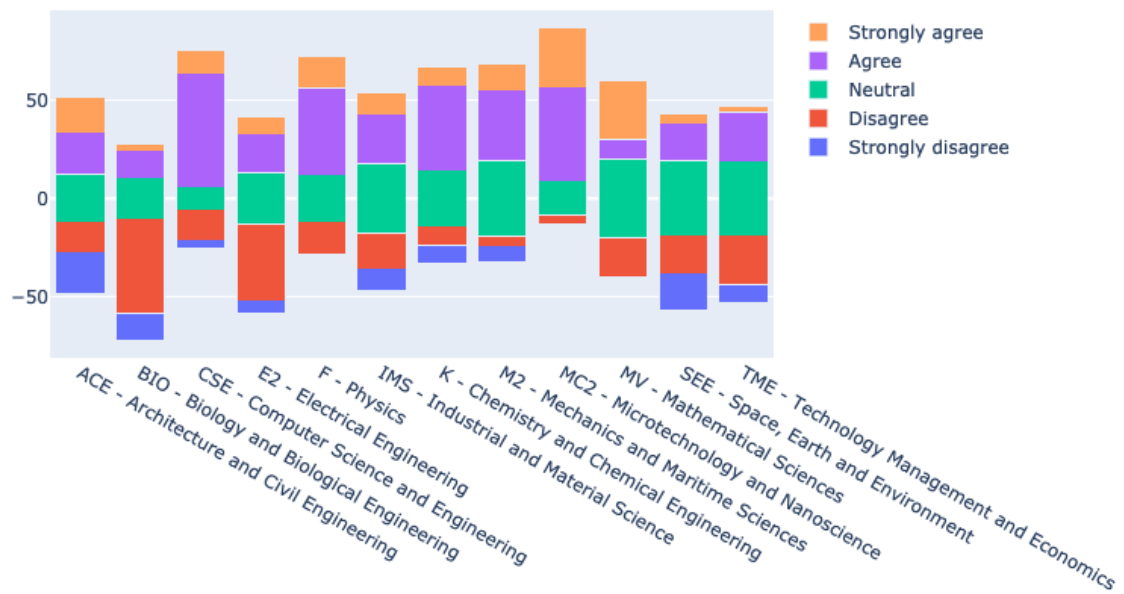
Departmental Duties

I feel that the official records of my departmental duty hours spent...

... are transparent to me.



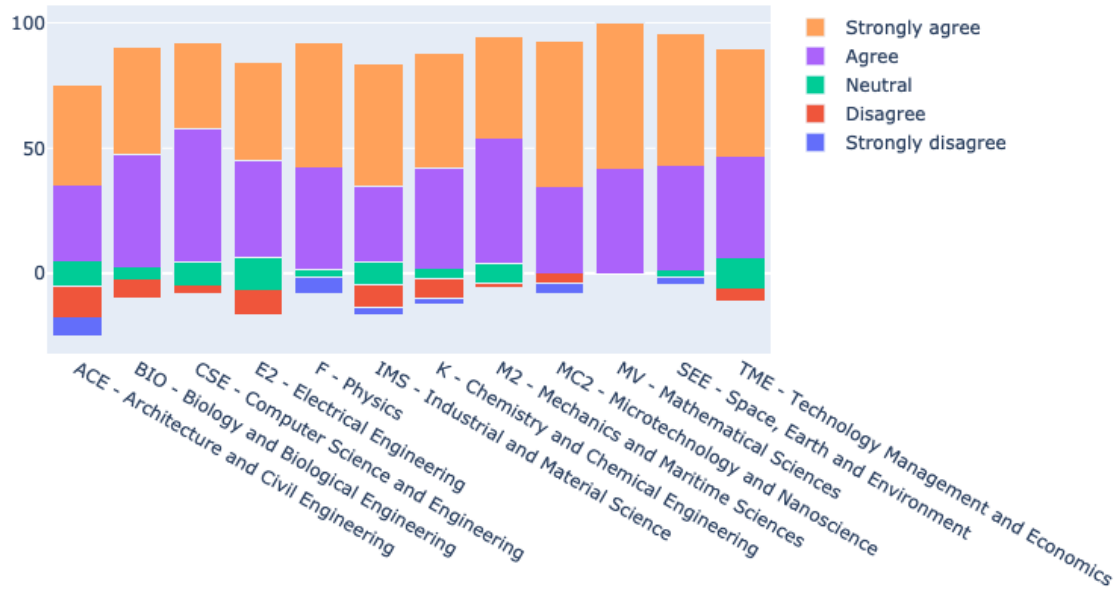
... are reflecting the actual time I spend.



