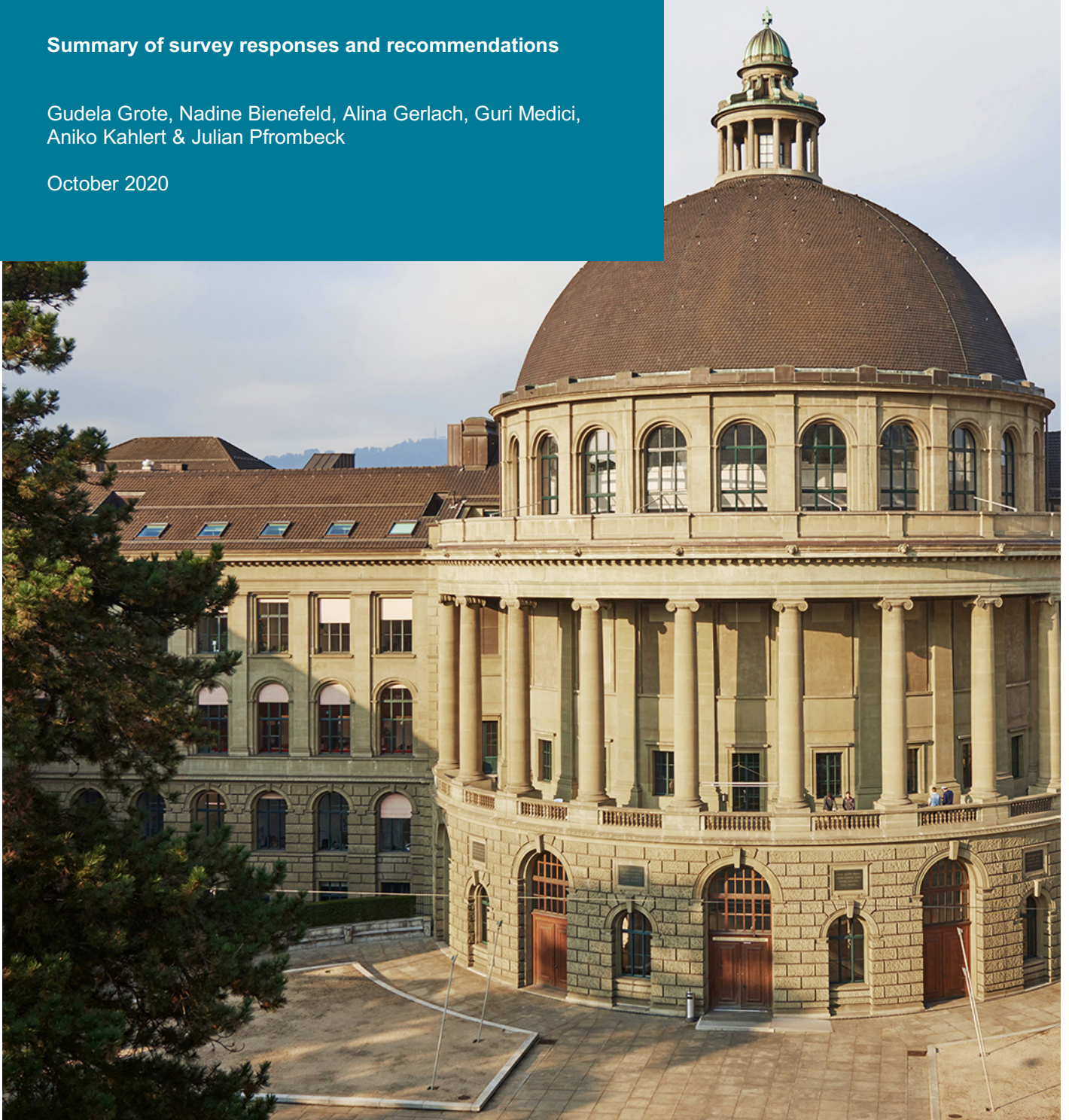


ETH Covid-19 survey

Summary of survey responses and recommendations

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October 2020



Acknowledgement

We thank the ETH Executive Board for their unwavering support and all participants for their patience and endurance. We also thank Loriana Vitea Medici, Marisa Roth, Luisa Koller, and Clara-Sophie Körner for their competent help throughout. We hope the results will prove to be worth everyone's efforts.

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1 Management Summary

From March to May 2020, the Chair of Work and Organizational Psychology (D-MTEC) invited all ETH employees to participate in a weekly survey on their work situation and experiences during emergency operations at ETH.

On average, 1684 employees used this opportunity over the ten weeks and provided a rich picture of their experiences. Indicators for well-being, collaboration, and performance generally showed that employees coped well with the new demands of remote working and virtual cooperation. Regarding general well-being, doctoral students and postdoctoral researchers appeared to be the most vulnerable group. Employees rated work engagement as well as individual and team performance highly, but also indicated increased pressure on their availability outside regular working time. Over time, there was a tendency to separate work and private life more. Especially from open comments, it was apparent that living conditions and family responsibilities played an important role in how well the situation could be managed. Job autonomy was generally perceived as an important resource as employees with high job autonomy reported less stress, more work engagement, better individual and team performance, less conflict and less social isolation. Task interdependence positively affected work engagement, team performance, and communication. Coworkers and supervisors were perceived as supportive, but feedback seeking, an important source of support, was rarely used. Employees who prefer to work in teams generally had a harder time adapting to the new situation of remote working and virtual collaboration during the lockdown.

Open comments in the surveys showed a large range of personal experiences. Positive experiences were related to team spirit, good technical support, personal efficiency and learning, flexibility and appreciation of one's work. Negative experiences concerned limits of virtual collaboration, social isolation, difficulties with self-management, lack of supervisor support, inadequate communication by ETH, technical and organizational difficulties with working from home, conflicts, stress, and uncertainty.

From the responses regarding expectations for the future work situation at the ETH Zürich five key messages can be derived:

- There is a general desire for higher flexibility regarding workplace and work hours.
- Collaborating and teaching virtually works, but needs to be complemented by physical contact.
- Decision-making and communication by the ETH Executive Board needs to be timely, transparent, and sensitive to the variety of personal working conditions for ETH employees.
- Measures should be taken to enhance inclusion and trust at all levels of the ETH.
- Effective performance hinges on continued strong IT support.

Based on our findings, we recommend that all ETH unit heads carry out a HR supported consultation within their units to discuss hybrid work arrangements that match both people's desire for more flexibility and the requirements of their tasks, while also helping to cope with the ongoing demands of the Covid-19 pandemic. Moreover, all IT staff should be included in a discussion on what support they themselves need to best support everyone else. We also propose a few guiding principles for keeping the experimental spirit alive that has carried us through the first months of these challenging times. Lastly, it is important to keep in mind that individuals' reactions to this extraordinary situation differ widely and that an open and inclusive dialogue at all levels of the ETH is therefore crucial.

2 Overview of the Survey

As the severity of the Covid-19 pandemic for Switzerland became apparent and with that also the impact it would have on people's work situation, the decision was taken by the ETH Zürich Executive Board to support a weekly survey on the situation of ETH Zürich employees. This self-report survey has allowed to continuously monitor the effect of the changes caused by the lockdown and gradual reopening between March and May 2020. Intermediate survey results were fed back to the ETH Executive Board and to the Human Resources Department in order to take immediate action where necessary. Also, selected results were presented in the ETH internal newsletter and in ETH Life. With the present report, we provide a fuller picture of the results and propose a number of recommendations for managing the ongoing challenges the Covid-19 pandemic presents to ETH Zürich and its employees.

We initiated the weekly survey on March 26, 2020, by inviting all ETH Zürich employees to tell us about their work situation prior to the Covid-19 outbreak, taking the year 2019 as a reference point (t0 survey). Starting from March 30, we asked all participants from this baseline survey (3430 ETH Zürich employees) on a weekly basis to tell us about their experiences in the previous week (t1 to t10). The invitation to participate in the last survey wave was sent out on June 2, 2020.

Most survey questions stayed the same over the ten weeks, a few were added and deleted in response to the development of the situation at ETH Zürich and more generally in Switzerland. Some questions were stand-alone questions, but many also were bundled for measuring certain characteristics of the persons answering the survey and indicators for their perception of the exceptional work situation. An overview of all questions and the underlying characteristics and indicators is provided in the appendix.

We always invited all 3430 ETH Zürich employees who had participated in the t0 survey to the subsequent survey waves, yet the participation in each weekly wave of the survey varied. Generally, participation declined over the course of the ten weeks leading to smaller samples for later waves. Table 1 provides an overview of the initial t0 sample and the subsequent t1 to t10 samples.

