

The organisational and psychosocial work environment on the Swedish labour market during the Covid-19 pandemic

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Preface

The appropriation directions presented to the Swedish Agency for Work Environment Expertise in 2022 tasked the Agency with analysing the short and long-term consequences of the Covid-19 pandemic on work environments in Sweden. In order to complete this major government assignment, the agency conducted five projects, each focusing on a professional group or groups particularly affected by the pandemic. These projects were also used to highlight general changes to the work environment, such as remote work and working in hybrid organisations. The results of these studies provide insight into how society can address similar crises and disruptions to society in the future. The report, the Covid-19 pandemic on work environments in Sweden A2021/02355, A2021/02331 (partial) presents a summary of the results from all of the projects included in the assignment.

This report, the Organisational and psychosocial work environments on the Swedish labour market during the Covid-19 pandemic describes how these work environments were changed. It also studies experiences of the work-life balance during the coronavirus pandemic.

The report was written by Docent Linda L Magnusson Hanson, Docent Cecilia U D Stenfors, doctoral student Maria Wijkander, Sandra Blomqvist, PhD and Professor Hugo Westerlund at Stockholm University, on behalf of the Swedish Agency for Work Environment Expertise. The authors selected their theoretical and methodological starting points and are responsible for the results and conclusions presented in this report.

Research Professor Annina Ropponen at the Finnish Institute of Occupational Health and Docent David Hallman from the University of Gävle reviewed the quality of the report on behalf of the Agency. Johan Stenmark was the process leader at the Swedish Agency for Work Environment Expertise. Communications Officer Camilla Wengelin has overseen the communications efforts surrounding the project.

I wish to extend my heartfelt thanks to the external researchers, the quality reviewer and staff at the Agency who contributed to this report.

Gävle, March 2023



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Summary

Introduction and aims of the report

The coronavirus (COVID-19) pandemic led to a range of restrictions and recommendations and a subsequent economic crisis which affected many individuals' working and private lives. Thus far, however, few Swedish and international population-based studies have examined changes in the work environment related to the coronavirus pandemic with a focus on different sectors of the labour market – besides the healthcare sector – which are representative of the general working population.

The aim of this report is to examine changes in perceptions of organizational and psychosocial work environment factors, as well as perceptions of the balance between work and private life, across and during the coronavirus pandemic. The objective is also to examine whether possible changes within these areas differed depending on an individual's background characteristics, such as sex, age, education, socioeconomic status, occupation, or if they differed depending on whether individuals worked remotely during the coronavirus pandemic.

Method

The sample for the analyses in this report is derived from the Swedish Longitudinal Occupational Survey of Health (SLOSH). This study follows a large sample of initially employed men and women from the Swedish working population every second year with questionnaires. In the years 2021 (mid-height of the coronavirus pandemic) and 2022 (at the end of the height of the coronavirus pandemic) a complementary web survey was also performed in a subsample from SLOSH, labelled "SLOSH-corona", that focused on individuals' work environment, social situation, and health and well-being in the wake of the coronavirus pandemic.

This report is based on information from the original SLOSH data collections during spring 2018 (before the onset of the pandemic) and spring 2020 (at the beginning of the coronavirus pandemic), SLOSH-corona 2021 and 2022. It includes information from a total of 1345 individuals who participated in both SLOSH 2018 and 2020, and who were working before the coronavirus pandemic and during the data collection periods that occurred during the coronavirus pandemic. The respondents in the sample are representative of the entire Swedish labor market, but include a somewhat higher proportion of women than men, a majority of middle-aged and older working-age adults, most of whom are married or cohabiting, have a university education, and are skilled workers. The questionnaires included information about a range of

work environment factors categorized into organizational work environment factors, demands and resources, and social work environment.

Potential changes over time were examined by means of regression analyses comparing the responses to the questions administered during the coronavirus pandemic with the responses to the same question administered before the coronavirus pandemic. For some factors, the respondents instead reported a change in their experience compared to before the coronavirus pandemic. The report, therefore, includes both descriptive and analytical statistics and results from supplementary tests of differences depending on background factors and telework/remote work or work at the ordinary workplace.

Results

Organisational work environment

Compared to before the coronavirus pandemic, the overall analyses, performed on the whole sample, primarily showed:

- a considerably higher proportion of respondents working via telework during the coronavirus pandemic
- a lower proportion working long working hours (more than 40 hours per week) during the coronavirus pandemic
- that a relatively large proportion experienced an increase in work tasks, especially during the beginning-to-‘middle of’ the coronavirus pandemic

Changes in the organisational work environment differed mainly when it came to educational level and socioeconomic status. The prevalence of telework, for instance, increased more clearly among those with high education and among skilled workers. At the same time, the prevalence of long working hours decreased more markedly in this group. In contrast, the prevalence of long working hours increased among those in healthcare and other human service professions.

Demands and resources

Compared to before the coronavirus pandemic, the analyses primarily showed:

- slightly lower levels of psychological job demands during the coronavirus pandemic
- slightly higher levels of job control/decision authority during the coronavirus pandemic
- a lower proportion of individuals experiencing job strain (*high psychological demands and low control/decision authority*) during the coronavirus pandemic
- a relatively large proportion experienced an increase in workload and mental workload/strain (*which may include having to adapt and handle emotions in different work situations*) to the coronavirus pandemic
- marginally higher levels of job insecurity, but only during the beginning of the coronavirus pandemic

An increase in job insecurity in the beginning of the pandemic was most obvious for those working in occupations focused on material manufacturing (*such as occupations in the construction, manufacturing, transport, agriculture, gardening, forestry, and fishing sectors*). Increases in workload and mental workload/strain were most obvious among women and among those working in healthcare and primary school/childcare occupations. Individuals working in healthcare, however, experienced an increase in job control/decision authority to a higher extent. Increases in workload and mental workload were also the most obvious among those who had worked at their regular workplace during the coronavirus pandemic, while those engaging in telework partly or mostly during the coronavirus pandemic experienced increased control/decision authority and influence to a higher extent.

Social work environment

Compared to before the coronavirus pandemic, the analyses primarily showed:

- a lower level of social support at work at the 'end' of the coronavirus pandemic
- a relatively high proportion experienced increased inter-personal conflicts with other people (e.g., patients, customers, pupils, passengers) during the coronavirus pandemic
- a relatively high proportion of working individuals experienced an inferior atmosphere and collaboration at the workplace during the coronavirus pandemic

Social support decreased, especially for individuals working in healthcare and those who worked at the regular workplace. Increased conflicts with other people were also the most obvious among those who remained working at their regular workplace during the coronavirus pandemic. A worsened social atmosphere at the workplace was most obvious among those working in healthcare, primary care/childcare, and other human service professions, as well as those with high levels of education. Worsened atmosphere and collaboration at the workplace were most obvious among those with high levels of education and among skilled workers (at the beginning of the coronavirus pandemic) and those who worked remotely.

Work-life balance

During the coronavirus pandemic it was more common to experience that the work situation affected private life in a positive than in a negative way. It was also more common to experience that private life affected the work situation in a positive than in a negative way.

The experience that the work situation affected private life, or that private life affected the work situation, in a positive way was more common among those who worked remotely during the coronavirus pandemic.

The experience that private life affected the work situation in negative way was, on the other hand, more common among individuals working in healthcare and primary care/childcare.

Conclusions

The results from these analyses indicate several changes in the organisational work environment related to the coronavirus pandemic – especially a general increase in telework and a decrease in working hours. The results were less clear regarding demands and resources. While the slight decrease in psychological demands and increase in control/decision authority may indicate an improvement in the balance between demands and control, there were indications of an increase in certain types of demands such as workload and mental workload, at least among certain groups in the labor market. Furthermore, the results suggested a general deterioration of the social environment and a relatively good balance between work and private life. However, there were marked differences depending on background factors and telework. For example, an increase in certain job demands and a deterioration in certain social environmental characteristics was indicated among individuals working in the healthcare and educational sectors, and among individuals who had remained working at their ordinary workplace during the coronavirus pandemic. Moreover, it was indicated that highly-educated and skilled workers and individuals working remotely had a relatively good balance between work and private life, but experienced deterioration in other social work environment factors.

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1. Introduction

On 11 March 2020, the World Health Organization declared the spread of Covid-19 a pandemic. The Government and Public Health Agency of Sweden (1) subsequently implemented a number of restrictions and recommendations in Sweden to limit the spread of the virus. It was not until February 2022 that many of these restrictions and recommendations began to be phased out. They included limiting large gatherings, recommending that people limit their travel, avoid public transport, and advising those who could work from home to do so.

By April 2020, the spread of infection in Sweden was relatively high, although it later decreased. Hence, the period around April 2020 is considered to be the 'first wave' of the spread of infection. Infection rates rose once more during autumn 2020, continuing until the start of 2021 ('second wave'), reaching a new peak in April 2021 ('third wave'). By the end of 2021, high infection rates returned ('fourth wave') (2). These waves placed great pressure on the healthcare sector, especially the services that worked with Covid-19 patients.

The pandemic also resulted in an economic crisis, with a drastic increase in redundancies and unemployment. Economic measures were introduced to avoid redundancies, such as financial support for organisations. A number of workers were forced to reduce their hours and salary. Nevertheless, they were able to maintain a large portion of their salary as the Government covered a large proportion of the costs incurred as a result of these changes to their employment. During 2021, the economy began to recover after the turbulence of 2020 (3).

As a consequence, the pandemic led to comprehensive changes to living conditions and working life, especially for some groups on the labour market. Early on in the pandemic, the International Labour Office (ILO) predicted that the virus would lead to an increase in unemployment, as well as under-employment following cuts to salaries and working hours and an increase in certain work forms such as irregular, low-wage, uncertain and unprotected work, and work that cannot provide for a household (4, 5). The increase in unemployment and under-employment, and/or insecure employment forms were thought to particularly affect younger people, women who were over-represented in health and social care professions and other service workers, as well as people with insecure work forms, such as the self-employed.

Subsequent studies have confirmed an increase in furloughs (*or short-term employment with enforced reduction in working hours and salary*), and a reduction in working hours in Sweden linked to the Covid-19 pandemic (6). An increase in re-organisation within the health and social care sectors has also been observed (7). Additionally, remote work in Sweden increased dramatically following the introduction of official recommendations (1). Statistics from

Statistics Sweden also show how certain groups were particularly affected by unemployment during the Covid-19 pandemic, including young people, people born outside of Sweden and those with temporary positions (8). Workers in the service sector were also heavily affected following changes to employment conditions related to the restrictions. This was especially the case for workers in the hotel, restaurant and transport industries (8, 9).

European data also indicates a decrease in hours worked and a reduction in the proportion of those with fixed-term contracts, notably among young people on the labour market. The proportion of employees who were not working also increased in conjunction with the Covid-19 pandemic (3).

So far, a handful of Swedish studies appear to have addressed the psychosocial work environment. They have found more negative estimates relating to the work environment among health and social care workers. In contrast, this group believed that quantitative demands had reduced in conjunction with the pandemic (7, 10). Some Swedish and international studies also suggest that certain work environment factors have deteriorated in some of society's key professions (11). For example, increased psychological and emotional demands have been observed among health and social care workers, together with less control and decision latitude and a reduction in support from managers or organisations (12, 13). Heterogeneous effects have also been observed in the hotel industry. An interview-based study of the hotel industry found that demands had reduced. However, less employment security was reported following furloughs. Some believed that the decrease in hours worked brought about by furloughs was something positive. Those who remained at work following cutbacks reported more solitary work, a lack of social support and increased demands (14).

The Swedish Longitudinal Occupational Survey of Health (SLOSH) conducted a comparison of work conditions at the start of the pandemic and those in 2018. Generally, the comparison suggested there was a better work-life balance, increased workload, increased emotional demands, work was less rewarding, and an increase in job insecurity in 2018. This, however, did not apply for people working in compulsory schools and childcare. Nor was any increase in job insecurity identified among health and social care workers (15). However, this study only addressed the periods before (2018) and during the first wave of the Covid-19 pandemic in Sweden in spring 2020. Furthermore, its primary focus was different to that of the current report.