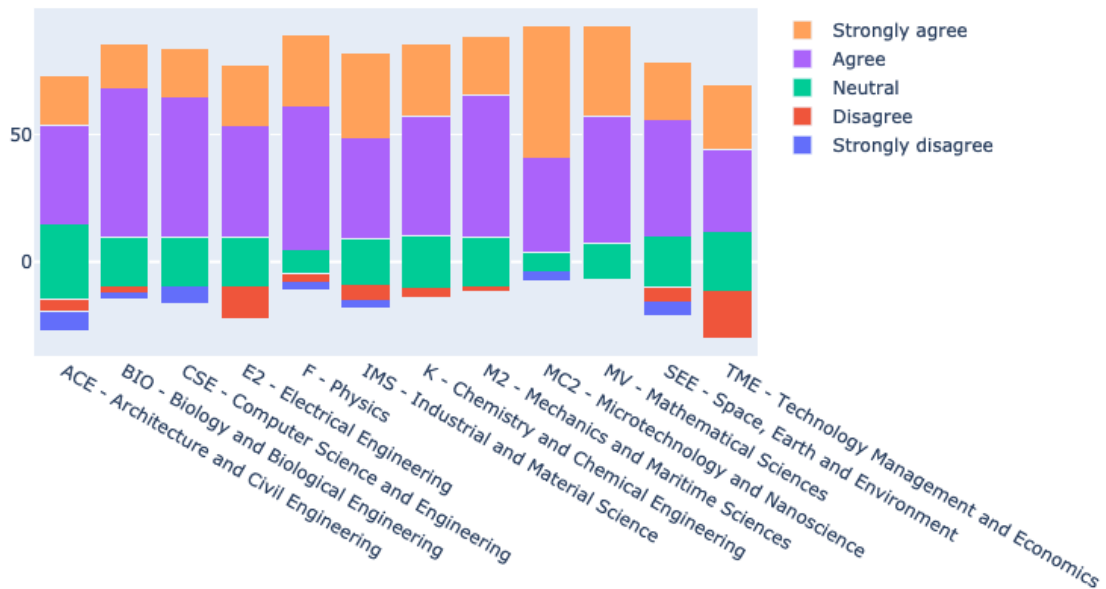
Work Environment

I feel that there is an atmosphere of openness and trust...

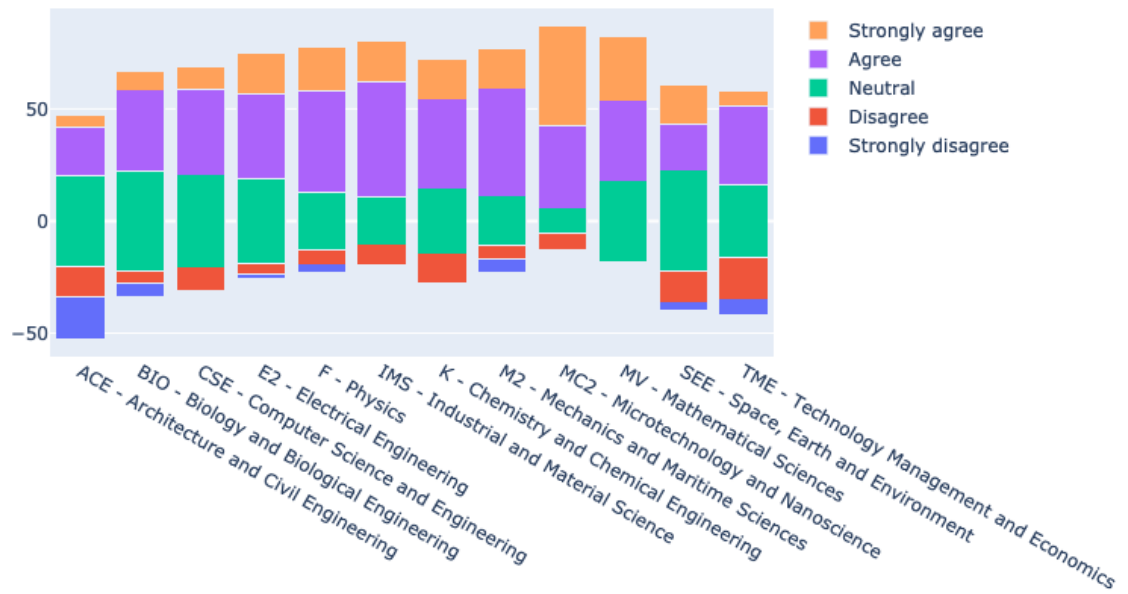
... in my research team.



... in my division.

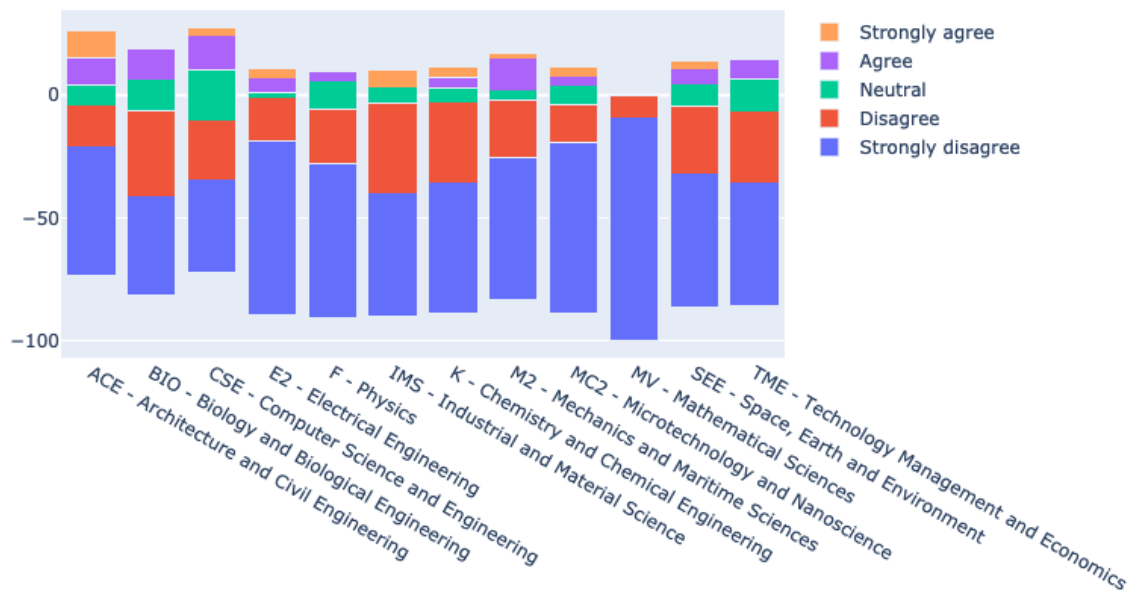


... in my department.