Table 1. Overview of the survey samples per wave

Survey	% Occupational groups	% Gender	% with/without supervisory responsibility
t0 N = 3430	24 Administrative staff 15 Technical staff 50 Doctoral students/post-doctoral researchers 11 Professors/Senior scientists	57 male 43 female	23 with supervisory responsibility 77 without supervisory responsibility
t1 N = 2306	28 Administrative staff 15 Technical staff 47 Doctoral students/post-doctoral researchers 10 Professors/Senior scientists	53 male 47 female	22 with supervisory responsibility 78 without supervisory responsibility
t2 N = 1944	29 Administrative staff 15 Technical staff 46 Doctoral students/post-doctoral researchers 10 Professors/Senior scientists	52 male 48 female	22 with supervisory responsibility 78 without supervisory responsibility
t3 N = 1854	29 Administrative staff 15 Technical staff 46 Doctoral students/post-doctoral researchers 10 Professors/Senior scientists	52 male 48 female	23 with supervisory responsibility 77 without supervisory responsibility
t4 N = 1414	31 Administrative staff 16 Technical staff 44 Doctoral students/post-doctoral researchers 9 Professors/Senior scientists	51 male 49 female	23 with supervisory responsibility 77 without supervisory responsibility

t5 N = 1565	32 Administrative staff 15 Technical staff 44 Doctoral students/post-doctoral researchers 9 Professors/Senior scientists	49 male 51 female	22 with supervisory responsibility 78 without supervisory responsibility
t6 N = 1448	33 Administrative staff 16 Technical staff 42 Doctoral students/post-doctoral researchers 9 Professors/Senior scientists	49 male 51 female	23 with supervisory responsibility 77 without supervisory responsibility
t7 N = 1370	34 Administrative staff 16 Technical staff 42 Doctoral students/post-doctoral researchers 8 Professors/Senior scientists	49 male 51 female	21 with supervisory responsibility 79 without supervisory responsibility
t8 N = 1211	34 Administrative staff 15 Technical staff 42 Doctoral students/post-doctoral researchers 9 Professors/Senior scientists	48 male 52 female	22 with supervisory responsibility 78 without supervisory responsibility
t9 N = 1145	35 Administrative staff 16 Technical staff 40 Doctoral students/post-doctoral researchers 9 Professors/Senior scientists	48 male 52 female	23 with supervisory responsibility 77 without supervisory responsibility
t10 N = 1329	33 Administrative staff 15 Technical staff 41 Doctoral students/post-doctoral researchers 11 Professors/Senior scientists	50 male 50 female	23 with supervisory responsibility 77 without supervisory responsibility

2.1 A Brief Glimpse into Work Patterns in 2019

In 2019, 65% of the t0 respondents spent less than 30 minutes commuting to their work place, 22% spent between 30 and 60 minutes, and 11% spent more than 60 minutes. Two percent worked outside of Switzerland. On average, the respondents spent 4.6 hours commuting per week.

On average, respondents travelled 10 days for work in 2019, and 84% of respondents' work time was spent at the ETH Zürich, 11% at home, and 5% at other locations.

Respondents had 5 virtual and 31 face-to-face meetings per week on average. Two percent of teaching happened online in 2019. Email was the most frequently used communication technology, followed by telephone, video conferences, collaboration platforms, and social media. Seventy-three percent of collaboration partners were located at the ETH Zürich, 17% were located at another organization in Switzerland, and 10% were located outside of Switzerland.

3 Trends in Responses over Ten Weeks

Over the ten weeks, we monitored indicators for employee well-being, collaboration, and performance. We analyzed these indicators based on three sets of comparisons: occupational groups (administrative staff, technical staff, doctoral students/postdoctoral researchers, professors/senior scientists), gender (female/male), hierarchical position (with/without supervisory responsibility). All results will be presented with regard to these groups. We conducted statistical tests to check for significant differences between groups and across time. Here, we highlight the most important results in terms of an overall view of employee well-being, collaboration and performance as well as areas where action is needed over the coming months. Particularly relevant results we also present as graphs. In order to understand the meaning of the numerical values we report, please note that most indicators were measured on a five-point response scale (unless noted otherwise; please also consult the appendix where all indicators and response scales are listed).

3.1 Well-being

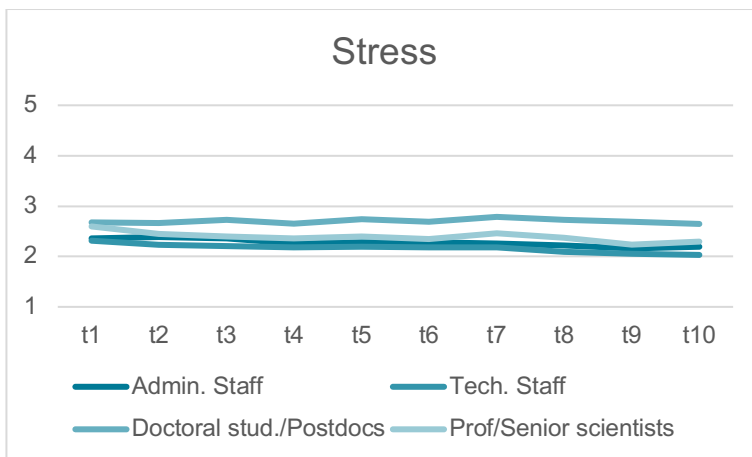
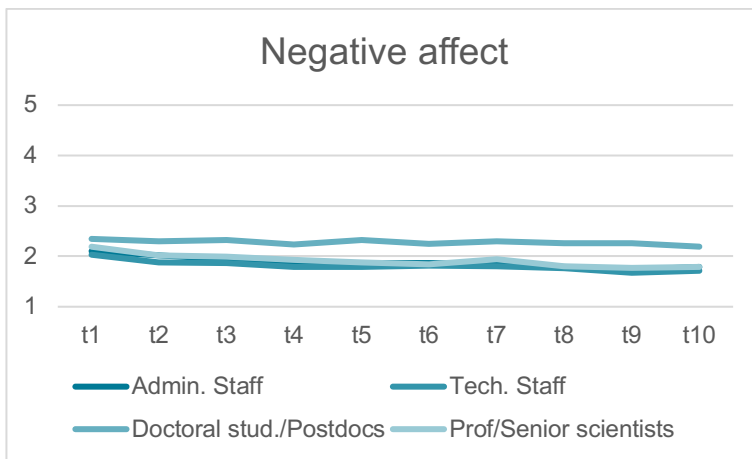
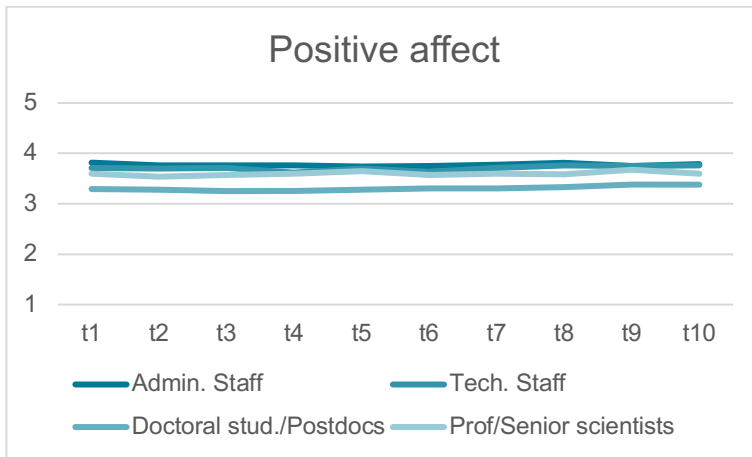
Positive affect was fairly high throughout all survey waves, with mean values ranging from 3.3 to 3.8 for the different groups. There were only minor fluctuations over the ten weeks, but doctoral students and postdoctoral researchers had consistently lower mean values than the other occupational groups.

Negative affect was generally lower, with mean values ranging from 1.7 to 2.3, and slightly decreased over the ten weeks, except for doctoral students and postdoctoral researchers who also had the highest mean values overall. Also, women and employees without supervisory responsibilities expressed slightly higher negative affect compared to men and to supervisors, respectively.

The level of *stress* was rated around 2.7 by doctoral students and postdoctoral researchers, and between 2 and 2.6 by the other groups of employees. There was a slight decrease in experienced stress over the ten survey weeks except for doctoral students and postdoctoral researchers.

Overall, it appears that people coped well with the new situation. Doctoral students and postdoctoral researchers seemed to be the most vulnerable group, though. Moreover, behind the mean values reported here, there are large individual differences (standard deviations ranged from .5 to 1 and were particularly high for experienced stress), which are exemplified by reports of positive and negative experiences summarized in Chapter 4 of this report.

Figures 1a to 1c. Positive affect, negative affect, and stress



3.2 Collaboration

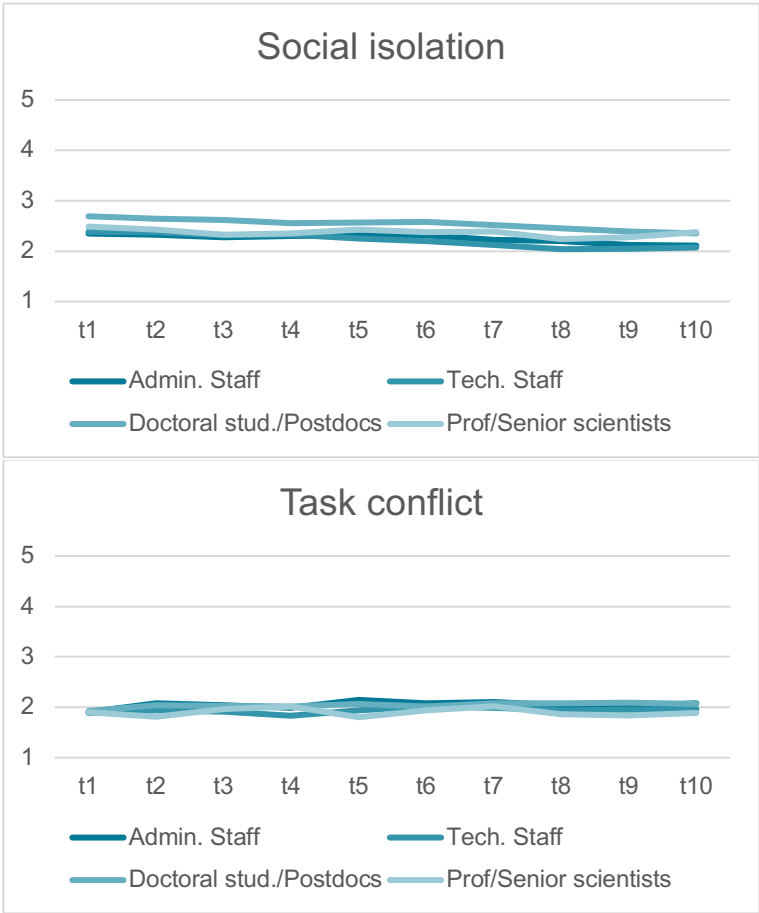
Communication quality was rated as effective throughout, that is by all groups and across time, with a mean value of 3.8. People generally felt slightly more *socially isolated* at the beginning, with mean values of ranging from 2.3 to 2.7, compared to 2.1 to 2.4 at the end of survey week 10. This decrease of feeling less socially isolated was more pronounced in technical and administrative staff. Overall, women and employees without supervisory responsibility felt more socially isolated than men and employees with supervisory responsibilities respectively.