International or national population-based studies on changes in the work environment during the pandemic that focus on other labour market sectors, or are representative for the entire labour market are still few. Furthermore, Sweden's Covid strategy differed from the strategy of many other countries in certain ways (1). Sweden's strategy was primarily built on recommendations encouraging remote work, while other countries had periods of comprehensive lockdowns, including closing workplaces. Generally, Sweden's compulsory schools remained open, while in other countries teaching was conducted

remotely at times. This means that the development of certain work environment factors may have been different in Sweden compared to many other countries. Hence, there is a need for a better understanding of how the work environment changed for workers in Sweden and for different labour market groups.

Purpose and questions

The purpose of this report is to explore how experiences of the organisational and psychosocial work environment have changed, and how the work-life balance among workers in Sweden has changed as a result of the Covid-19 pandemic. The report will also explore whether any changes to the organisational and social work environments and work-life balance differed depending on sex, age, level of education, socioeconomic status, occupation and remote work during the pandemic.

Delimitations

The analyses are limited to the factors examined in the Swedish Longitudinal Occupational Survey of Health (SLOSH). Furthermore, factors have only been included in the report if it has been possible to make comparisons between one or more points during the pandemic with a point in time before the pandemic. Consequently, the report only includes certain types of work environment factors and work-related demands and resources, as well as certain social work environment factors. However, some factors that may complement this report (*such as vulnerability to violence and harassment and the risk of infection*) will be included in a forthcoming report based on a larger sample from SLOSH and covering a longer period before the pandemic. Work-life balance is also included in this report, as employers have a duty to counteract unhealthy workloads among their staff by taking access to recuperation into account and, if necessary, adapting the way hours are distributed. Some work-related conditions (*such as furlough and job losses*) have been excluded from the analyses, as the focus of this report has been on the changes to the organisational and social work environments. SLOSH also explores health and wellbeing, although these areas are not included in this report.

Definitions of key terms

Since 2015, the Swedish Work Environment Authority has issued provisions on the organisational and social work environments. These provisions aim to promote a positive work environment and reduce the risk of ill health (16). The provisions define the organisational work environment as the conditions surrounding a person's work, in terms of management, governance, communication, participation, freedoms, allocation of tasks, demands, and resources and responsibilities. The provisions define the social work environment as how we interact with, and are affected by, those around us

(*such as colleagues and managers*). Hence, the organisational work environment also includes the various demands and resources at work with focus on the surrounding work conditions. The psychosocial work environment is another common concept in this area, and focuses on an individual's experiences and/or reactions to their surroundings. Demands and resources and the social work environment are usually viewed as being a part of the psychosocial work environment (17). The work environment has therefore been divided into three categories in this report – the organisational work environment, demands and resources and the social work environment. The organisational work environment focuses on conditions referring to organisation, governance, communication and decision-making. Demands and resources and the social work environments focus on the individual's experiences of, or reaction to, their surroundings. Work-life balance is also included as a separate category.

The organisational work environment

The definition of the organisational work environment in this report follows that of the Work Environment Authority: conditions relating to how work is organised, governed, communicated and the decision-making process. These conditions are said to affect how individuals experience their work situation, for example, regarding demands, resources and the social environment. Hence, the organisational work environment includes organisational changes, employment forms, work schedules and leadership (18), *while demands and resources* form a separate group of work environment factors.

The organisational work environment also includes employment forms such as contract type and types of employment such as full and part time, and working hours. The type of employment and working hours are used as a complement to the form of employment, as short-term employment and furloughs may have resulted in changes to working hours during the Covid-19 pandemic, but not changed employment forms or the scope of employment.

Working hours are often calculated based on the number of hours worked per week. Working more than 40 hours per week exceeds a standard work week, while a working week of more than 48 hours indicated working more hours than legally permitted.

Remote work (*also referred to as telework and distance work*) is usually work that is not conducted in the employer's central premises, or using the resources that are available there. This is because the person working remotely does not have personal contact with their colleagues. Instead, this contact takes place through different forms of communication technology. Hence, remote work includes working from home (19).

Leadership quality was also included in this report. There is no clear picture of what represents health-promoting leadership (good leadership), although the literature raises some leadership behaviours that promote good health. These involve being a role model for staff, inspiring, motivating, stimulating, seeing

and supporting (*transformative leadership*), being accessible and showing confidence in staff and providing them with freedom and authority (20). In contrast, passive, distant or authoritarian leaders can contribute to poor health among employees (21).

Demands and resources at work

Work demands refers to the aspects of the work needing repeated effort (Work Environment Authority 2015). According to the Work Environment Authority, these demands can be cognitive, emotional and physical. However, we have only included cognitive and emotional demands under this category in the report, for example workload, level of complexity and time limitations.

Psychological demands are a common demand addressed in the research literature. These demands address the mental workload and include time pressures as well as the intensity at which a person is expected to work. Psychological demands can also include aspects related to the degree of complexity or difficulty of the work (18, 22).

Emotional demands are also occasionally studied in research literature. They usually address how employees need to adapt and manage their emotions and how these are expressed in different work situations. It may involve holding back on emotions or expressing certain emotions while repressing others (18).

Work resources are those that can contribute to managing the various work demands, or that are used to attain work goals (16). They may include work methods and tools, skills and staffing, reasonable and suitable goals, feedback on performance, access to control in the workplace, social support from managers and colleagues and the chance for recuperation. However, in this report, social support is included in the social work environment category (read more below).

One commonly studied resource is the access to control at work – occasionally referred to as influence. It addresses freedoms and the extent to which an individual can influence how, where and with whom the work is carried out. The opportunity to use and develop personal knowledge and experiences can also be included in control at work, as can the degree of influence in the organisation and decision latitude (22).

Job security can also be seen as a type of work resource. In contrast, job insecurity can be seen as a type of demand. Job insecurity is usually defined as a subjective experience of a risk or fear of becoming unemployed, however it can also involve a fear of losing important aspects of an individual's work (23).

If work demands regularly exceed the work resources, this can contribute to an unhealthy workload (16).

One potential indicator of an unhealthy workload is 'job strain'. The demand-control model suggests that 'job strain' involving high psychological demands and low control/decision latitude can lead to ill health (24).

Social work environment

The social work environment involves the work conditions related to social interaction, cooperation and a social support from managers and colleagues. Social support includes both emotional and instrumental support from colleagues and managers, for example when somebody listens and becomes emotionally involved, or provides concrete help and access to information (22).

Work-life balance

Here, the work-life balance refers to the degree to which work has a negative and/or positive influence on a person's private life and vice-versa.

2. Method

Study population

The Swedish Longitudinal Occupational Survey of Health (SLOSH)

The sample for the analyses in this report was originally gathered from SLOSH. The Stress Research Institute at Stockholm University began SLOSH during 2006 to study the causes of ill health both on and outside of the labour market. SLOSH aims to assess the longitudinal connection between the work organisation, work environment (*the psychosocial in particular*), labour market participation, health and wellbeing in light of social relationships, individual differences, health behaviours and coping strategies, the work-life interaction, sleep, ageing and economic fluctuations.

SLOSH is based on the work environment surveys (AMU) from 2003 to 2019, conducted every second year by Statistics Sweden on behalf of the Work Environment Authority. The first follow-up was conducted via a SLOSH questionnaire distributed by post in March 2006 and targeted the 9 154 participants who had responded to AMU 2003. Since then, a new SLOSH survey has been issued every second year and in 2008, 2010 and 2014, new participants from AMU 2005, 2007, 2009 and 2011 were added.

In 2020, the SLOSH population comprised a total of 40 877 respondents, of whom 28 672 had responded to one of the SLOSH surveys. Figure 1 provides an overview of SLOSH up until 2020. A more comprehensive description of the study up until 2016's data collection can be found in Magnusson Hanson et al. 2018 (25). In 2022, more participants from AMU 2013–2019 were added. A total of 57 105 people are now included in SLOSH.

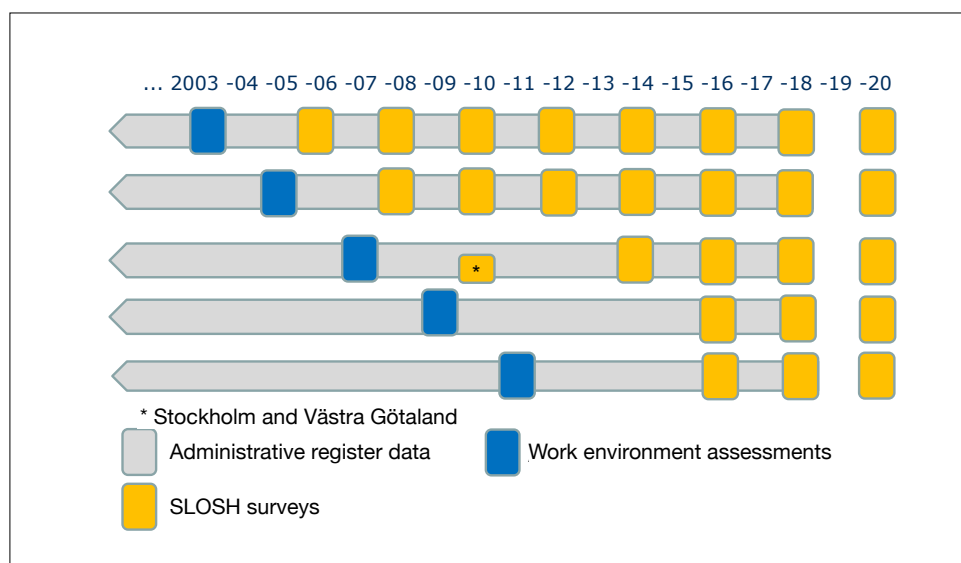


Figure 1. Illustration of the SLOSH design and data collection from 2003 until 2020 (x-axis).

The participants are asked to respond to the questions depending on whether they are primarily in gainful employment (*a minimum of 30 per cent of full-time on average, over the past three months*) or partially in gainful employment, or not at all (*<30 per cent of full-time on average, over the past three months*). Those who have either temporarily or permanently left working life receive similar questions to those in paid employment, however, there are fewer questions on previous and current work conditions and more questions about their situation after having stopped working either partially or in full.

SLOSH is roughly representative for the working population in Sweden, as it builds upon work environment surveys aimed at a representative sample. However, both AMU and SLOSH respondents are more likely to be older, women, university educated and born in Sweden. This over-representation of certain groups is even clearer in follow-ups conducted after 2006, as a proportion of the cohort has aged, and many of those contacted had already been asked to respond to earlier surveys.

This report uses information from SLOSH 2018 and 2020. The 2018 SLOSH data was collected between 11 April and 20 August of the same year, and the 2020 collection was conducted between 16 April and 23 September 2020. This means that the information was collected approximately two years before the Covid-19 pandemic and at the pandemic's start (around the first wave).

The most recent data collection took place in the spring of 2022. However, the 2022 data is not included in this report. Instead, it will be included in a forthcoming report based on a larger sample and over a longer period before the pandemic.

SLOSH Covid

A supplementary online survey was conducted in 2021 and 2022. This was given the title 'SLOSH Covid' and focuses on the work environment, social situation and health and health behaviours in conjunction with the coronavirus pandemic. The survey asked a selection of participants to respond to questions online. Those selected had completed the 2020 SLOSH, and provided their contact details, stating they would be interested in participating in future specialised studies. Of the 17 489 respondents to SLOSH 2020, 3 041 had provided their email address and given their consent to be contacted about the online survey in question. The first collection took place during January and February 2021 [roughly in the middle of the coronavirus pandemic (*around its second wave*)]. 1 902 people responded. The second collection took place approximately one year later at the start of 2022 (*towards the end of the pandemic*). It included 1 580 participants from 2021 and 700 respondents who had not answered the online survey in 2021. A total of 2 602 individuals answered the online questions focusing on the Covid-19 pandemic.

We drew on the data from the 1 580 people to have responded to both the SLOSH Covid 2021 and 2022 for our analyses in this report, in order to enable analyses of any short-term and long-term aspects. In our analysis

selection, we included the people who worked for a minimum of 30 per cent of full time over the past three months (*approximately 12 hours per week*) during 2018 and at least one of the pandemic years of 2020, 2021, and/or 2022. This resulted in a sample of 1 345 people, see Figure 2.