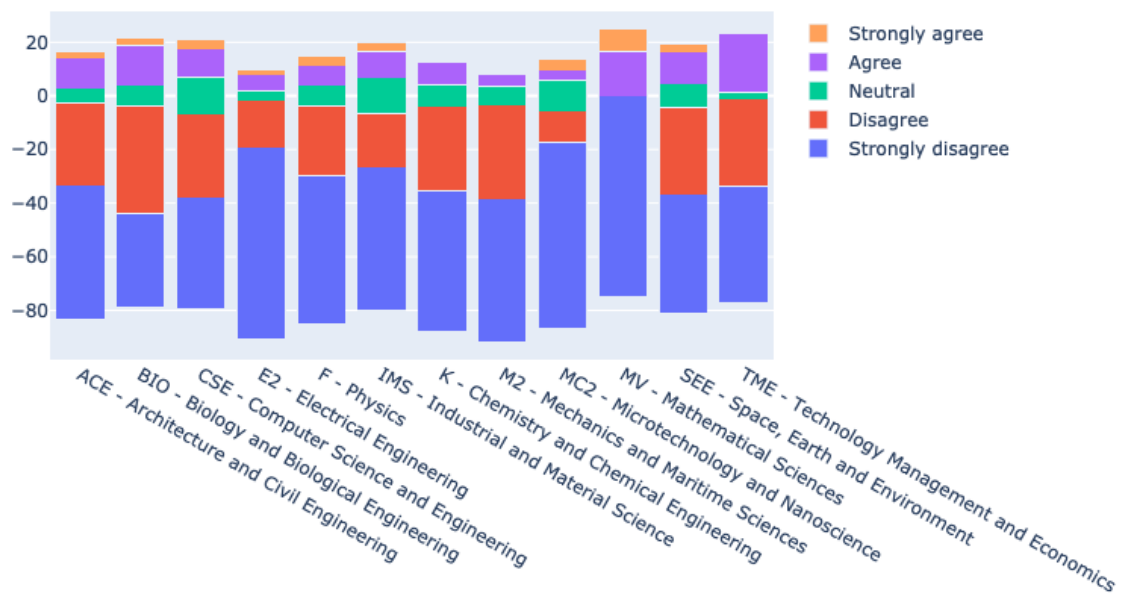


In the last year, I have been negatively affected by conflicts with...

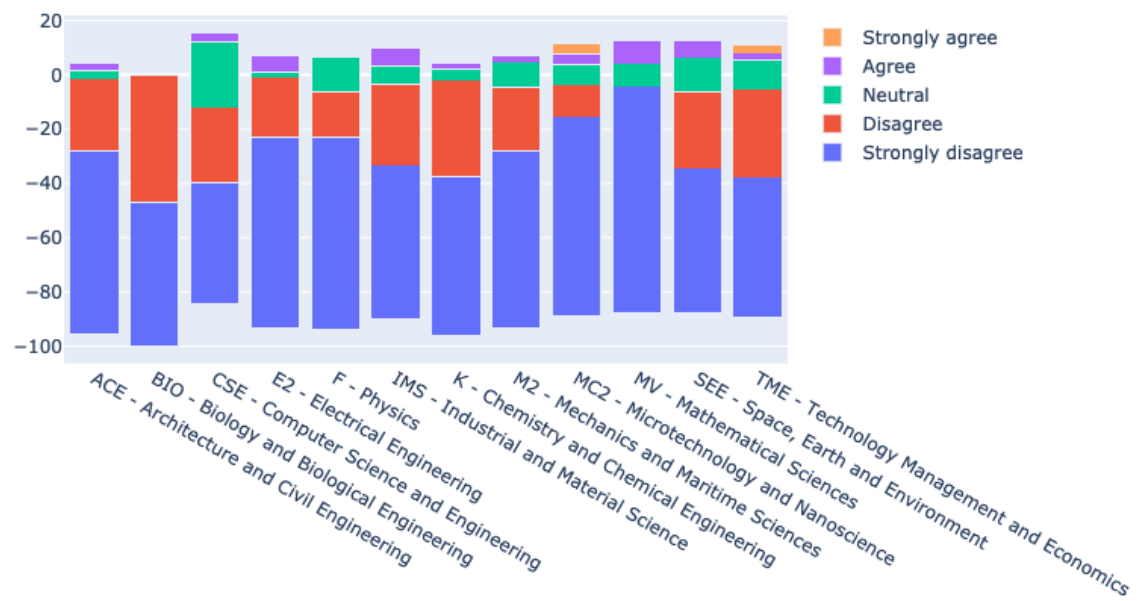
... supervisor(s).



... other personnel at Chalmers.