Experienced *task conflict* was generally low, with mean values around 2 across all survey weeks and employee groups. Experienced *relational conflict* was overall rated even lower with a mean of 1.9, and was especially low for technical staff. The fact that technical staff was more likely to meet in person during the ten weeks may have played a role here. Also, standard deviations of 1 and higher for these indicators point to large individual differences which are illustrated well by the experiences reported in Chapter 4.

Support by coworkers and supervisors was generally rated high with mean values around 4 for coworkers, and slightly lower with about 3.8 for supervisors. *Seeking feedback* as a particular kind of support was fairly low with maximum mean values of around 2.4 for feedback from coworkers and around 2 for feedback from supervisors and slightly increased over the ten weeks.

Collaboration overall worked well. The fact that people mostly collaborated with others they knew from before the lockdown probably helped to establish effective virtual cooperation.

Figures 2a and 2b. Social isolation and task conflict



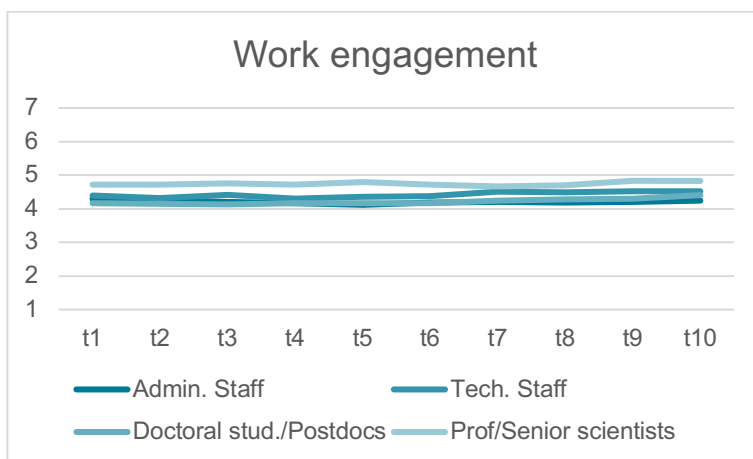
3.3 Performance

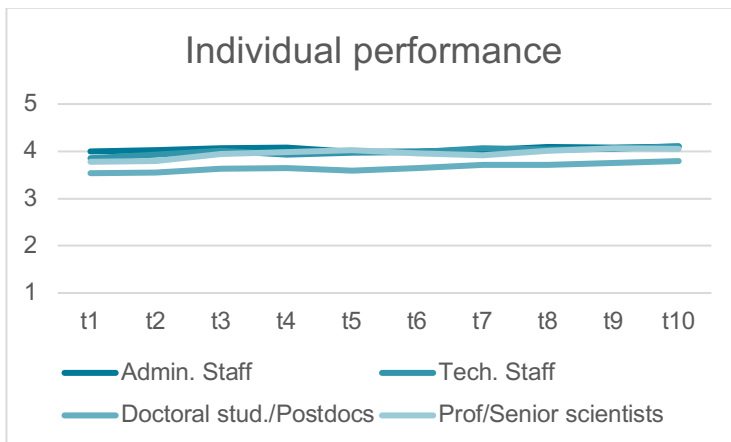
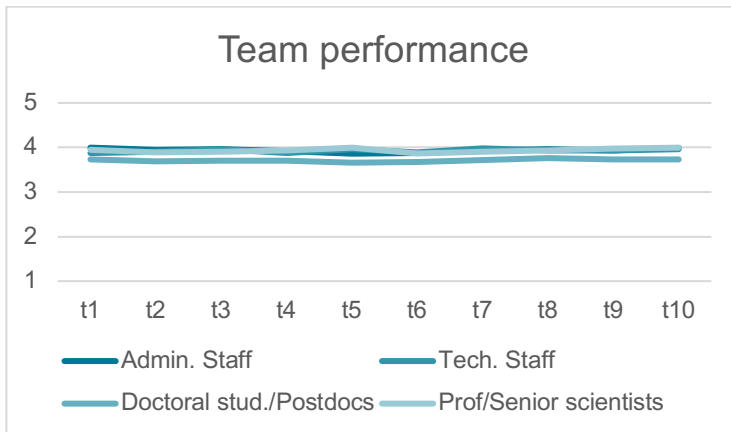
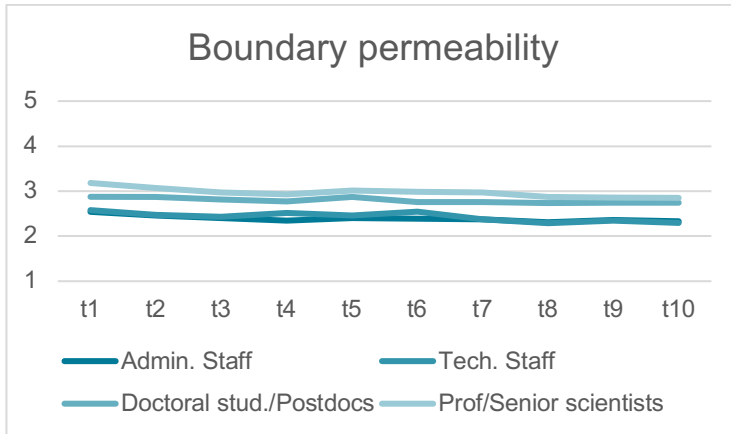
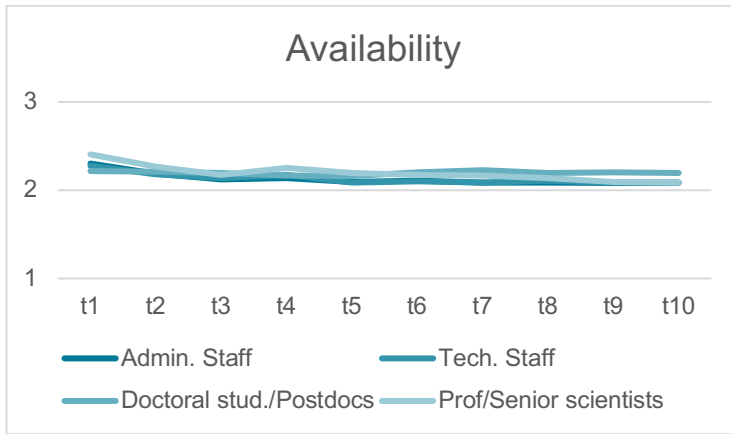
Work engagement was fairly high across all groups and also did not change over time, all mean values were between 4.1 and 4.8 (on a 7-point scale). Professors and senior scientists expressed generally higher work engagement than other employment groups. *Individual performance* was at 3.7 at t1 and increased over the weeks to a mean of 4.0 across all groups. Mean values for *team performance* stayed slightly below 4 (3.7 to 4.0) for all groups and across the ten weeks. Doctoral students and postdoctoral researchers rated team performance lower than all other groups.

Perceived *job autonomy* with mean values of about 4 across all groups was high and stayed constant. Concerning temporal autonomy, though, many employees felt that their *expected availability outside of regular work hours* had increased after the lockdown and remained slightly higher than before the lockdown over the ten weeks. Exclusively working from home brought additional demands for *managing the boundary between work and non-work*. All groups of respondents reported both work reaching into private life and, vice versa, private life reaching into work fairly frequently with mean values between 2.5 and 3. The two scientific occupational groups reported generally more boundary permeability than administrative and technical staff.

The performance indicators show that people in general perceived themselves as productive in the new situation. Especially concerning boundary management between private and work life, large individual differences have to be noted, though, due to different family and housing conditions. This is very apparent in the employee experiences we report in Chapter 4.

Figures 3a to 3e. Work engagement, availability, boundary permeability, team and individual performance





3.4 Impact of personal and work-related differences on the lockdown experience

Beyond gender differences that we examined for all indicators, but found comparatively few, we also looked into the relevance of two personal dispositions: learning goal orientation and team preference. A learning goal orientation implies that individuals like to be challenged by new tasks and appreciate opportunities to develop new abilities and skills. We found that ETH employees with a high learning goal orientation reported more positive emotions, more work engagement, and better individual and team performance, but also slightly more task conflicts. Not unexpectedly, the situation with exclusive work from home was harder to handle for individuals who like to be around and work with others. ETH-employees who indicated that they prefer to work in teams reported more stress and lower positive emotions, lower individual performance, and more social isolation, but interestingly also better communication in the new situation.