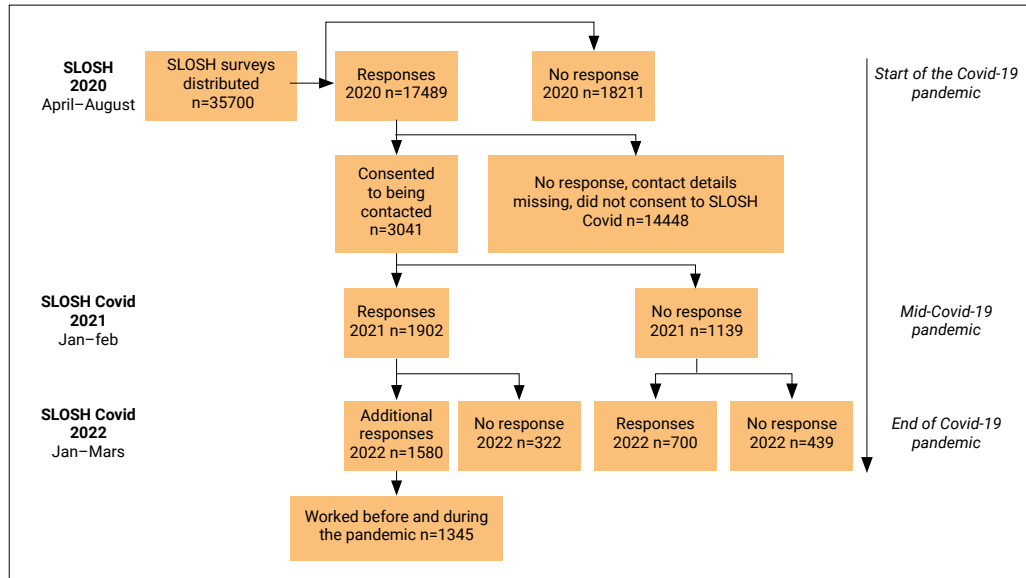


Figure 2. Illustration of the SLOSH data collection from 2020 and SLOSH Covid from 2021 and 2022 with a view of the approximate point when the information was collected during the pandemic, with the number of respondents and based on the inclusion and exclusion criteria for this report.

Women were overrepresented among the respondents in this sample, together with people educated at university level, see Table 1. A large proportion of the sample were aged between 36 and 55, followed by those aged 56 and above, and a large proportion were married or cohabiting. Over 80 per cent of the sample were non-manual workers in professions that could enable remote work (*see description of the professional groups below*). This sample did not notably differ from all the SLOSH 2020 respondents in terms of sex, age and marital status. However, there were differences in educational background, socioeconomic groups and professional groups (see more in Appendix 3, Table S1). A larger proportion of the sample were university educated and non-manual workers compared to other SLOSH 2020 respondents. A greater proportion also worked in professions that could enable remote work compared to those in the sample for these analyses in a comparison with others who responded to SLOSH 2020. Similarly, a somewhat lower proportion worked in professions with a focus on other human service professions (*than health and social care and the compulsory school and childcare, also referred to in this report as professions with focus on other human services*).

Table 1. A description of the sample based on sociodemographic characteristics and remote work during the pandemic.

		Number (n)	%
Sex	Men	571	42
	Women	774	58
	No data	0	
Age	<36	90	7
	36–55 years	691	51
	≥56 years	564	42
	No data	0	
Marital status	Single	267	20
	Married/cohabiting	926	69
	No data	152	11
Children living at home	Children aged (0–12 years) living at home	120	9
	No children aged (0–12 years) living at home	791	59
	No data	434	32
Level of education	Low (only compulsory school and upper-secondary school)	419	31
	High (higher education institution)	775	58
	No data	151	11
Socioeconomic group ¹	Manual worker	206	15
	Non-manual worker	940	70
	Other or no data	199	15
Professional group ²	Profession potential for remote work	571	42
	Health and social care profession	170	13
	Compulsory school and childcare	90	7
	Focus on other human service, sales, security, hotel, restaurants, etc.	64	5
	Material manufacturing, management, care taking, etc.	98	7
	Other professions	157	12
	No data	195	14
Supervision	Has a supervisory role	375	29
	No supervisory role	615	46
	No data	355	26
Worked remotely/from home, or from the regular workplace ³	Worked in regular workplace during the pandemic	249	19
	Partly (1–50%) worked from home/remotely during the pandemic	349	26
	Mainly (51–100%) worked from home/remotely during the pandemic	482	36
	No data	265	20

¹ Statistics Sweden categorisation of manual and non-manual workers and business owners/self-employed based on a classification system known as socioeconomic classification (SEI).

² A division of professional groups based on a classification known as Swedish Standard Classification of Occupations (SSYK).

³ A division of groups based on the degree of remote work/working from home or from the regular workplace based on a question in SLOSH Covid 2021, in which participants respond to the proportion of remote work/work from home in practice since the start of the Covid-19 pandemic.

Survey questions

We use a series of questions in this report taken from both SLOSH Covid and the regular SLOSH surveys, following the same individuals. They address organisational factors, demands and resources and the social work environment. A number of questions such as those about psychological demands and control and support are included in validated scales that are well-used in SLOSH and international research (26). However, some questions are either new or adapted for SLOSH Covid, and are aimed to capture certain changes in conjunction with the pandemic. In the majority of cases, the responses to the questions asked during the pandemic were compared with the answers to the same question about the conditions before the Covid-19 pandemic. The questions answered both during the Covid-19 pandemic and the spring of 2018 addressed employment contracts, working hours, leadership, psychological demands, job insecurity, decision latitude, job strain and support in the workplace. Participants were, however, asked to estimate whether there had been a change compared to before the pandemic in terms of tasks, time pressures, workload and mental demands, influence, workplace atmosphere, cohesion in the workplace, cooperation in the workplace and conflicts. Finally, questions about remote work related purely to the situation during the Covid-19 pandemic.

A summary of the survey questions follows, together with the categories analysed or alternatively, if the questions were analysed as an index or scale (*created by combining several questions*). A more detailed description of the questions is presented in Appendix 1 and Table S2.

The organisational work environment

Contract type

- A permanent or temporary employment contract, before and during the early to mid stages of the Covid-19 pandemic.

Employment type

- Full-time, part-time or zero-hour contract, before and during the early, mid and late stages of the Covid-19 pandemic.

Working hours

- Part-time work (<36 hours per week), standard hours (36–40 hours per week), or long working hours (>40 hours per week), before and during the early, mid to late stages of the Covid-19 pandemic.

Changed work tasks

- Increased, decreased and unchanged work tasks during the early and mid stages of the pandemic and the mid to late stages respectively compared to the situation before.

Remote work (working on distance/from home or in the regular workplace)
- During the early to mid stages of the Covid-19 pandemic.

Leadership

- Poor to good leadership quality (scale 1–4), before, at the start of and towards the end of the Covid-19 pandemic.

Demands and resources

Psychological demands

– Low to high psychological demands at work (scale 1–4), before, at the start of and towards the end of the Covid-19 pandemic.

Time pressure, workload and mental workload

– Time pressure, workload and mental workload that increased, decreased or was unchanged from the early to mid stages of the pandemic, during the mid to late stages of the pandemic compared to the situation before.

Job insecurity

– Low to high job insecurity (scale 1–5) before, at the start of, and towards the end of the Covid-19 pandemic.

Control and decision latitude

– Low to high control or decision latitude at work (scale 1–4), before, at the start of and towards the end of the Covid-19 pandemic.

Influence

Increased, decreased and unchanged influence during the early and mid stages of the pandemic and during the mid and late stages of the pandemic, compared to before.

Job strain (high demands combined with low control/low decision latitude)

– Job strain before and during the early and late stages of the Covid-19 pandemic, estimated based on the scale for psychological demands and control/decision latitude. The individuals that faced high demands (*above median on the scale for psychological demands*), and simultaneously low control/decision latitude (*below median on the scale for control/decision latitude*) were deemed to have job strain, while the others were part of the reference group without job strain.

Social work environment

Support

– Low to high social support at work (scale 1–4), before, and during the early and late stages of the Covid-19 pandemic.

Support from managers and colleagues

– Increased, decreased and unchanged support from managers and colleagues during the early to late stages and the mid and late stages of the Covid-19 pandemic compared to the situation before.

Atmosphere, cohesion and cooperation in the workplace

– Atmosphere, cohesion and cooperation that was either better, worse or unchanged during the early to mid stages of the Covid-19 pandemic, compared to before.

Conflicts with managers, colleagues, and others (e.g. patients, clients, pupils)

– An increase, decrease or unchanged situation as regards conflicts with managers, colleagues and others (*patients, clients, pupils...*) during the early and mid stages and mid and late stages of the Covid-19 pandemic, compared to before.

Work-life balance

- Whether work has positively or negatively affected a person's private life and vice-versa, and whether this took place rarely, occasionally or often during the early to mid stages and mid to late stages of the Covid-19 pandemic.

Background factors

All background factors are based on information collected before the Covid-19 pandemic (2018). Sex (*man, woman*) and age were included as background factors (*data collected from Statistics Sweden's central registers*). Three age groups were created to enable comparisons: <36, 36–55 and 56 and above. Data coded from responses to the 2018 SLOSH surveys was also used and comprised educational background (*from Statistics Sweden's registers*), socioeconomic status and profession. The highest education levels were divided into two groups: low (*compulsory schooling, upper-secondary school or equivalent*) and high (*university*), while socioeconomic status was categorised into manual worker and non-manual worker. Professions were divided as per previous analyses, which comprised six groups: 'professions where remote work is possible', health and social care, compulsory school and childcare, other human service professions (*work with much contact with other people, 'profession with focus on other human services'*), profession with focus on material manufacturing, and other professions (15). Appendix 2 contains a comprehensive description of the background factors and how the groups were divided.

Remote work during the Covid-19 pandemic

Finally, we use information about how working from home/remote work was implemented in practice, or from the regular workplace (*described in detail in Appendix 1*) during the early to mid stages of the Covid-19 pandemic. We divided the responses into three groups for analysis, depending on whether they had answered No, Partly (1–50 per cent), or Mostly (51–100 per cent).

Implementation

Descriptive statistics

Descriptive analyses explored the changes to the organisational and psychosocial work environments and the work-life balance. This was applied to both the entire sample and divided based on background factors and remote work during the pandemic. The results from the descriptive analyses includes proportions of those who responded in a certain way, or mean scale values at the measurement occasions.

Descriptive data is only presented for certain factors, where respondents in the sample had estimated whether there were any changes compared to before the Covid-19 pandemic. This included changed tasks, time pressure, workload, mental workload, influence, support from managers and colleagues, conflicts, atmosphere, cohesion and cooperation in the workplace, as well as a work-life balance. We also tested whether the proportion of the sample to have reported a specific change differed based on these factors. To do this, we used chi-square tests according to background factors and remote work during the pandemic (*following the groupings described in Appendix 2*). We only included those who had provided valid data on all variables for the analysis. As the number of individuals who provided complete information differed depending on the question, a somewhat variable number, out of the 1 345 individuals in total, were included in different analyses.

Trend analyses over time

Contract types, employment forms, working hours, leadership quality, remote work, psychological demands, low decision latitude, job strain, job insecurity and social support were measured both before and during the pandemic. Regression analyses were also conducted on these factors to determine whether there were any statistically significant changes linked to the pandemic. The regression analyses compared proportions or means during the early, mid and late stages of the Covid-19 pandemic, with the corresponding values from before the pandemic (*only two points, one during the pandemic against the 'before' point*). The regression analyses used generalised estimating equations suitable for analysing data from several time points for the same individual. A normal distribution was used for the variables comprising a scale, and a binomial distribution was used for variables comprising two groups. New variables comprising only two groups were created when the regular group was divided into several categories for these analyses. The unstructured correlation covariance structure was used. This structure does not assume a set correlation over time. The results of these analyses indicate whether there is a trend at a group level over time. They are presented as an * next to the figure if the p-value for a trend has been statistically significant (<0.05). Additional analyses tested whether there is a difference in trend between men and women, age groups, those with high and low levels of education, manual and non-manual workers, various professions, and people who worked remotely/from home or in their regular workplace (see Appendix 2 for more information). Appendix 2 presents the results where there is a statistically

assured difference ($p < 0.05$), either in text form or with #. Only individuals to have provided complete information were included in these analyses. The tests used for trends over time and group differences were used as a basis for the results section that focuses on statistically assured differences. Hence, the text only presents statistically assured differences between the groups. The remaining results are presented in Appendix 4.