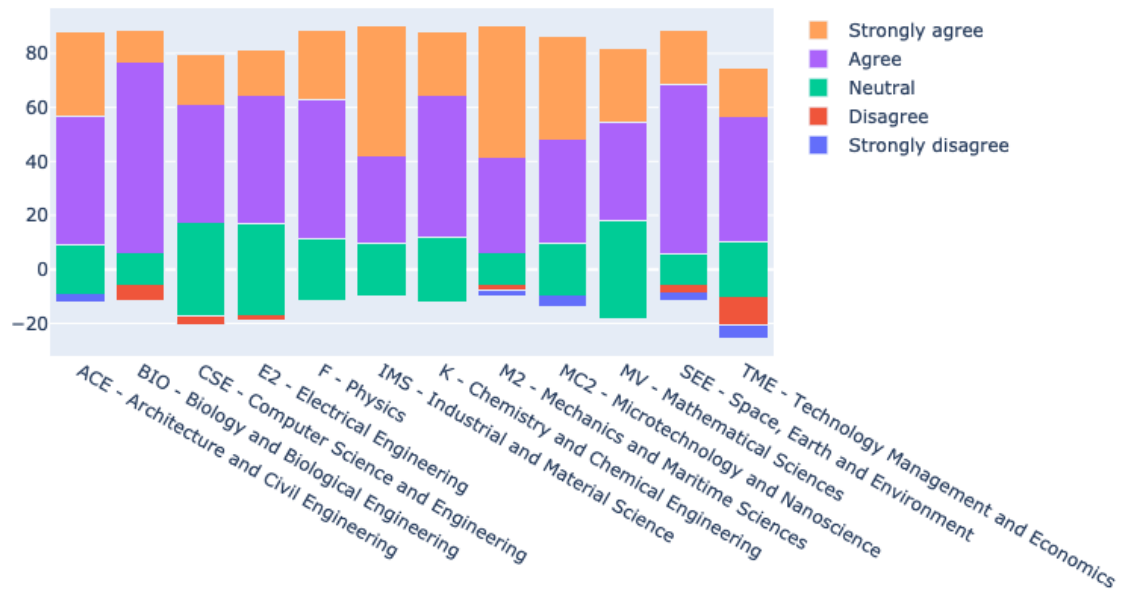


... undergraduate students.

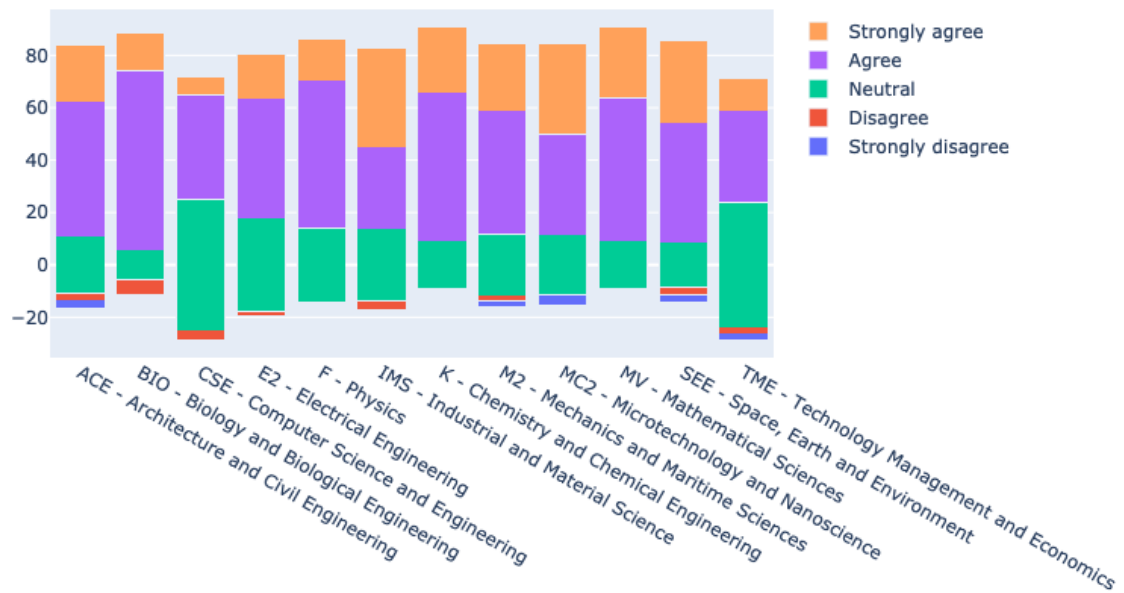


I feel that ... is working towards a better environment for me.

My local PhD Council



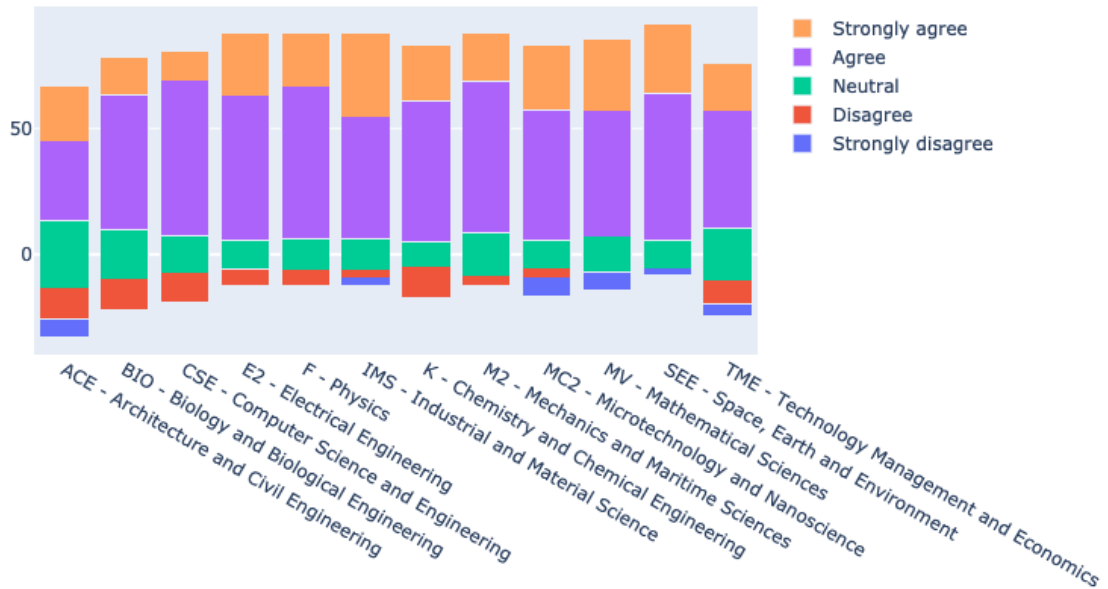
The DS (Doctoral Students Guild)