We also examined two crucial working conditions: job autonomy and task interdependence. Job autonomy was generally related to more positive evaluations, such as less stress, more work engagement, better individual and team performance, less conflict and less social isolation. Task interdependence positively affected work engagement, team performance, and communication, but was also related to slightly more reported task conflicts. Moreover, employees with higher task interdependence reported more permeable boundaries between work and private life.

Overall, being oriented towards learning new abilities and skills seems to have helped to cope with the Covid-19 related challenges. Also, high job autonomy and working on interdependent tasks, which fosters collaboration, are important resources. Lastly, having a preference for working in a team rather than alone made remote work more difficult to bear.

4 Issues Raised in Open Comments

The survey contained a number of open questions: Two questions concerning general positive and negative experiences from t1 to t9, which we discuss in this chapter, and some future related questions towards the end of the ten weeks, which we discuss in chapter 5.

4.1 Positive experiences

Positive experiences were most frequently related to the following topics: Team spirit and group cohesion, tools for virtual collaboration, efficiency, learning, temporal flexibility, appreciation of own work, and towards the end of the ten weeks also more general personal successes at work and the prospect of working under more "normal" conditions again. There were no substantial differences in the frequency with which these topics were mentioned across gender and employees with/without supervisory responsibility. We provide some examples of responses related to the different topics to allow a first-hand impression of what the lockdown experience felt like for ETH employees.

Team spirit and group cohesion

- I call team members who tend to isolate themselves at least every second day, and as soon as they show up on Zoom, I ask how they are.
- New and interesting discussions with close coworkers during the voluntary zoom group coffee break. Good cohesion and mutual support within the research group.
- Extremely high understanding by colleagues/supervisor for the difficult situation between Home Office and Homeschooling, also with regards to changes in the possible task/work volume.

Virtual collaboration tools

- Zoom offers fantastic communication possibilities. Research seminars take place all over the world via Zoom, so suddenly there is a greater exchange in the global research community.
- Discussions by students in forums of moodle. I have not used them before, we discussed only in the class room. The written exchange in the forum has a high quality, I will use that also in the future.
- The first Zoom meeting with my team and with colleagues outside the team was a very positive experience. I perceived the people much more intensively and listened to them better.

Efficiency

- The writing of a publication went much faster (as expected) in the home office than in the office. Concentration was much better because there were almost no sources of interference.
- Higher demands are placed on personal responsibility, which has motivating effects for me.
- I managed a meeting more tightly, increased focus on result. Intermediate results are shared earlier to obtain feedback, leads to better products (e.g. redesign of an event).

Learning

- I got the time to think about my research and fetch new inspiration which in normal conditions I often don't have because there's always a lot of hands on work to do.
- On a short notice we have initiated CoV-19 related project and collaboratively learnt a lot about it. It gave us the great feeling of doing the right thing and re-focusing resources on urgent needs.
- I have been preparing Moodle-based exam for the first time. So far it has been a rewarding experience as I had an opportunity to learn something new.

Temporal flexibility

- The ability to take a break when you are stuck and do something else for a short time. Once during such a break, I solved a problem without even thinking about it.
- Home office allows me to connect my personal life and work life more effectively. I still see colleagues every day in virtual meetings, but also spend lunch with family.
- I celebrate my current way to work of one meter and can put my gained energy, which I lose by commuting, into my work.

Appreciation of own work

- Students who thanked us for the great work that we are trying to do for them especially in this difficult situation under difficult conditions.
- We receive a lot of grateful feedback from our library customers, even though we often cannot help because of the closure.
- Thankfulness of PhD researchers of the extra time I spent with each one of them talking about how to deal with the crazy situation.

Work-related success

- I was informed that I made it to the 2nd round of interviews for an assistant professorship.
- I finished writing my PhD thesis and I'm happy about it.
- As a group, we wrote and submitted a research grant together within a few days. This experience was very positive despite the time pressure.

Prospect of going back to "normality"

- I got a green light to at least plan my field work, and will be hopefully able to collect data in June with the help of my MSc thesis students... if all goes well...
- It is still positive that since the week before Easter the children have been going to the day care center for 2 days again (after a 3-week break).
- I was really glad to go back to the lab, not only to finally do practical work again, but also to see some of my work colleagues again.

4.2 Negative experiences

Negative experiences tended to touch on issues that were often mirror images of the positive experiences: limits of virtual collaboration, social isolation, self-management regarding work motivation, and managing boundaries between work and non-work. Additional issues were lack of support by supervisors, dissatisfaction with ETH wide regulations and communication, interpersonal conflicts, work-related uncertainty and stress, and mainly at the beginning also technical and organizational problems with working from home. Again, there were no substantial differences in the frequency with which these topics were mentioned across gender and employees with/without supervisory responsibility. One noteworthy difference is that women mentioned lack of support by supervisors slightly more often than men. Again, we provide some examples of responses related to the different topics to allow a first-hand impression of what the lockdown experience felt like for ETH employees.

Limits of virtual communication

- Teaching to a camera, in an empty lecturing hall. It's frustrating and boring for everyone, and I fear to miss many of my students' problems as I'm no longer able to read the room.
- It is difficult for me as a supervisor to get a feel for the mood and the well-being of my co-workers. There is less informal information flow, which reduces the overall cohesion.
- I really needed to reach my supervisor with a burning question, but couldn't reach him easily. A simple knock on the door isn't possible, and an email often drowns among other emails.

Social isolation

- I used to spend a lot of time brainstorming with people in my team. I really lack this kind of personal interaction, which negatively affects me and the quality of my work.
- Staying alone in a one-room apartment without personal contact.
- It has been very hard to balance the social isolation and anxiety associated with a global pandemic with being just as productive as before (an expectation voiced at the townhall)

Difficulties with self-management

- I find it a lot more difficult to concentrate and work efficiently from home - potentially due to my current living situation which is not ideal for this purpose.
- Stress because I do not know how to properly set up a work schedule, everything happens "on demand" as the day rolls through. I must get better at this.
- The whole situation makes me being constantly thinking about it, checking the news, statistics, etc. This impedes me from being more productive, causing me stress because I am not fulfilling my tasks.

Difficulties with boundary management

- It's harder to stop working in the evening when you're not changing places from office to home.
- I find working from home extremely unproductive, as you cannot feel any "switches" between home and work mood. This makes it really hard to focus on one of them.
- Because there is no separation between work and home, supervisors and coworkers often find it difficult to turn off and ask more outside of the normal working hours.

Lack of supervisor support

- The fact that there is little to no leadership and management in the group is becoming increasingly clear now that everyone is working remote.
- My supervisor did not react anymore to my attempts to reach him and did not appear for agreed virtual meetings. Otherwise one can "waylay" in front of his office - that is now not possible anymore.
- I was informed by my boss that even though I have very small kids (and no help) I need to keep up with my work. Thus, I am working very late hours and I'm exhausted and stressed all the time.

Inadequate COVID-related ETH communication and regulations

- It is annoying ETH is so vague regarding the return to office work. I feel that our prof is pushing for a return of all workers to offices, despite the fact we have no facilities or adequate space.
- The bullshit PR article from ETH stating that everyone is doing great. All parents of young children I know are close or past burnout. Public image is not a reason for such a lack of respect.
- Disappointment for the restarting plan. I expected a much faster restart, in particular regarding the possibility to work from my office. Motivation to work is now even lower as in the last weeks.

Work-related interpersonal conflicts

- Previously negative positions, ways of communication etc. become clearer as the current crisis situation is exploited to push these positions/decisions through.
- A lot of hidden, unequally distributed work that led to some group members deciding to work more egoistically in the future.
- I volunteered to do something I had not done before, spent some extra hours on it, and then received a very harsh feedback, not considering the circumstances under which I had done the task.

Work-related uncertainty and stress

- The insecurity about my future employment due to fixed-term contract. The current crisis times seem like stealing our time but in practice everything is due as usual, this adds stress to daily work.
- Nearly all students and post-docs in my group have lab-based projects that were just getting underway-- shifting their projects to something they can work on while at home is extremely challenging.
- Home-office is just not applicable to what I am doing. So, I am just playing the waiting game until all of this just blows over.

Inadequate home office setup

- Does ETH think everyone has a large and quiet apartment with two fully equipped home offices? My current reality is noise from aircrafts, kids, and constructions sites, and working on a laptop.
- Internet speed is still a major barrier.
- I do not have an office at home. Therefore, space for work is shared among family and for me it is very small. Especially challenging meeting discussions are difficult.

5 Summary of Responses to Future-Oriented Questions

For the last three weeks of the survey we asked a few questions about future work practices. From those questions, three results stood out:

- I There is a general desire for higher flexibility regarding workplace and work hours.
- II Collaborating and teaching virtually works, but needs to be complemented by physical contact.
- III The lockdown was a very demanding time, but has also created opportunities for future-oriented learning (e.g., self-management, work-home boundary management, IT tools for collaboration and teaching).