3. Results

The organisational work environment

Contract type

The trend analysis over time shows that the proportion of those with indefinite term (permanent) employment decreased slightly, from 82 per cent before the pandemic to 80 per cent during the early to mid stages of the pandemic. However, this is a marginal difference, even though it was statistically assured over time. A marginal increase in proportion of individuals with fixed-term employment from before the pandemic compared to the start (7–9 per cent), but not from before the pandemic compared to its mid stage (Appendix 4, Figure 3).

Differences based on background factors

There is no statistically assured difference in development over time (*before to one of the points during the pandemic*) based on background factors (Appendix 4, Figures S1–5).

Differences based on remote work/working at the regular workplace

There is no statistically assured difference in development over time (*before to one of the points during the pandemic*) based on whether the participants worked remotely or in their regular workplace during the pandemic (Appendix 4, Figure S6).

Employment type

Trend analyses over time show that a smaller proportion of people were in full-time employment, especially towards the end of the pandemic (*66 per cent compared to 85 per cent before the pandemic*). A higher proportion were employed on zero-hour contracts (*5 per cent towards the end of the pandemic, compared to 3 per cent before the pandemic*) although the difference was marginal over time, even though it was statistically assured. However, the proportion of people who worked part-time before the pandemic and during (*10 per cent before, 9 per cent during the first wave, and 10 per cent during the fourth wave*) was the same (Figure 4). A certain proportion fell outside of these types of employment throughout the pandemic years, and especially towards the end of the pandemic as they were not necessarily working when the measurements were taken.

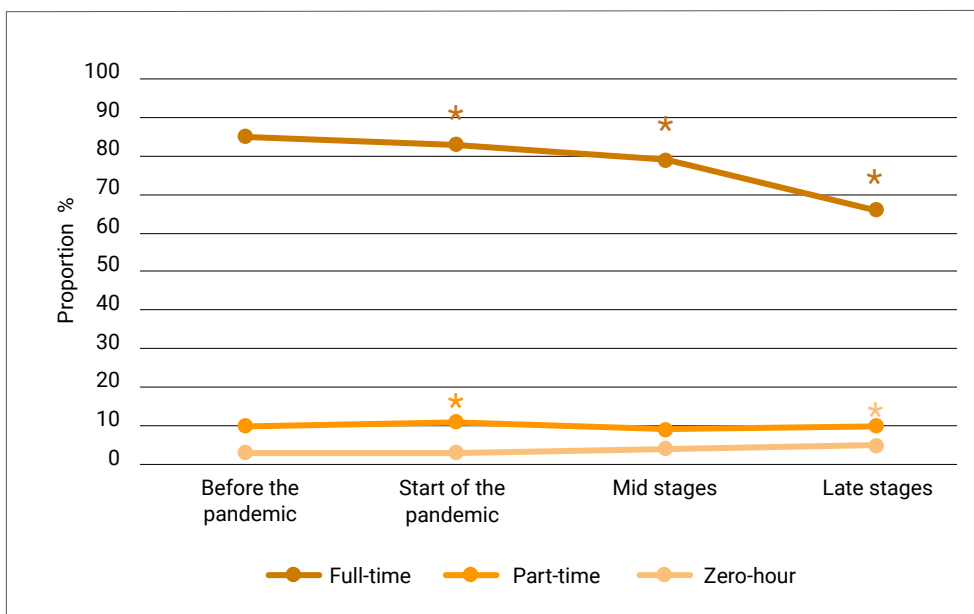


Figure 4. Proportion of the sample with full-time, part-time and zero-hours contracts respectively, before, during the early, mid and late stages of the Covid-19 pandemic. *=A statistically assured increase or decrease in the proportion from before until the specific point during the pandemic.

Differences based on background factors

The most notable decrease in the proportion of those in the full-time employment group could be found among those aged 55 and above, and those working in material manufacturing. The proportion of part-time workers increased from before to the start of the pandemic, primarily among non-manual workers and those working in compulsory schools and childcare. However, the proportion in part-time employment had decreased towards the end of the pandemic in health and social care professions and other human service professions, while this was unchanged or increased somewhat in other groups. The main increase in the proportion of those on zero-hour contracts from before to the end of the pandemic can be seen among non-manual workers. Instead, there was a decrease or there tended to be a decrease in the proportion of those on zero-hour contracts from before to the end of the pandemic for those in other contact occupations and material manufacturing (Appendix 4, Figures S7–11).

Differences based on remote work/working in the regular workplace

There is no statistically assured difference in development over time (*before to one of the points during the pandemic*) based on the work from home or in the regular workplace. The proportion of those in full-time employment saw a more marked decrease among people who had worked in their regular workplace (Appendix 4, Figure S12).

Working hours

Analyses of trends over time indicated that the proportion to have worked standard hours (*<35 hours per week*) increased somewhat up until the start

of the pandemic (*from 21 per cent to 25 per cent*), but was roughly the same towards the end of the pandemic as before. The analyses also showed a relatively large decrease in the proportion of those with long working hours, going from 50 per cent before the pandemic to 40–43 per cent during. At the same time, there was a relatively large increase in those working standard hours, particularly from the mid to late stages of the pandemic (*when 38 per cent reported working standard hours, compared to 29 per cent before the pandemic*) (Figure 5).

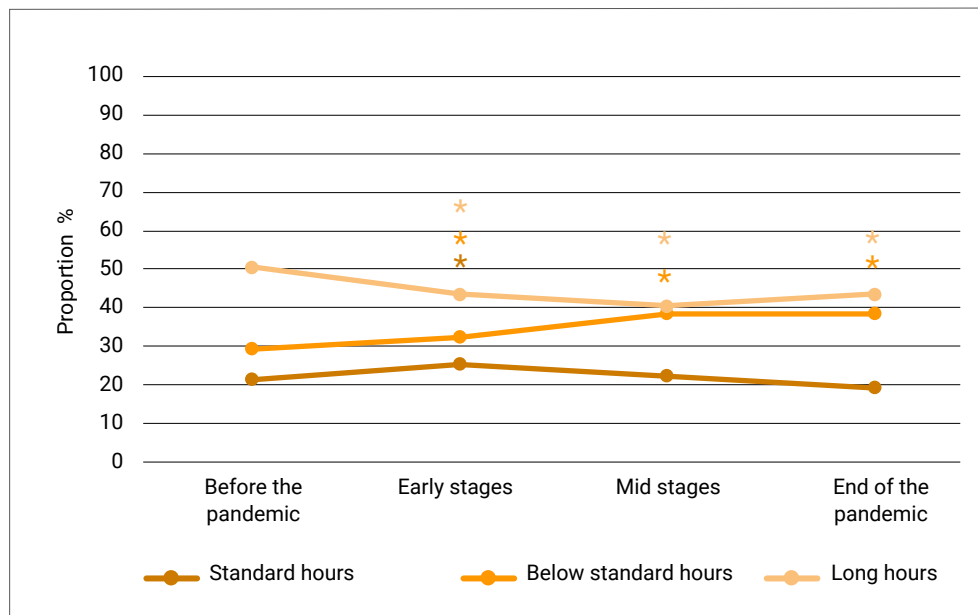


Figure 5. The proportion of the sample with standard working hours/part-time employment, standard working hours and long working hours respectively before the Covid-19 pandemic, and its early, mid and late stages.

*=A statistically assured increase or decrease in the proportion from before until the specific point during the pandemic.

Differences based on background factors

An increase in the proportion of respondents with regular working hours in the sample was more common among those in health and social care professions and people who worked in schools and childcare, as well as material manufacturing. There was a more marked decrease in long working hours among non-manual workers with high levels of education. However, long working hours increased from before the pandemic to its mid to late stages in a more pronounced way for those working in health and social care and other human service professions (Appendix 4, Figures S13–17).

Differences based on remote work/working in the regular workplace

There is no statistically assured difference in development over time (*before to one of the points during the pandemic*) based on whether the participants worked remotely or in their regular workplace during the pandemic (Appendix 4, Figure S18).

Duties

A summary of the responses relating to work duties shows that a total of nine per cent believed their duties had changed during the early to mid stages of the pandemic, compared to before. Seven per cent believed that their duties had decreased, and 16 per cent believed their duties had increased. A significantly lower proportion responded that their duties had changed (one per cent), increased (5 per cent) or decreased (one per cent) during the mid and late stages of the pandemic, compared to before (Figure 6).

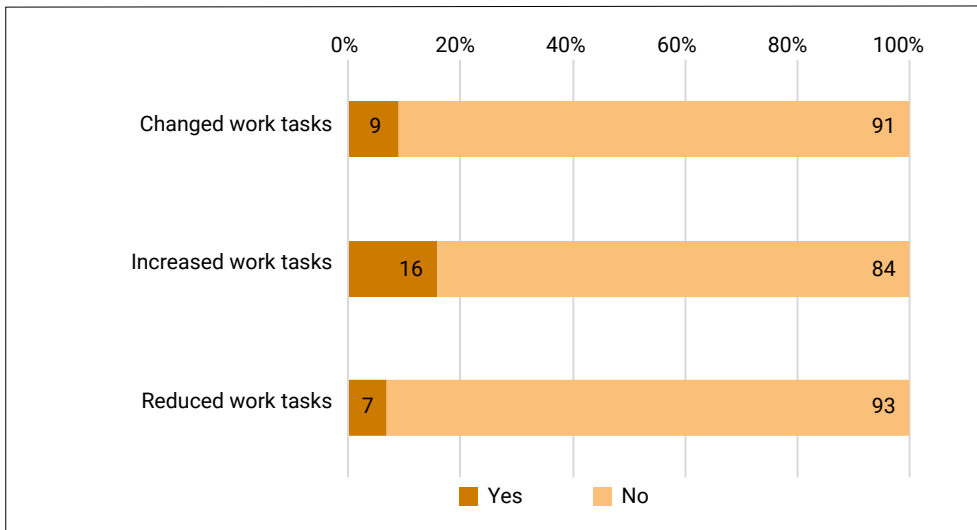


Figure 6a. The proportion (%) of the sample who reported having changed work tasks during the early to mid stages of the Covid-19 pandemic, compared to before.

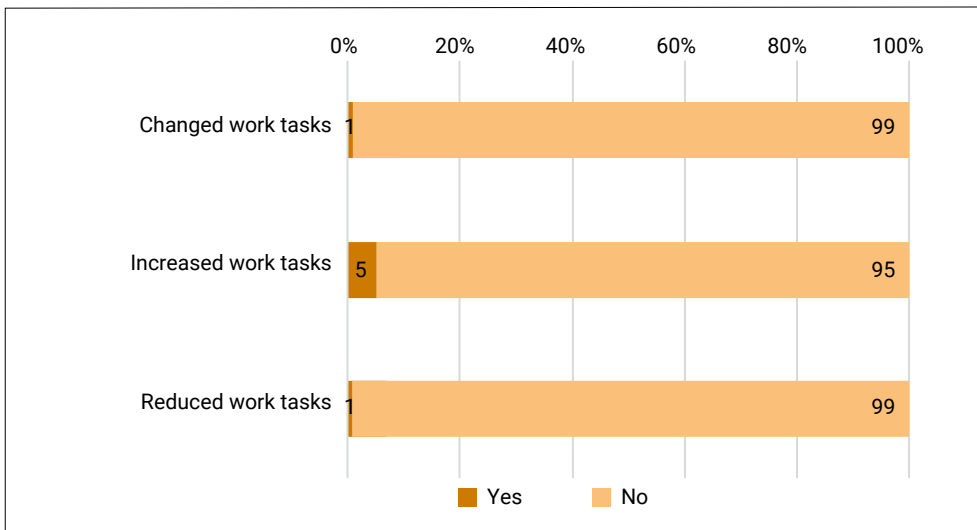


Figure 6b. The proportion (%) of the sample who reported having changed work tasks during the mid to late stages of the Covid-19 pandemic, compared to before.