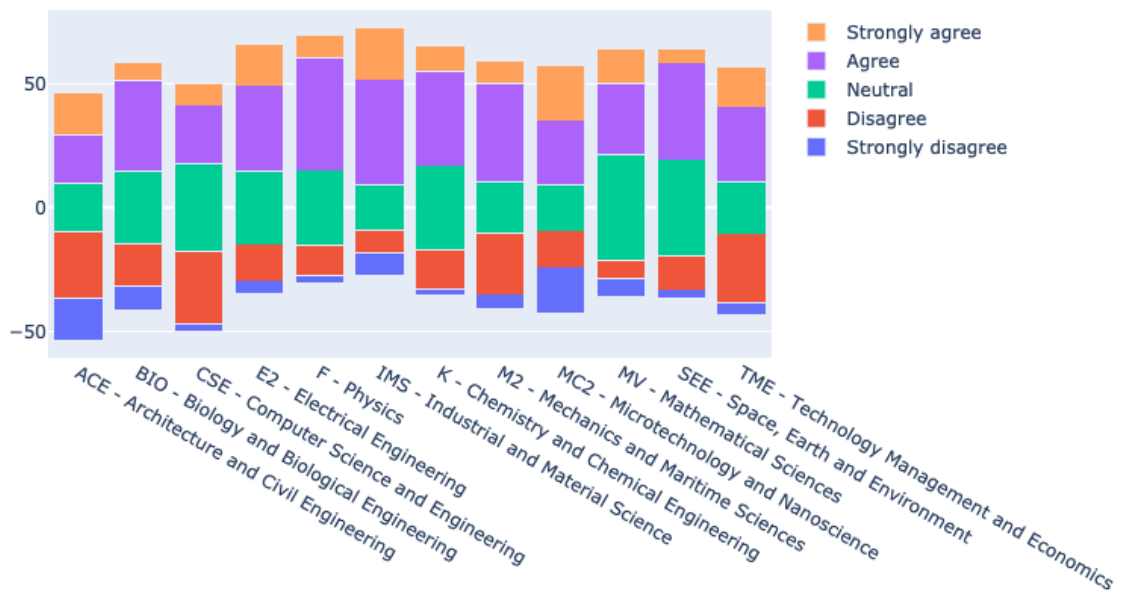
Health and Well-being

I think that overall, ...

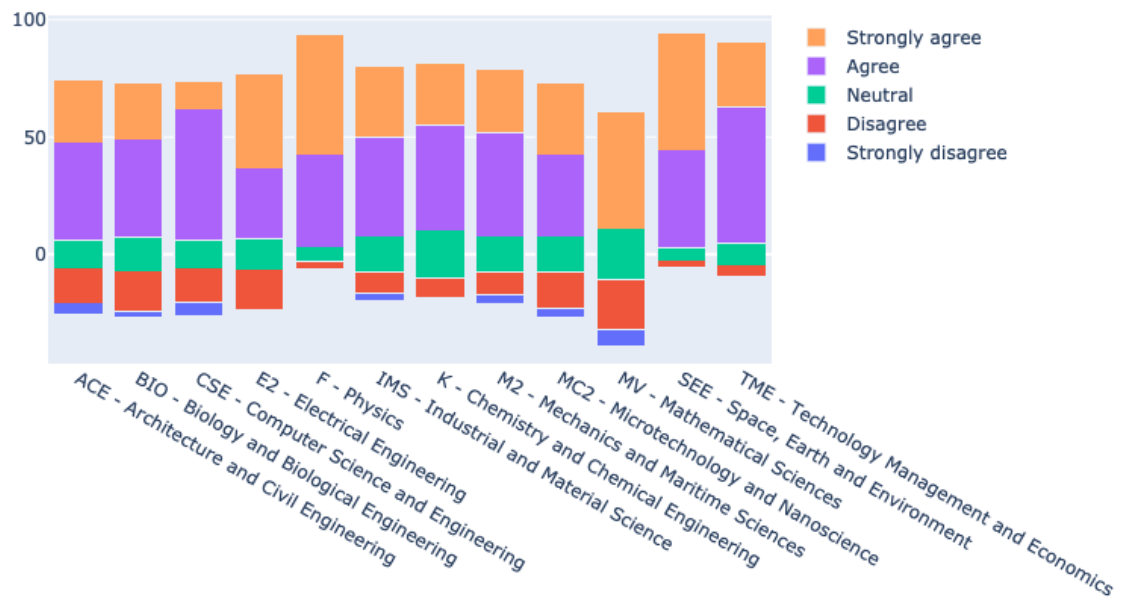
... I am satisfied with my life as a doctoral student.