We also asked about actions and support at the ETH level that were perceived as particularly positive or negative and should therefore be promoted/avoided in the future. The responses showed that there is agreement on what core topics are, but that perceptions on how these topics were and should be handled diverge. To illustrate this, we directly juxtapose some exemplary responses below. Thereby, we want to highlight two core messages: (1) There are a number of issues that will have to be addressed in the future and there is agreement on what those issues are; (2) Steps taken by the ETH to address these issues in the past have met with very different reactions by ETH employees, which hints at the importance of a more inclusive approach when moving forward in managing this extraordinary situation. We will come back to this point in the final chapter where we make some recommendations for the ETH Executive Board to consider.

Decision-making by the ETH Executive Board

Positive	Negative
ETH reacted very quickly and, despite appropriate easing by the federal government, nevertheless maintained its own security measures. Very good implementation of the master plan!	The new holiday regulations. For a university claiming to be international I find it unacceptable to bully international employees to take vacation with no chance of seeing their family abroad.
I was extremely happy when ETH allowed employees who found it difficult to work from home to go into ETH with special permission.	Time set for home office (till 1st September) is really very long. this really affected my motivation. Perhaps allowing 1 day a week just to 'work in the office' would have been great.
ETH considered the needs of families with young children and gave some free hours to the employees taking care of young children. I can access the ETH servers even far away from Zürich.	The lockdown of the labs was not required. ETH clearly went beyond the guidelines of our Bundesrat. This hurt our research, PhD students and postdocs. Really bad.
The rectorate's management of the sudden lockdown was exemplary. Clear high-level goals, rapid fixing of formal/legal situation "behind the scenes", no micro-management of day-to-day teaching approach.	ETH has put absolutely no effort into ensuring that supervisors adhere to their policies, which makes most of the virus response measures practically useless.
I appreciated the fact that during the lockdown we did not have to go to work and could work from home and that strong security rules are in place since we opened (number of people per room/distance).	Overtime regulation: Fixing the working time to the target hours and not offering any flexibility, even if the workload would require it, is inefficient and not very motivating.

Communication by the ETH Executive Board

Positive	Negative
I like that ETH has responded sharply to the pandemic early on, and has kept communication with ETH members throughout the period.	The initial communication was very late. When it did come, it was very professional and through all channels, but the initial delay was too long and there was too much uncertainty.
I thought it was very nice how the SL tried to make us feel comfortable in the home office as well, and how they kept informing us what the next steps were. They also gave us courage!	I miss regular communication with the ETH management and instruction regarding the upcoming months. As the pandemic proceeds less and less clarity is available as to what happens next.
I think ETH's communication strategy was excellent, and Joel Mesot's e-mails were personal, positive and supportive. I felt supported in my struggle to combine work with family life.	Badly communicated HR emails about taking holidays, needs to be phrased more sensitively and appreciate that ETH staff are a wide variety of people, not all with teaching responsibilities.
I was surprised by all the timely and very informative emails and posts on the website that helped to see what was possible and what wasn't.	Too many mails and information - this information bombardment was too much!
The Townhalls were very important for me. With the possibility to ask questions. I would like to continue to be informed in this way about ETH matters in the future.	While I understand ETH is a German institution, there are offices that are not in the German speaking side. It would be great to communicate also important info in English during Townhall.

Sense of unity and cohesion

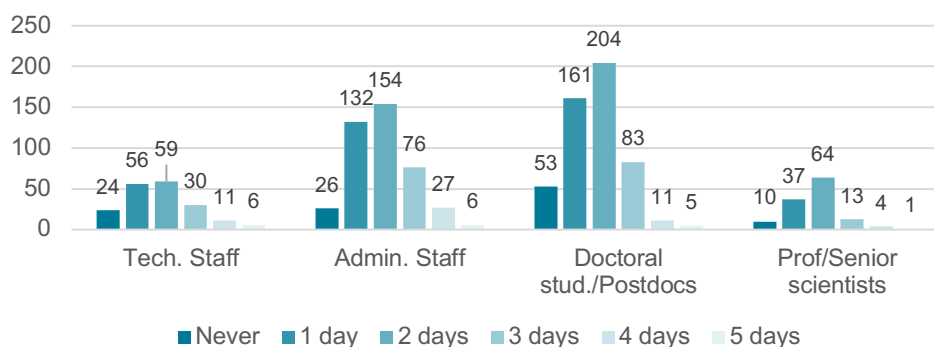
Positive	Negative
I liked the active interest in the well-being of its employees (e.g. this questionnaires) and the effort to know it. Also, the way well-being and health were clearly the top priority.	Compared to other academic communities I have worked in, ETH is rather weak & impersonal and the pandemic has made it even more so. Individual loneliness increased.
Confidence by supervisors that employees are taking responsibility for their own performance in the home office.	In my view, there was no ETH spirit, everyone muddled through on their own. I thought the pool of helpers was a good idea, but heard from colleagues that they had not found "jobs" through it.
The spirit at ETH, everyone does their utmost for the common good.	Some people of our research group who are normally very open regarding communication more or less 'disappeared' during the pandemic since they don't participate in digital group activity.
There was/is a great sense of cohesion among the colleagues. I thought, on the part of the management there was a great confidence that the employees would do their best to keep everything going.	100% home office is not efficient as we need personal interaction to inspire and get energy and motivation from one another.
All the people in our group were very open to the new technologies and willing to use them and adapt their working methods. The mood always remained positive	How much social isolation combined with home office can affect the mood. Home office without regular social contacts/distraction was quite exhausting.

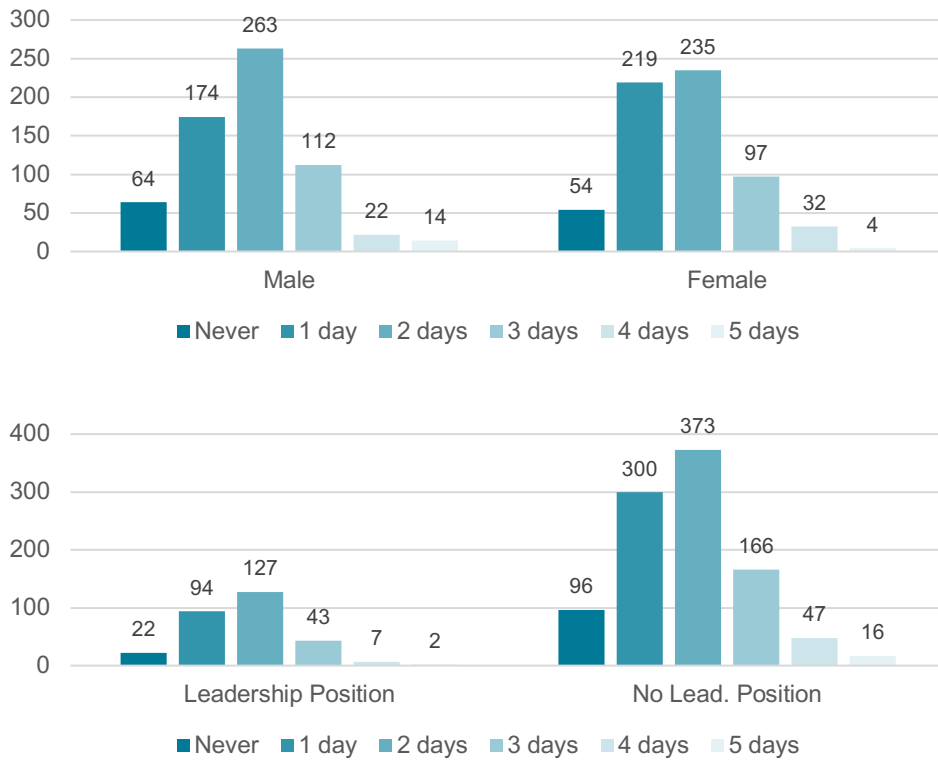
IT support

Positive	Negative
That the technical infrastructure for remote teaching and research was already at an advanced and stable state that we could just use it without any teething difficulties.	Zoom for web conferences, with all the IT-security rules I expected a move away from this security risk, e.g. to WebEx, the industry standard that has proven to be safe. It hampered me to use webconfs.
Overall, the transition to remote work and virtual collaboration was seamless and quite easy. This is due to all the people working in the background to make this possible (thank you).	Training for older personal on online tools for group meetings and lectures would streamline the process. Meeting efficiency was lower due to many technical challenges and missing training.
I thought it was very good that we were able to borrow ETH IT equipment to take home without any complications. Otherwise, everything has to be clarified and approved at different levels and for several weeks.	ETH support for video production: very poor so far. Understandable due to the emergency situation. Now no more emergency situation. Video production infrastructure must therefore be massively improved.
The quick recommendation what software to use for virtual teaching and meetings was very helpful and efficient. Zoom was a good choice.	Maybe the preparation for future events could be improved a bit, so that in case of emergency plans concerning e.g. home office can be used.
Great infrastructure has helped us all to continue our work without obstacles. That surprised me positively.	Technical equipment in the home office was rather slow in the beginning.

In the very last survey wave, we asked about preferences and expectations about working from home, because an increase in flexibility had been a clearly expressed desire in the vast majority of responses throughout. As can be seen in the following graph, in all groups of employees, the most preferred work pattern would be 2 days working from home. However, for women, there was an almost equal number of individuals that would want to work just one day from home. No consistent differences were found between men and women regarding demands on family care that might explain this difference in preferences.