Differences based on background factors

There was a higher proportion of respondents with changed work tasks and more work tasks during the early to mid stages compared to before among those aged 36–55 (Appendix 4, Figures S19–22).

Differences based on remote work/working in the regular workplace

There is no statistically assured difference in development over time (*before to one of the points during the pandemic*) based on whether the participants worked remotely or in their regular workplace during the pandemic (Appendix 4, Figure S23).

Remote work

Analyses of trends over time show that the proportion of those who remained in their regular workplace decreased markedly during the early to mid stages of the pandemic, compared to before. At the same time, there was a marked increase in the proportion of those who mainly/mostly worked remotely or from home during the pandemic. A total of 41 per cent of the respondents stated they worked remotely to some extent before the Covid-19 pandemic, of which a considerable majority were able to work remotely or from home part-time (1–50 per cent of the time). Only 5 per cent responded that they could conduct the most of their work remotely (51–100 per cent of the time).

However, 77 per cent stated that they either worked remotely either full or part time during the early to mid stages of the pandemic. 32 per cent were able to work remotely on occasion, and 45 per cent could conduct the most of their work remotely. Only 23 per cent stated they remained in their regular workplace during the early to mid stages of the Covid-19 pandemic (Figure 7).

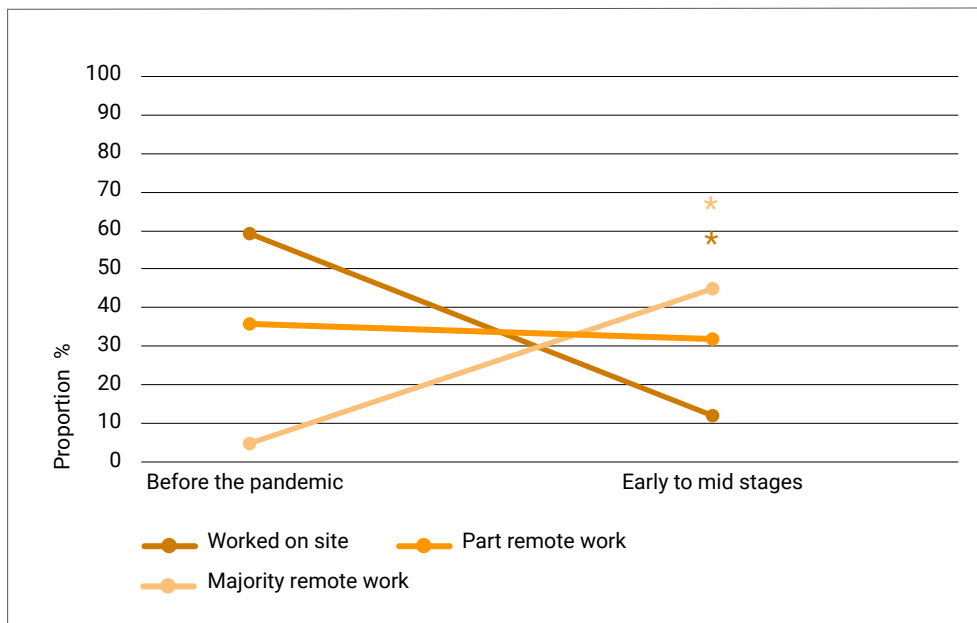


Figure 7. Proportion of those from the sample who worked remotely before and during the early to mid stages of the Covid-19 pandemic. The information about remote work is built solely on data from the SLOSH Covid 2021 survey, where respondents were also asked (*retrospectively*) about remote work before the start of the pandemic.

*=A statistically assured increase or decrease in the proportion from before and until the specific point during the pandemic.

Differences based on background factors

There was a clearer decrease in the proportion who worked in their regular workplace during the pandemic among women. However, there is a clearer increase in working mainly remotely/from home among those with high levels of education and non-manual workers. In contrast, the increase was less noticeable among those working in compulsory schools and childcare, other human service professions and material manufacturing (Appendix 4, Figures S24–28).

Leadership

Analyses of trends over time show that leadership quality is rated somewhat higher at the start of the Covid-19 pandemic, compared to before. However, this is a marginal difference, even though it was a statistically assured difference over time. Nor was any clear difference identified towards the end of the pandemic compared to before (Appendix 4, Figure 8).

Differences based on background factors

There is no statistically assured difference in development over time (*before and to one of the points during the pandemic*) based on background factors (Appendix 4, Figures S29–33).

Differences based on remote work/working in the regular workplace

There is no statistically assured difference in development over time (*before and to one of the points during the pandemic*) based on whether the participants worked remotely or in their regular workplace. (Appendix 4, Figure S34).

Demands and resources

Psychological demands

Analyses of trends over time show that the level of psychological demands were viewed as being somewhat lower at the start and end of the Covid-19 pandemic (*particularly towards the end of the pandemic, compared to before*) (Appendix 4, Figure 9). However, this is a relatively marginal difference, even though it was statistically assured over time.

Differences based on background factors

Women experienced a clearer decrease in psychological demands compared to men from before to the end of the pandemic (see below, and Appendix 4, Figures S35–39).

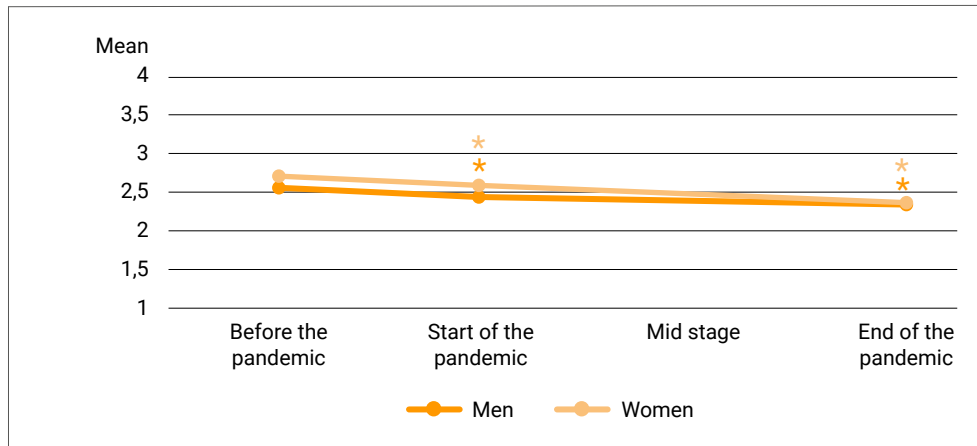


Figure S35. Mean on the scale for psychological demands divided by sex – before, at the start of and towards the end of the Covid-19 pandemic. There is no data on psychological demands for the mid stage of the pandemic. The test for group differences shows a statistically assured difference in the development of psychological demands between the groups from before and until the end of the pandemic.

*=A statistically assured increase or decrease in the proportion from before and until the specific point during the pandemic.

Differences based on remote work/working in the regular workplace

There is no statistically assured difference in development over time (*before to one of the points during the pandemic*) based on whether the participants worked remotely or in their regular workplace during the pandemic (Appendix 4, Figure S40).

Time pressure

A summary of the responses to the questions about time pressure indicates a somewhat larger proportion of respondents in the sample felt that time pressure had increased rather than decreased during the early to mid stages of the pandemic, and during its mid to late stages. For example, 31 per cent believed time pressure had increased, while 19 per cent believed it had decreased during the mid to late stages of the pandemic, compared to before. Almost 50 per cent felt there were no changes in time pressure (Figure 10).

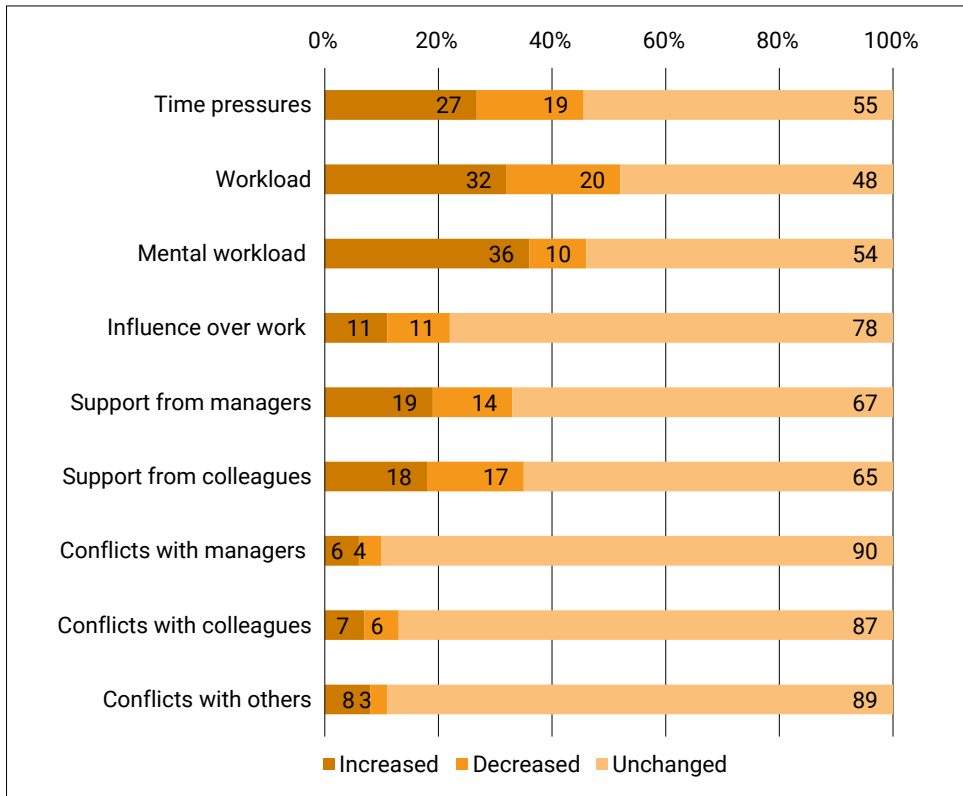


Figure 10a. Proportion of respondents to have reported changes during the early to mid stages of the pandemic compared to before, regarding time pressures, workload, mental workload, influence, support and conflicts.

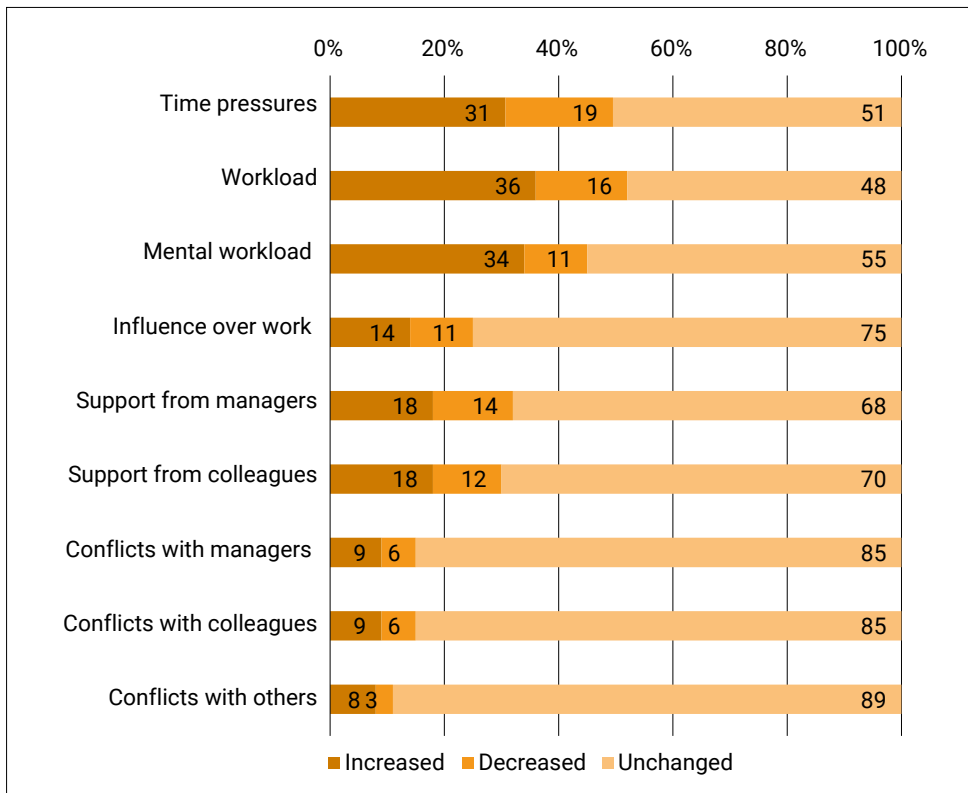


Figure 10b. Proportion of respondents to have reported changes during the mid to late stages of the pandemic compared to before, regarding time pressures, workload, mental workload, influence, support and conflicts.