... my work situation affects my personal life positively.

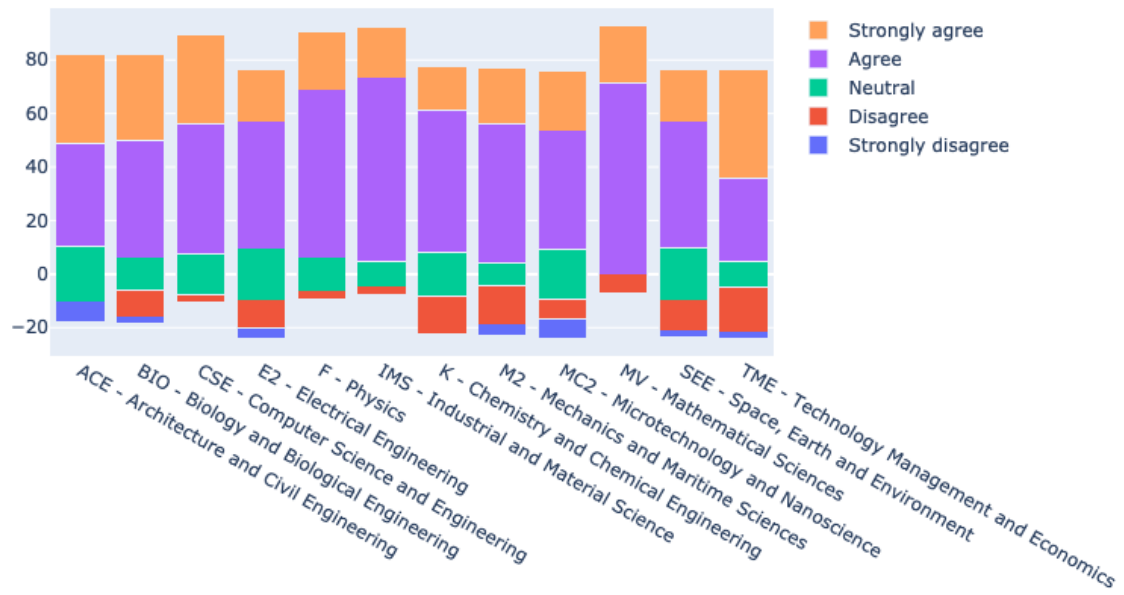


I feel that I am not expected to work when I am on vacation

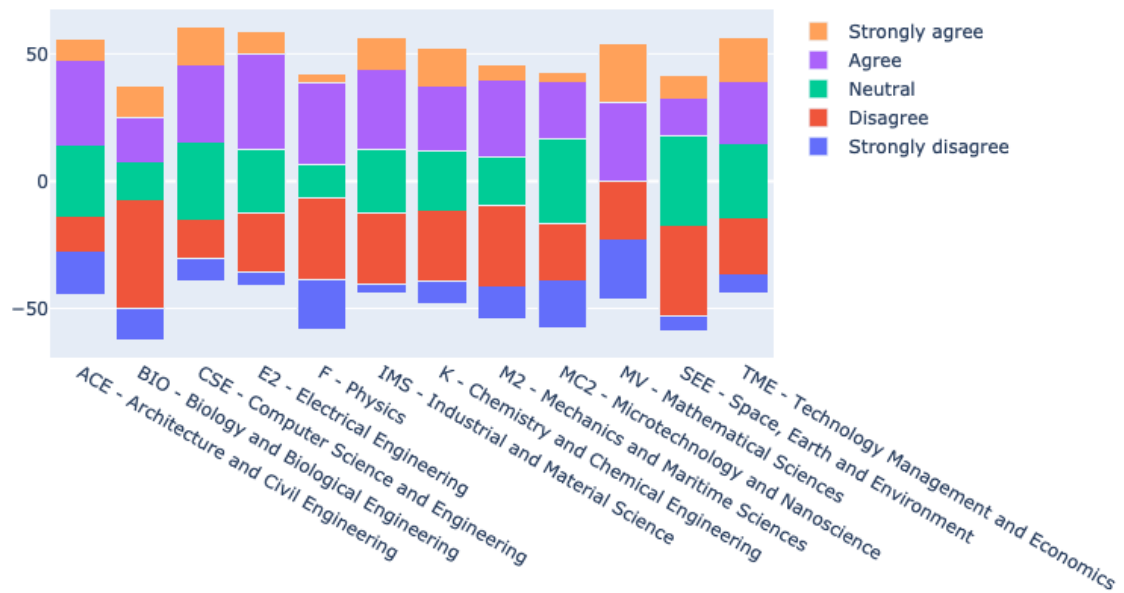


I feel or have felt during the past year negative stress because of ...