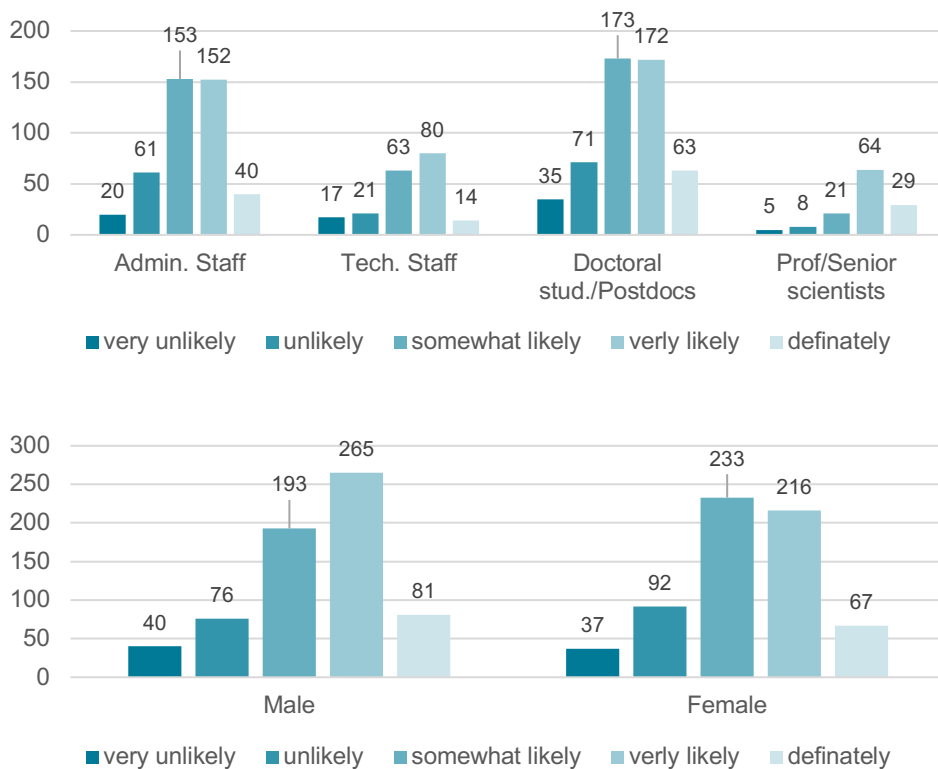
Figures 4a to 4c. Preferred number of home office days for different employee groups

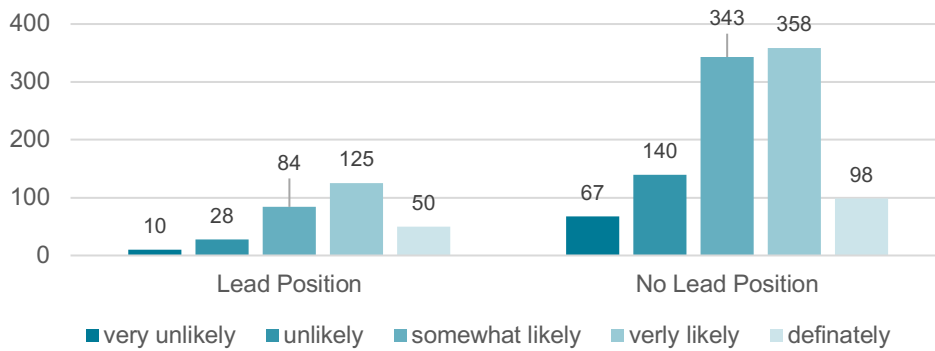




We also asked whether people saw it as likely that work practices would be changed so that they could work from home according to their personal preferences. From the responses, one can detect a cautiously optimistic outlook, with men being more optimistic than women.

Figure 5a to 5c. Likelihood that supervisor/department will meet employee home office preferences





Lack of trust by supervisors was mentioned repeatedly in the open questions as a barrier to remote working. Therefore, we directly asked about trust in the last survey. Comparing answers from employees and supervisors, it appears that employees are slightly more/too optimistic about how trusted they are. Supervisors of administrative and technical staff expressed slightly less trust than supervisors of scientific staff, also female supervisors seem to be less trusting.

Figure 6a and 6b. Supervisor trust in employees' effectiveness at home (rated by employee)

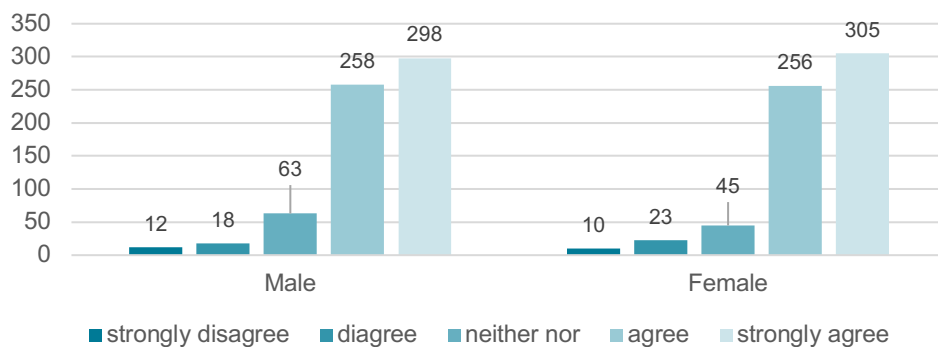
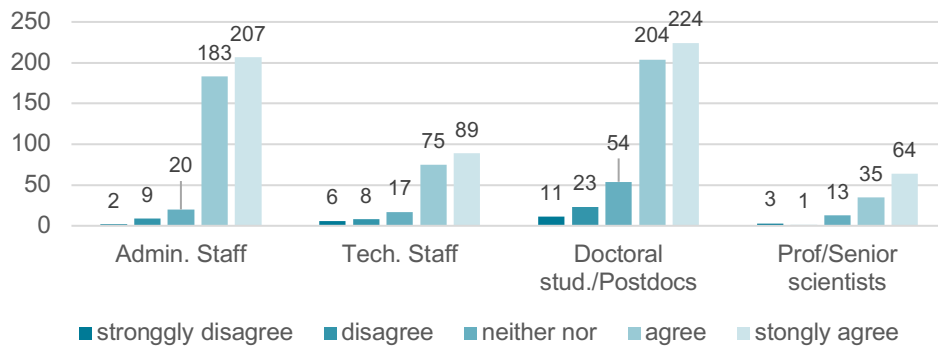
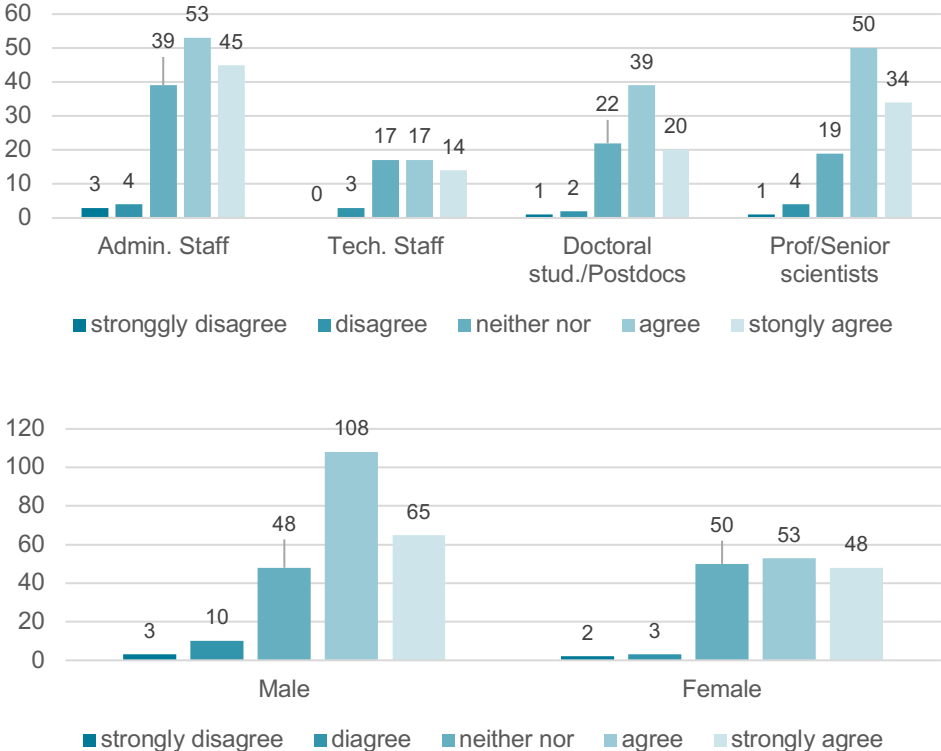


Figure 7a and 7b. Supervisor trust in employees' effectiveness at home (rated by supervisor)



6 Recommendations

From the responses regarding expectations for the future work situation at the ETH Zürich five key messages can be derived:

- There is a general desire for higher flexibility regarding workplace and work hours.
- Collaborating and teaching virtually works, but needs to be complemented by physical contact.
- Decision-making and communication by the ETH Executive Board needs to be timely, transparent, and sensitive to the variety of personal working conditions for ETH employees.
- Measures should be taken to enhance inclusion and trust at all levels of the ETH.
- Effective performance hinges on continued strong IT support.