Differences based on background factors

A larger proportion of non-manual workers with high levels of education believed that time pressures decreased during the early to mid stages of the pandemic, compared to before (Appendix 4, Figures S65–69).

Differences based on remote work/working in the regular workplace

A higher proportion of those who remained in their regular workplace believed that time pressure had increased. There was a higher proportion of those working either partly or mainly remotely to have reported feeling time pressure had decreased (Appendix 4, Figure S70).

Workload

A summary of the responses for questions on workload shows that a higher proportion of respondents believed that their workload had increased rather than decreased during the Covid-19 pandemic compared to before. This was especially clear during the early to mid stages compared to before, as 36 per cent felt that their workload had increased, while 16 per cent reported a decrease in workload. Under 50 per cent reported having an unchanged workload (Figure 10).

Differences based on background factors

A slightly higher proportion of those under 36, with high levels of education and non-manual workers reported that their workloads had decreased during the pandemic, compared to before (Appendix 4, Figure S65–69).

Differences based on remote work/working in the regular workplace

A higher proportion of those who remained in their regular workplace believed that their workloads had increased. In contrast, a higher proportion of those who either worked partly or predominantly remotely believed their workload had decreased (Appendix 4, Figure S70).

Mental workload

A summary of the responses shows that a higher proportion of respondents believed that their mental workload had increased rather than decreased during the Covid-19 pandemic compared to before. For example, 36 per cent believed their mental workload had increased, while 10 per cent believed it had decreased during the mid to late stages of the pandemic, compared to before. 54 per cent responded experiencing no changes to their mental workload (Figure 10).

Differences based on background factors

Women and those aged 36 to 55 were more likely to have responded that their mental workload had increased during the early to mid stages of the pandemic. A higher proportion of women also believed that their mental workload had increased from the mid to late stages of the pandemic. A higher proportion of those younger than 36 believed their mental workload had decreased during the

mid to late stages of the Covid-19 pandemic compared to before. In addition, a slightly higher proportion of those with high levels of education and non-manual workers believed that their mental workload had decreased (Appendix 4, Figures S65–69).

Differences based on remote work/working in the regular workplace

A smaller proportion of those who primarily worked remotely/from home believed that their mental workload had increased during the mid to late stages of the Covid-19 pandemic compared to before. At the same time, a higher proportion of those who had mostly worked remotely or from home believed their mental workload had decreased (Appendix 4, Figure S70).

Job insecurity

Trend analyses over time indicate that job insecurity was rated slightly higher at the start of the Covid-19 pandemic compared to before. However, although it is statistically assured over time, the difference is somewhat marginal. In contrast, levels of job insecurity were slightly lower towards the end of the pandemic compared to before (Appendix 4, Figure 11).

Differences based on background factors

There was a clearer increase in job insecurity from before the pandemic until its start among those working in material manufacturing and other professions. A slight increase was observed among health and social care workers from before the pandemic until its end (see below and Appendix 4, Figures S41–45).

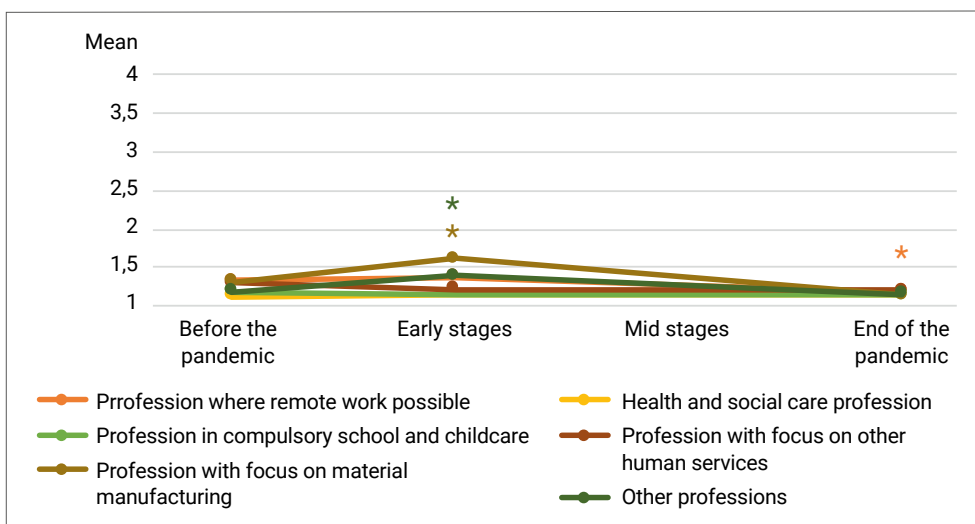


Figure S45. Mean on the scale for job insecurity divided by profession – before, at the start of and towards the end of the Covid-19 pandemic. There is no data on employment insecurity for the mid stage of the pandemic. The test of the group difference indicates a statistically assured difference between groups regarding the development of job insecurity, from before the pandemic and until its start, and from before the pandemic up until its end.

*=A statistically assured increase or decrease in the proportion from before and until a specific point during the pandemic.

Differences based on remote work/working in the regular workplace

There is no statistically assured difference in development over time (before to one of the points during the pandemic) based on whether the participants worked remotely or in their regular workplace during the pandemic (Appendix 4, Figure S46).

Control and decision latitude

Trend analyses over time indicate that levels of control and decision latitude were estimated as being slightly higher towards the end of the pandemic compared to before (Figure 12). However, this is a somewhat marginal difference, even though it was statistically assured over time.

Differences based on background factors

Control and decision latitude had increased more markedly from before and until the end of the pandemic among those with low levels of education, manual workers, health and social care workers and other human service professions as well as those working with material manufacturing (see below and Appendix 4, Figures S47–51).

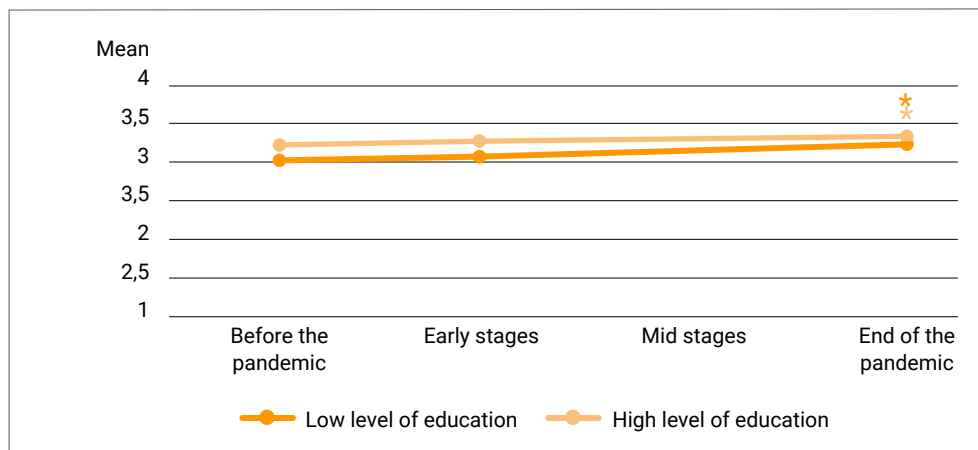


Figure S49. Mean on the scale for control and decision latitude divided by level of education – before, at the start of and towards the end of the Covid-19 pandemic. There is no data on control and decision latitude for the mid stage of the pandemic. The test for group differences shows a statistically assured difference in the development of control and decision latitude between the groups from before and until the end of the pandemic. *=A statistically assured increase or decrease in the proportion from before and until the specific point during the pandemic.

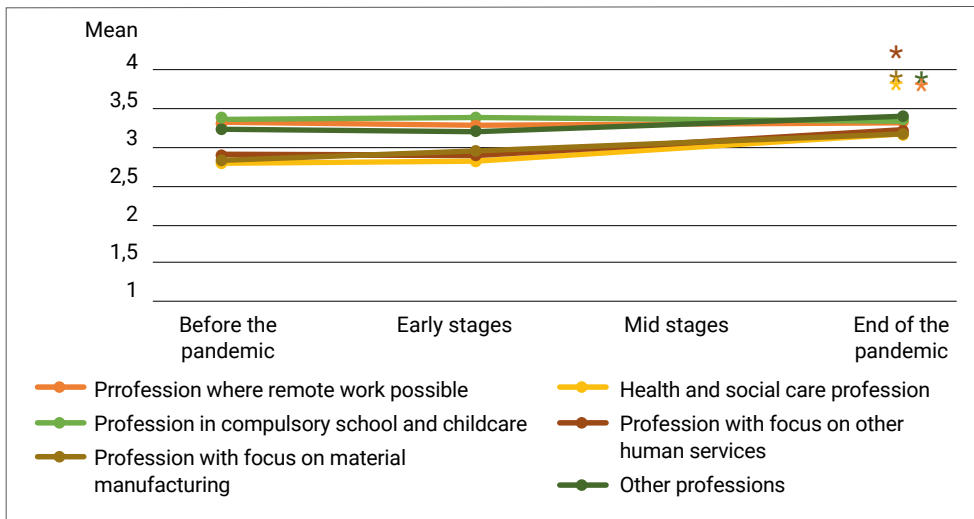


Figure S51. Mean on the scale for control and decision latitude divided by professional group – before, at the start of and towards the end of the Covid-19 pandemic. There is no data on control and decision latitude for the mid stage of the pandemic. The test for group differences shows a statistically assured difference in the development of control and decision latitude between the groups from before and until the end of the pandemic. *=A statistically assured increase or decrease in the proportion from before and until a specific point during the pandemic.

Differences based on remote work/working in the regular workplace

The increase in control or decision latitude from before until the end of the pandemic was more evident among those who had mainly worked remotely or from home (see below and Appendix 4, Figure S52).

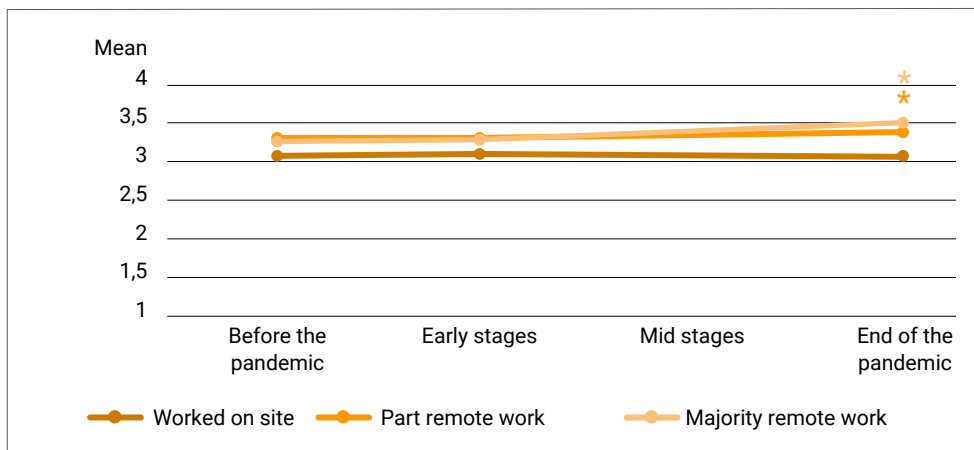


Figure S52. Mean on the scale for control and decision latitude divided by remote work – before, at the start of and towards the end of the Covid-19 pandemic. There is no data on control and decision latitude for the mid stage of the pandemic. The test for group differences shows a statistically assured difference in the development of control and decision latitude between the groups from before and until the end of the pandemic. *=A statistically assured increase or decrease in the proportion from before and until a specific point during the pandemic.