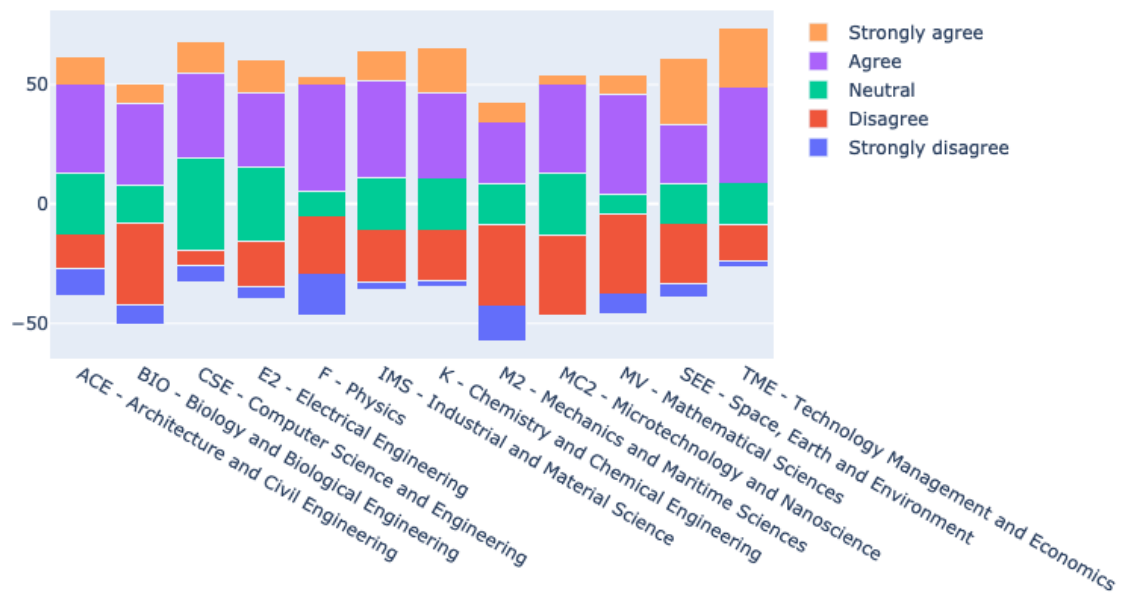
... my research.



... ongoing or planned courses I am taking.

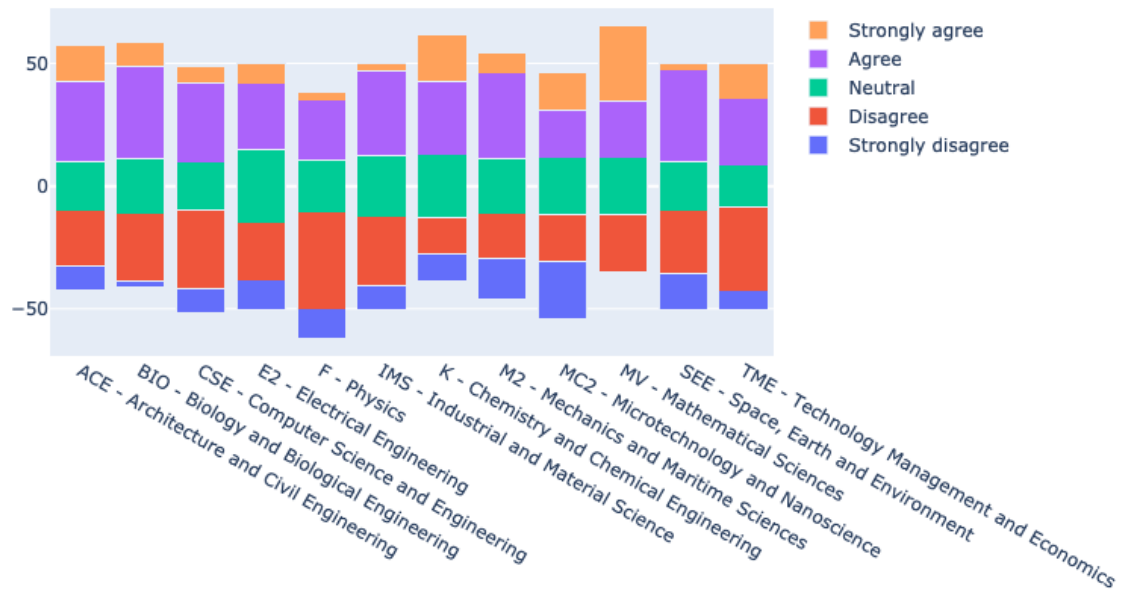


... departmental duties.

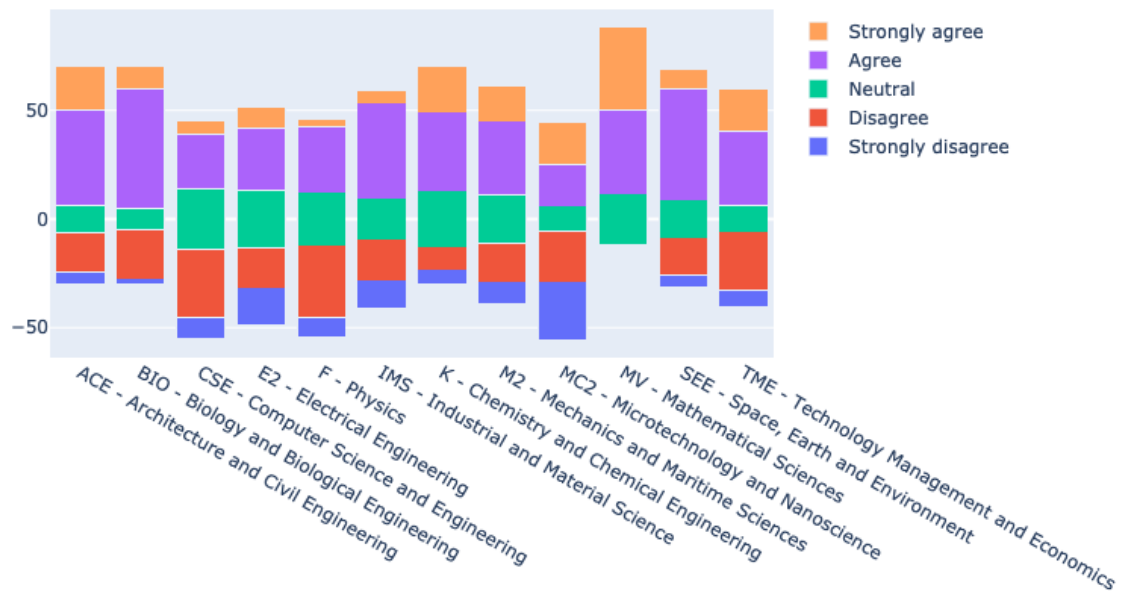


I know where at Chalmers I can turn to when...