To address these demands, we recommend three immediate actions:

- All ETH unit heads should carry out a consultation within their units to discuss hybrid work arrangements that match both people's desire for more flexibility and the requirements of their tasks, while also helping to cope with the ongoing demands of the Covid-19 pandemic. As part of that consultation, concrete measures should be discussed that foster inclusion of all unit members, independent of where they work. New forms of hybrid formal and informal meetings might be one such measure. Also, units should develop their own code of conduct concerning the use of different media for communication and collaboration and concerning demands on everyone's availability outside of regular work hours.
- The HR department should provide supporting material for the consultations in the ETH units. Additionally, specific training modules could be offered, for instance, concerning development of "sensing mechanisms" for employee and team well-being in virtual teams and communication with different media. Such modules can also be integrated in ongoing leadership development activities.
- All IT staff should be included in a discussion on what support they themselves need to best support everyone else.

We also propose a few guiding principles for creating good working environments at ETH Zürich and for keeping the experimental spirit alive that has carried us through the first months of these challenging times:

- Keep work motivation high by ensuring well-designed jobs and work processes.
- Avoid social isolation by creating interdependent tasks in teams.
- Match the required richness of communication with the appropriate communication channel.
- Balance remote work with face-to-face interactions whenever possible.
- Build organizational identity through physical and psychological symbols.
- Be flexible: Do not look for the perfect, ever-lasting solution to everything.
- Allow time for curiosity, creativity, and learning to evolve and for ideas to be implemented.

Lastly a word of caution: The results presented in this report provide a broad overview of employees' perception of their work situation during the lockdown and emergency management at ETH Zürich in the spring of 2020. Therefore, the recommendations are kept at the same global level. However, it is important to keep in mind that individuals' reactions to this extraordinary situation differ widely and that an open and inclusive dialogue at all levels of the ETH is therefore crucial. The future development of the Covid-19 pandemic is uncertain, but likely to determine our lives for quite a while longer, hence the establishment and careful monitoring of productive and healthy remote working practices to foster well-being and satisfaction of all members of ETH Zürich remains key.

7 Appendix

7.1 Glossary

Construct	Definition
Virtual Meeting	Interactions via communication tools (e.g., telephone, email, Skype, Zoom).
Face to Face Meeting	Direct interactions in the same physical location.
Positive Affect	Reflects the extent to which a person feels enthusiastic, active and alert. High PA is a state of high energy, full concentration, and pleasurable engagement, whereas low PA is characterized by sadness and lethargy.
Negative Affect	Is a general dimension of subjective distress and unpleasurable engagement that subsumes a variety of aversive mood states, including anger, disgust, guilt, fear and nervousness, with low negative affect being a state of calmness and serenity.
Stress	An individual state which is characterized by a combination of high arousal and displeasure.
Communication	Quality of communication between employee and team and/or supervisor.
Task conflict	Refers to disagreements about the work to be done, the cause tends to be attributed to situational factors (e.g., differences of opinion or ideas about the correct way to approach a task).
Relational Conflict	Refers to interpersonal disagreements regarding personal issues. It is attributed to factors associated with the conflict partner or the relationship between the partners.
Support by coworkers and supervisors	Perceived feeling of support from the supervisor or from the coworkers in a team.
Seeking Feedback	Is an individuals' proactive search for evaluative information about their performance.
Collaboration	Type of collaboration and degree of involvement, e.g., how often someone collaborates in our outside of ETH during one week.

Work engagement	Is a positive work-related state of fulfillment that is characterized by vigor, dedication, and absorption.
Individual Performance	Is the effectiveness of a person in its assigned tasks.
Team Performance	Is the effectiveness of the members of a team on their assigned tasks.
Job Autonomy	Is an individual's ability to influence what happens in his or her work environment, in particular to influence matters that are relevant to his or her personal goals.
Availability Outside of Regular Working Hours	Perceived necessity to work outside regular office hours (9AM to 5PM) during remote working, e.g. answering emails by nighttime.
Managing the Boundary Between Work and Non-Work	Is an approach an individual uses to separate work duties and roles from family roles and duties.
Learning Goal Orientation	An individual disposition toward developing or validating one's ability in achievement settings.
Team Preference	An individual preference to work in a team or to work alone.
Task Interdependence	Is considered to be a structural feature of the instrumental relations that exist between team members. Team members are task interdependent when they must share materials, information, or expertise in order to achieve the desired performance.
Self-Efficacy	Refers to the assessment of one's own competence to successfully perform actions.
Trust	Is a generalized predisposition or personality trait that develops in varying degrees depending on a person's personal experience with significant others, particularly during their early socialization.

7.2 Survey (T0)

Dear colleagues of ETH Zurich

Thank you for participating in this study on our joint experience of managing new forms of working together.

Today's survey will last about **12 minutes** and relates to general work patterns and preferences regarding home office and virtual collaboration *before* the COVID-19 outbreak. Please complete this baseline survey as soon as possible. Starting next Monday, you will be then invited weekly to participate in a short survey (about 10 minutes) to share your experiences of the previous week.

Your data will be consolidated and **saved on the password-protected server** at the Chair of Work and Organizational Psychology; Department of Management, Technology and Economics. You will be given a random code and responses will be analyzed in **anonymous form**.

Your participation in the study is voluntary. You can withdraw from the study at any time and for any reason.

Thank you very much for participating in this study, so that we can all learn from the challenges we are currently facing.

Nadine Bienefeld, Alina Gerlach, and Gudela Grote
Department of Management, Technology, and Economics
Chair of Work and Organizational Psychology

To identify potential influencing factors on the aggregate level, please provide answers to the following demographic questions. We guarantee full **anonymity** and **confidentiality**.

7.2.1 Socio-demographic data

Question	Response scale
Q1 Gender	1 = male, 2 = female, 3 = divers
Q2 Age (in years):	
Q3 Place of residence:	
Q4 Your unit at ETHZ:	
Q5 Your function at ETHZ:	
Q6 Percentage of employment at ETHZ:	
Q7 Type of employment:	1 = fix-term contract, 2 = permanent contract
Q8 Are you in a leadership position (1 or more people directly reporting to you)?	1 = yes, 2 = no
Q9 Do you have children living in the same household?	1 = yes, 2 = no

Q10 If you have children living in the same household, please indicate their ages:	
Q11 Are there other persons that require care in the household?	1 = yes, 2 = no
Q12 If you receive external help for care work of children, elderly or disabled people, please indicate how many hours per week:	

7.2.2 Work patterns, virtual collaboration, and travel activities before the COVID-19 outbreak

In this part, we ask you to identify your work patterns, virtual collaboration, and travel activities **before** the COVID-19 outbreak. Please answer the following questions relating to a typical week in 2019 (if you have joined ETHZ in 2020, please think of a typical week before the lockdown).

Question	Response scale
Q13 During a typical week in 2019 , which percentage have you worked:	1 = remotely, 2 = onsite
Q14 During a typical week in 2019 , how many work-related interactions did you have?	1 = virtually with members of your team at ETHZ, 2 = face-to-face with members of your team at ETHZ, 3 = virtually with your supervisor, 4 = face to face with your supervisor, 5 = virtually with collaborators outside of your team, 6 = face to face with collaborators outside of your team
Q15 Overall, of all the people you collaborate with, where are they located:	1 = at ETHZ (%), 2 = in Switzerland other than ETHZ (%), 3 = in other countries (%)
Q16 Please rank the following communication tools (drag and drop) to indicate how often you have used them in your interactions during a typical week in 2019 (1 = most often; 5 = least often / never):	1 = email, 2 = collaboration platforms (e.g., Slack), 3 = video enabled (e.g., Skype, Zoom), 4 = without video (e.g., telephone), 5 = social media
Q17 During a typical week in 2019 , how many hours (in sum) did you spend commuting to and from work?	
Q18 In the entire year 2019 , how many days approximately did you spend abroad for work?	
Q19 If you have a teaching position, how much of your teaching in the entire year 2019 (in %) was online:	

7.2.3 Working conditions and preferences in general

To identify your working conditions and preferences in general, please select to what extent you agree with the following statements:

Question	Response scale
<p>Q20 In general...</p> <p>... I prefer to work as part of a team.</p> <p>... I find that working as a member of a team increases my ability to perform effectively.</p>	<p>1 = strongly disagree, 2 = disagree, 3 = neither agree nor disagree, 4 = agree, 5 = strongly agree</p>
<p>Q21 If you had a choice, how many days per week would you generally want to work from home?</p>	<p>1 = never, 2 = 1 day a week, 3 = 2 days a week, 4 = 3 days a week, 5 = 4 days a week, 6 = 5 days a week</p>
<p>Q22 In general...</p> <p>... I have a one-person job; I rarely have to check or work with others.</p> <p>... I have to work closely with my colleagues to do my work properly.</p> <p>... in order to complete our work, my colleagues and I have to frequently exchange information and advice.</p>	<p>1 = strongly disagree, 2 = disagree, 3 = neither agree nor disagree, 4 = agree, 5 = strongly agree</p>
<p>Q23 In general...</p> <p>... I prefer to not talk about my family issues with most people I work with.</p> <p>... throughout the workday, I deal with personal and work issues as they occur.</p> <p>... I tend to not talk about work issues with my family.</p> <p>... I actively strive to keep my family and work-life separate.</p> <p>... I can get my work done more effectively when I work from home.</p>	
<p>Q24 In general...</p> <p>... I am willing to select a challenging work assignment that I can learn a lot from.</p> <p>... I often look for opportunities to develop new skills and knowledge.</p> <p>... I enjoy challenging and difficult tasks at work where I'll learn new skills.</p> <p>... for me, development of my work ability is important enough to take risks.</p> <p>... I prefer to work in situations that require a high level of ability and talent.</p>	<p>1 = strongly disagree, 2 = disagree, 3 = neither agree nor disagree, 4 = agree, 5 = strongly agree</p>
<p>Q25 In general...</p> <p>... I can rely on my own abilities in difficult situations.</p> <p>... I am able to solve most problems on my own.</p> <p>... I can usually solve even challenging and complex tasks well.</p>	<p>1 = doesn't apply at all, 2 = applies a bit, 3 = applies somewhat, 4 = applies mostly, 5 = applies completely</p>
<p>Q26 In general...</p> <p>... there is a very high level of trust throughout ETHZ.</p> <p>... at ETHZ, subordinates have a great deal of trust for managers.</p>	<p>1 = strongly disagree, 2 = disagree, 3 = neither agree nor disagree, 4 = agree, 5 = strongly agree</p>

... supervisors at ETHZ trust their subordinates to make good decisions.