Influence

A summary of the responses to the questions about influence indicates that a higher proportion of respondents believed their influence had increased (14 per cent) rather than decreased (11 per cent) during the mid and end stages of the pandemic. The proportion was the same for those who reported having more or less influence respectively during the early to mid stages of the pandemic, compared to before. An overwhelming proportion reported no changes to their influence (78 per cent from the first until the second wave and 75 per cent from the third until fourth wave) (Figure 10).

Differences based on background factors

A slightly higher proportion of men believed their influence had increased, compared to women (Appendix 4, Figures S65–69).

Differences based on remote work/working in the regular workplace

There was a higher proportion of those who mainly worked from home during the pandemic that reported an increase in influence (Appendix 4, Figure S70).

Job strain

An analysis of trends over time shows that the proportion of those with job strain (high demands in combination with low control) decreased considerably from before and until the end of the Covid-19 pandemic, going from 21 per cent before the pandemic to 9 per cent by its end (Figure 13).

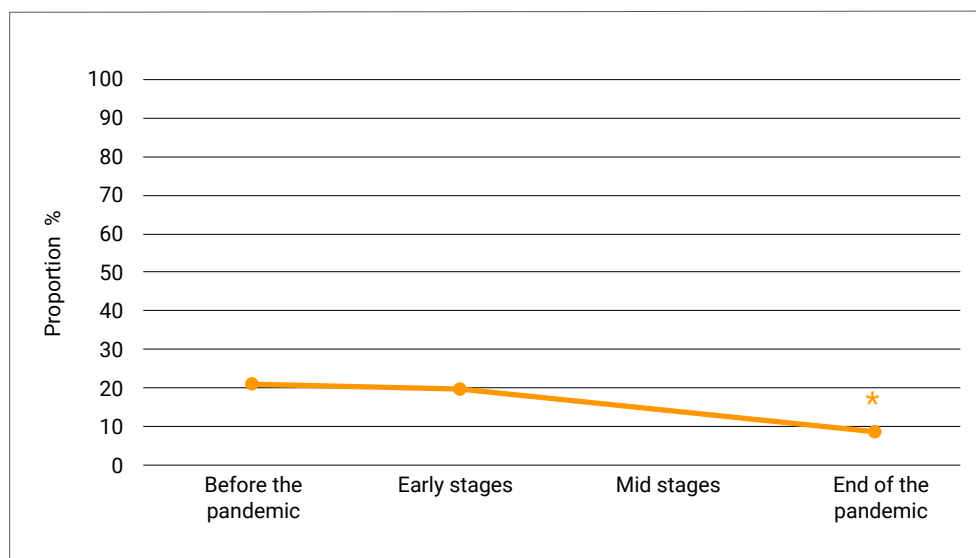


Figure 13. Proportion of those from the sample with job strain before, at the start of and towards the end of the Covid-19 pandemic. There is no data on job strain for the mid stage of the pandemic.

*=A statistically assured increase or decrease in the proportion from before and until a specific point during the pandemic.

Differences based on background factors

Among women, there was a more marked decrease in job strain from before to the end of the pandemic, and among health and social care workers and those in other human service professions. The proportion with job strain also decreased from before and until the start of the pandemic, and among health and social care workers (Appendix 4, Figures S53–57).

Differences based on remote work/working in the regular workplace

There is no statistically assured difference in development over time (before to one of the points during the pandemic) based on whether the participants worked remotely or in their regular workplace during the pandemic (Appendix 4, Figure S58).

Social work environment

Social support

Trend analyses over time indicate somewhat higher estimates on levels of social support in the workplace at the start of the pandemic, compared to before. However, the difference was marginal, even though it was a statistically assured difference over time. Instead, the perceived levels of support at work had decreased somewhat from before the pandemic until its end (Appendix 4, Figure 14).

Differences based on background factors

There was a clear decrease in support from before until the end of the pandemic among health and social care workers (see below and Appendix 4, Figures S59–63).

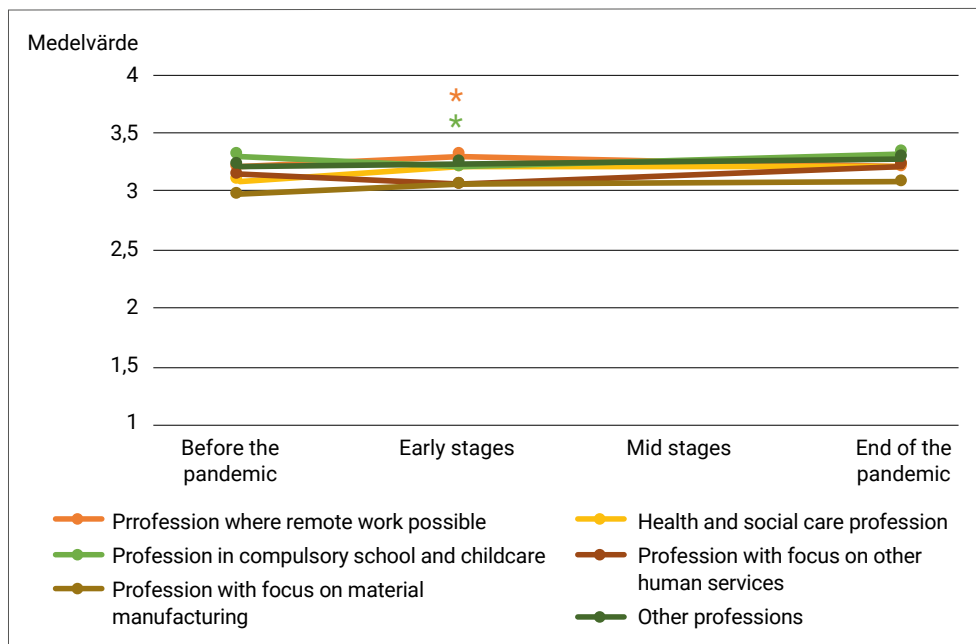


Figure S63. Mean on the scale for perceived social support divided by profession – before, at the start of and towards the end of the Covid-19 pandemic. There is no data on social support for the mid stage of the pandemic. The test of the group difference indicates a statistically assured difference between groups regarding the development of social support, from before the pandemic and until its end.

*=A statistically assured increase or decrease in the proportion from before and until a specific point during the pandemic.

Differences based on remote work/working in the regular workplace

There was a slightly more marked decrease in support at the end of the pandemic among those who remained in their regular workplaces (Appendix 4, Figure S64).

Support from managers and colleagues

A summary of responses to questions about specific types of support shows a relatively similar proportion of those who believed support from their managers had increased (18–19 per cent) and those who believed it had decreased (14 per cent). 64–65 per cent thought there was no change in the support from their managers. 18 per cent thought that there was an increase in support from their colleagues, while 12–17 per cent believed it had decreased. 65–70 per cent believed there had been no change (Figure 10).

Differences based on background factors

Among women, non-manual workers and those working in compulsory schools and childcare, there was a higher proportion that reported receiving increased support from their managers during the early to late stages of the Covid-19 pandemic compared to before. In contrast, less support from managers was more common during the mid to late stages of the pandemic compared to before among health and social care workers and those in other professions. There was a greater proportion of those with high levels of

education and non-manual workers who reported an increase in support from colleagues during the early and mid stages of the Covid-19 pandemic compared to before (see below and Appendix 4, Figures S65–69).

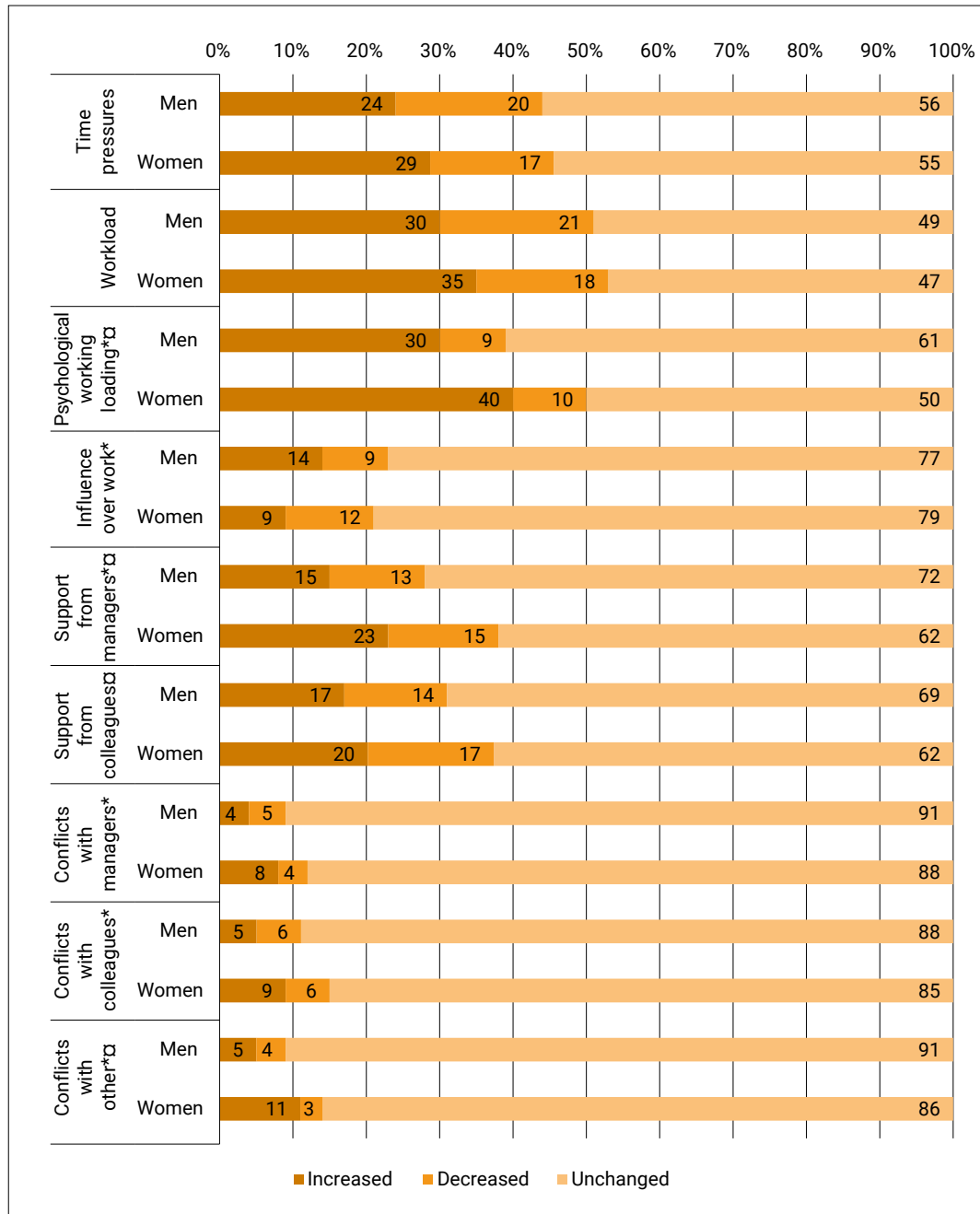


Figure S65a. Proportion of respondents from the selection divided by sex, reporting changes to time pressures, workload, mental workload, influence, support and conflicts during the early and mid stages of the pandemic, compared to before.

*=Statistically assured difference between the groups for the increased category.

#=Statistically assured difference between the groups for the decreased category.

α=statistically assured difference between the groups for the unchanged category.



Figure S69a. Proportion of respondents from the selection divided by professional group, reporting changes to time pressures, workload, mental workload, influence, support and conflicts during the early and mid stages of the pandemic, compared to before.
 *=Statistically assured difference between the groups for the increased category.
 #=Statistically assured difference between the groups for the decreased category.
 ‡=statistically assured difference between the groups for the unchanged category.