... I experience physical illness

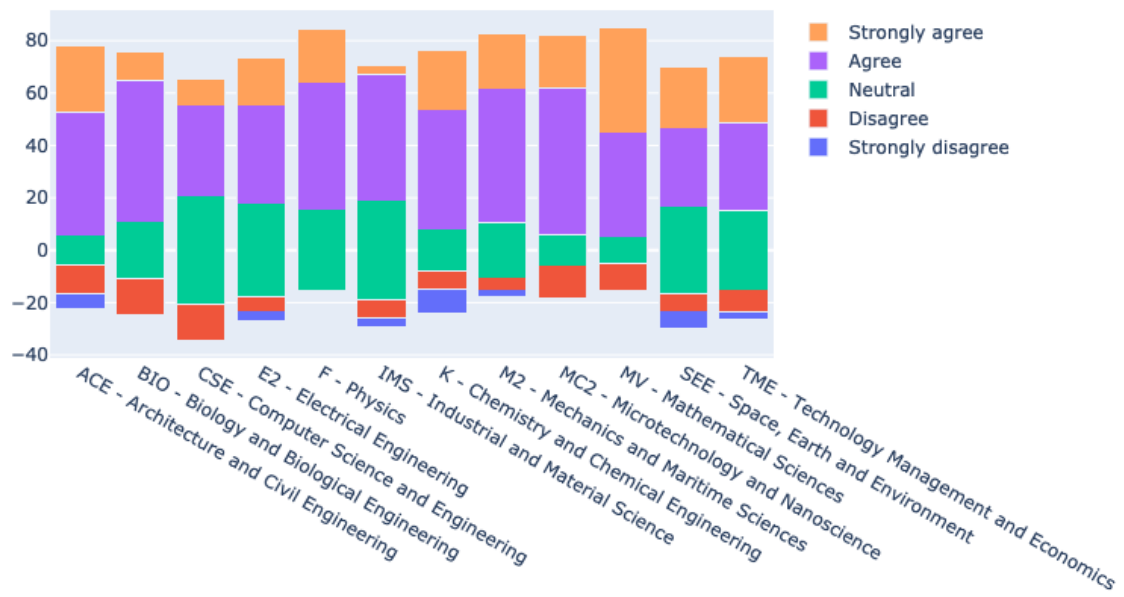


... I experience mental illness

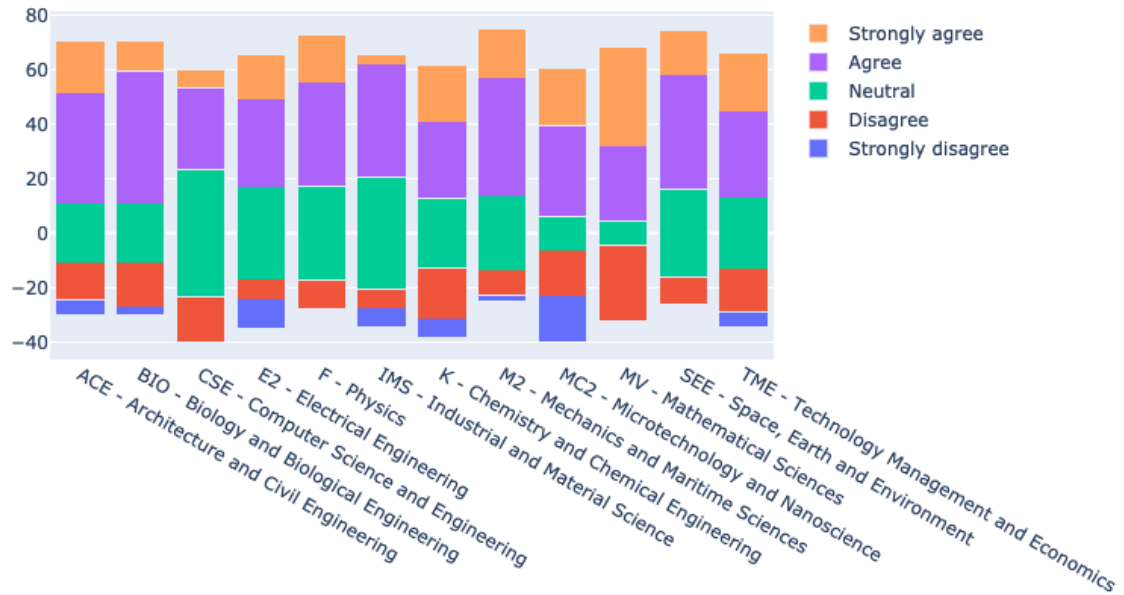


I feel safe seeking help at Chalmers when...

... I experience physical illness2



... I experience mental illness2



Support Systems

I am satisfied with the HR support (with regards to contract extension and other employment matters)