7.3 Weekly Survey (T1-T10)

Question	Response scale
<p>Q29</p> <p>How much support do you currently receive from family members or others to manage family related tasks (e.g., childcare, care for elderly or disabled people)?</p>	<p>1 = no support, 2 = little support, 3 = moderate support, 4 = good support, 5 = excellent support, 6 = not applicable</p>
<p>Q30</p> <p>During the last week, how well did you feel supported...</p> <p>... by the ETHZ?</p> <p>... by your supervisor?</p> <p>... by your coworkers?</p>	
<p>Q31</p> <p>Over the last week, how much of your work (in %) did you perform at home or onsite at ETHZ?</p>	<p>1 = at home, 2 = onsite at ETHZ, 3 = other</p>
<p>Q34b</p> <p>During the last week, how often did you communicate ...</p> <p>... virtually with members of your team at ETHZ?</p> <p>... virtually with your supervisor at ETHZ?</p> <p>... virtually with other collaborators at ETHZ?</p> <p>... virtually with collaborators outside of ETHZ?</p> <p>... face-to-face with members of your team at ETHZ?</p> <p>... face-to-face with your supervisor at ETHZ?</p> <p>... face-to-face with other collaborators at ETHZ?</p> <p>... face-to-face with collaborators outside of ETHZ?</p>	<p>1 = never, 2 = once a week, 3 = a few times per week, 4 = multiple times per day, 5 = continuously throughout the day</p>
<p>Q35</p> <p>In your virtual communications last week, how often did you use the following tools?</p> <p>email</p> <p>collaboration platforms (e.g., Slack, MS teams)</p> <p>video enabled communication (e.g., Skype, Zoom, Google hangout)</p> <p>audio-based communication without video (e.g., telephone)</p>	<p>1 = never, 2 = a few times per week, 3 = multiple times per day, 4 = continuously throughout the day</p>
<p>Q38</p> <p>Over the last week, has the necessity to work outside regular office hours changed?</p>	<p>1 = decreased, 2 = remained the same, 3 = increased, 4 = not applicable</p>
<p>Q41</p> <p>During the last week...</p> <p>... I found the work that I do full of meaning and purpose.</p> <p>... I was enthusiastic about my job.</p> <p>... my job inspired me.</p>	<p>1 = never, 2 = almost never, 3 = rarely, 4 = sometimes, 5 = often, 6 = very often, 7 = always</p>

<p>... I was proud of the work that I do.</p>	
<p>Q42 During the last week, to what extent did you feel:</p> <ul style="list-style-type: none"> upset alert inspired nervous determined attentive afraid active uncertain 	
<p>Q43 During the last week...</p> <ul style="list-style-type: none"> ... I experienced tensions with the people I work with. ... I experienced emotional conflicts with the people I work with. ... people I work with and I were divided about who should do what. ... people I work with and I were divided about a decision. ... task-related information I received from others was accurate. ... task-related information I received from others was timely. ... task-related information I received from others was useful. 	<p>1 = strongly disagree, 2 = somewhat disagree, 3 = neither agree nor disagree, 4 = somewhat agree, 5 = strongly agree</p>
<p>Q44 During the last week...</p> <ul style="list-style-type: none"> ... I fulfilled all responsibilities required by my job. ... I was effective in performing my work. ... the people I work with and I fulfilled all our joint responsibilities. ... the people I work with and I collaborated effectively. 	
<p>Q45 During the last week...</p> <ul style="list-style-type: none"> ... I have had problems relaxing. ... I have been irritable. ... I have been tense. ... I have been stressed. ... I have felt socially isolated. 	<p>1 = never, 2 = almost never, 3 = rarely, 4 = sometimes, 5 = often, 6 = very often, 7 = always</p>
<p>Q46 During the last week...</p> <ul style="list-style-type: none"> ... I took care of personal or family needs during work. ... I allowed work to interrupt me when I spent time with my family or friends. ... distractions often made it difficult to attend to my work. 	<p>1 = strongly disagree, 2 = somewhat disagree, 3 = neither agree nor disagree, 4 = somewhat agree, 5 = strongly agree</p>
<p>Q48 During the last week, how frequently did you ...</p> <ul style="list-style-type: none"> ... directly ask your supervisor for feedback about your work? ... directly ask your co-workers for feedback about your work? ... ask your supervisor for an informal appraisal of your performance? 	<p>1 = never, 2 = once a week, 3 = a few times a week, 4 = once a day, 5 = a few times a day</p>

<p>... ask your co-workers for an informal appraisal of your performance?</p>	
<p>Q49 During the last week how much effort did it take for you to get useful feedback from your supervisor? ... how much effort did it take for you to get useful feedback from your co-workers?</p>	<p>1 = none at all, 2 = a little, 3 = some, 4 = a lot</p>
<p>Q50 During the last week there were clear, planned goals and objectives for my job. ... I knew that I divided my time properly. ... I knew exactly what was expected of me. ... I engaged in activities that required me to learn new skills or knowledge. ... I engaged in activities that I could properly conduct using my existing knowledge.</p>	<p>1 = strongly disagree, 2 = somewhat disagree, 3 = neither agree nor disagree, 4 = somewhat agree, 5 = strongly agree</p>
<p>Q55 During your virtual communications last week, it felt as if the other person/-s and I were in the same room. ... I strongly felt the social presence of my communication partners. ... online discussions tended to be more impersonal than face-to-face discussions.</p>	
<p>Q56 During the last week the feedback about my performance confused me. ... I was unsure what the feedback about my performance required me to do.</p>	
<p>Q57 In general my job allows me to plan how I do my work. ... my job provides me with significant autonomy in making decisions. ... my job gives me considerable opportunity for independence and freedom in how I do the work.</p>	
<p>Q58 To have positive social interactions at work with other people. To have the feeling of being part of a group at work. To have opportunities at work to talk with people about things that really matter to you. To have the degree of freedom to do your job the way you think it can be done best. To have opportunities to take personal initiatives in your work. To have opportunities to exercise your own judgment and your own actions in your work.</p>	<p>1 = not important in the least, 2 = not important, 3 = moderately important, 4 = important, 5 = very important</p>

Before ending the survey, you have the opportunity to share your experiences with remote work or virtual collaboration in the open text boxes below:

Question	Response scale
Was there an experience that was particularly inspiring/positive last week?	none
Was there an experience that was particularly challenging/negative last week?	none
Did you or anybody in your team introduce innovative ideas or best practices related to remote working or virtual teaming that others could also benefit from?	none

7.4 Final Survey (T10)

7.4.1 Additional questions to the weekly questionnaire

The following questions relate to your work experiences **since the beginning of the lockdown**.

Question	Response scale
Over the last months, we have all experienced an extraordinary situation because of Covid-19. During this time, how much did you feel that your own health was threatened by the pandemic?	1 = not at all, 2 = a little, 3 = somewhat, 4 = strongly, 5 = very strongly
During this time, how much did you feel threatened by the economic consequences of the pandemic?	
I can get my work done more effectively when I work from home. My supervisor trusts me to get my work done effectively when working from home. To be answered only by supervisors: I trust my direct reports to get their work done effectively when working from home. I prefer to work as part of a team. I find that working as a member of a team increases my ability to perform effectively.	1 = strongly disagree, 2 = somewhat disagree, 3 = neither agree nor disagree, 4 = somewhat agree, 5 = strongly agree

The following is about **your future working practices** at your company.

Question	Response scale
<p>When you will have a choice again, how many days per week would you generally want to work from home?</p>	<p>1 = never, 2 = 1 day a week, 3 = 2 days a week, 4 = 3 days a week, 5 = 4 days a week, 6 = 5 days a week, 7 = not applicable</p>
<p>What are the reasons for your preference regarding place of work? Multiple answers are possible.</p>	<p>1 = Being able to meet and interact with others face-to-face, 2 = Having clearer boundaries between work and home, 3 = Having access to the facilities (e.g., own office), 4 = Having fewer distractions, 5 = Saving on commute time, 6 = Increased flexibility between work and family / private, 7 = Increased flexibility in working hours, 8 = Other reasons</p>
<p>How likely do you think it is that your supervisor/your department will meet your preferences regarding place of work?</p>	<p>1 = very unlikely, 2 = unlikely, 3 = somewhat likely, 4 = very likely, 5 = definitely</p>

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