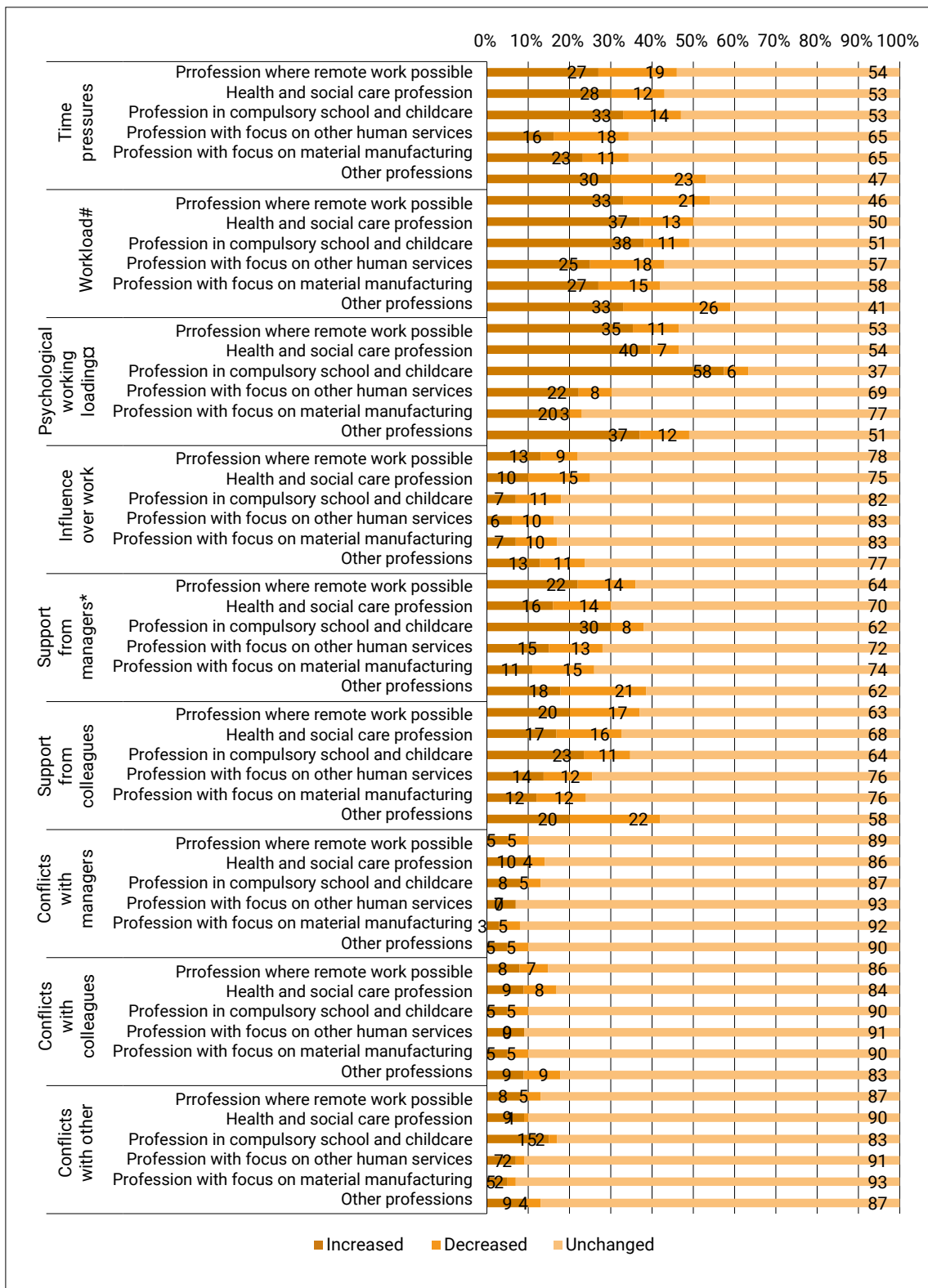
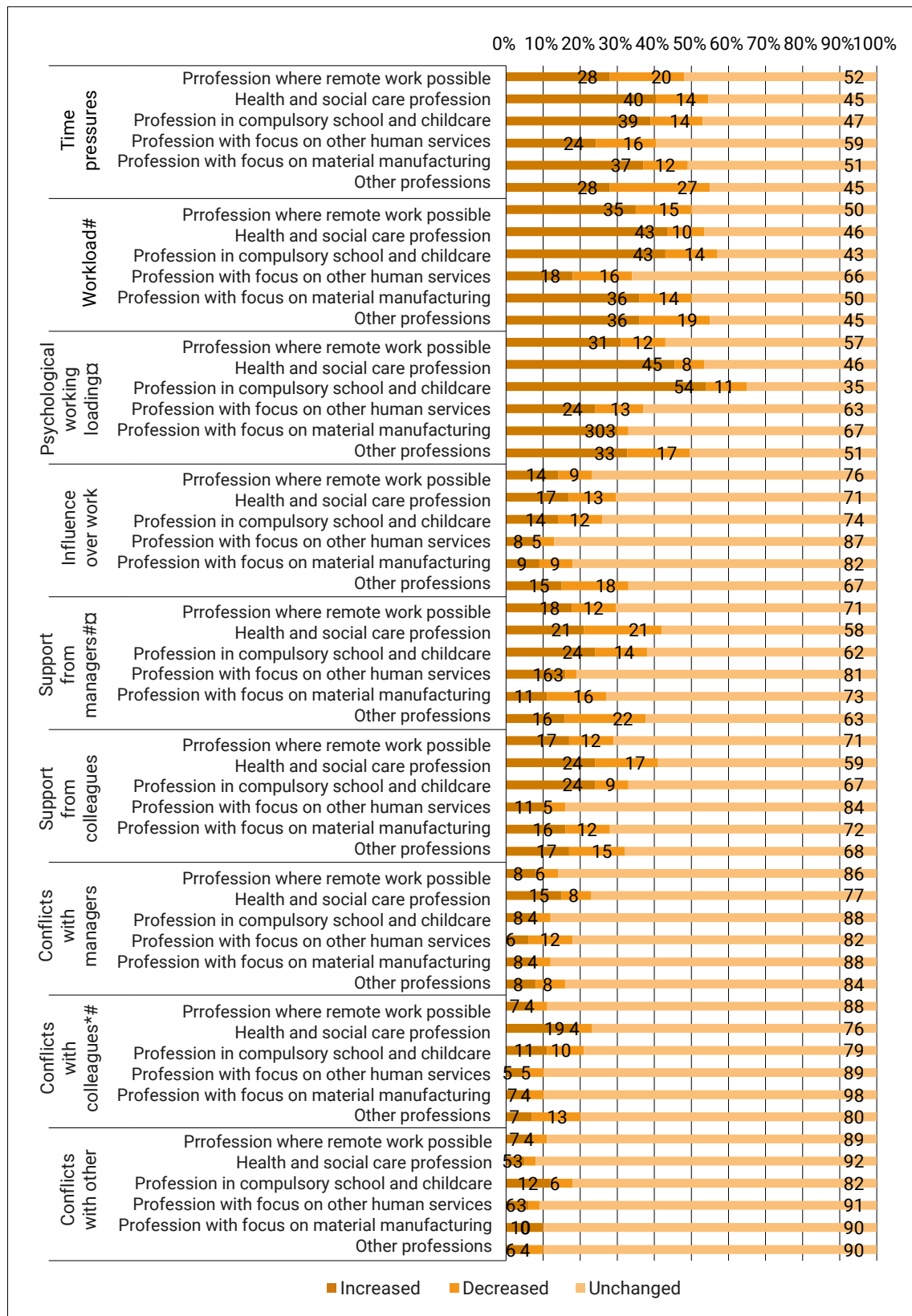


Figure S69b. Proportion of respondents from the selection divided by profession, reporting changes to time pressures, workload, mental workload, influence, support and conflicts during the mid and late stages of the pandemic, compared to before.

*=Statistically assured difference between the groups for the increased category.

#=Statistically assured difference between the groups for the decreased category.

□=statistically assured difference between the groups for the unchanged category.



Figur S69b. Proportion of respondents from the selection divided by profession, reporting changes to time pressures, workload, mental workload, influence, support and conflicts during the mid and late stages of the pandemic, compared to before.

*=Statistically assured difference between the groups for the increased category.

#=Statistically assured difference between the groups for the decreased category.

Ω=statistically assured difference between the groups for the unchanged category.

Differences based on remote work/working in the regular workplace

Among those who mainly worked remotely or from home, there was a higher proportion of the sample who reported a decrease in support from their colleagues during the pandemic (Appendix 4, Figure S70).

Conflicts

A summary of responses showed a slightly higher proportion of respondents reported an increase in conflicts with managers, colleagues and others during the pandemic compared to before, compared to those who reported a decrease in conflicts with managers and others (such as clients, patients, pupils, etc.). Compared to before the pandemic, nine per cent stated that there was an increase in conflicts with managers and colleagues during the mid and late stages of the pandemic. Six per cent reported a decrease in conflicts with managers and colleagues. The corresponding proportions were eight and three per cent respectively for conflicts with others. 85 per cent reported no changes in conflicts with managers and colleagues during the mid to late stages of the pandemic compared to before, and 89 per cent reported no change in conflicts with others (Figure 10).

Differences based on background factors

A higher proportion of women reported that conflicts had increased during the early to mid stages of the pandemic compared to before. A higher proportion of health and social care workers also reported increased conflicts with colleagues during the mid and late stages of the pandemic compared to before. A higher proportion of those working in compulsory schools and childcare and other professions reported a decrease in conflicts with colleagues over this period (see above and in Appendix 4, Figures S65–69).

Differences based on remote work/working in the regular workplace

A higher proportion of those who remained in their regular workplace experienced an increase in conflicts with managers and other people. In contrast, a higher proportion of those who worked remotely/from home reported a decrease in conflicts (rather than an increase) during the pandemic compared to before (Appendix 4, Figure S70).

Atmosphere in the workplace

A summary of responses relating to the workplace atmosphere shows that a relatively large proportion (39 per cent) believed that the atmosphere had deteriorated during the early and mid stages of the pandemic, compared to before. A significantly lower proportion believed that the atmosphere at work had improved (9 per cent), while 52 per cent believed there were no changes (Figure 15).

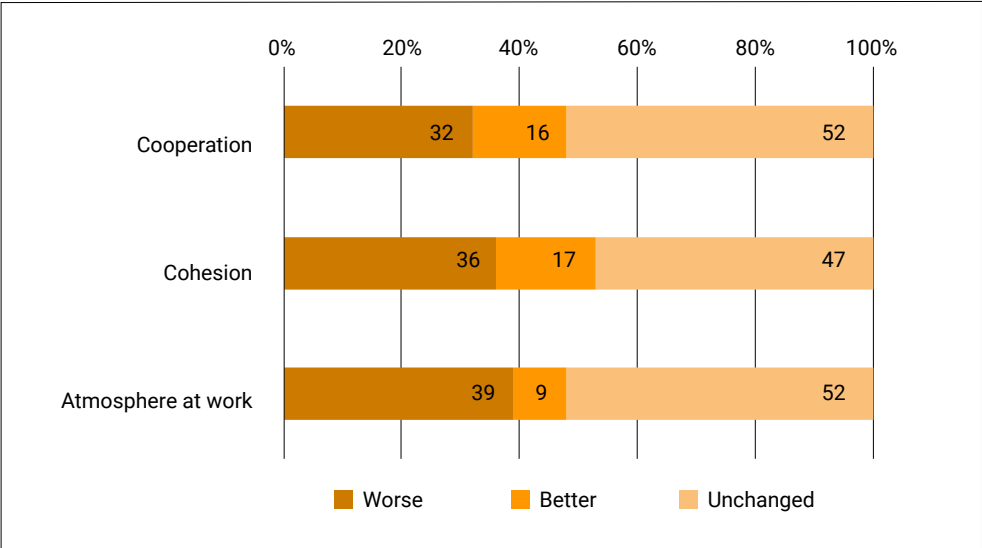


Figure 15. Proportion of respondents reporting the extent to which cohesion and the workplace atmosphere had changed during the mid to late stages of the pandemic compared to before.

Differences based on background factors

The proportion of those who felt that the work atmosphere had deteriorated during the early and mid stages of the pandemic compared to before was higher among women, those with high levels of education and people working in compulsory schools, childcare, other human service professions and other professions. The proportion of those who felt that the atmosphere had deteriorated during the mid and late stages of the pandemic compared to before was slightly lower in the health and social care worker group and material manufacturing (see below and Appendix 4, Figures S71–75).

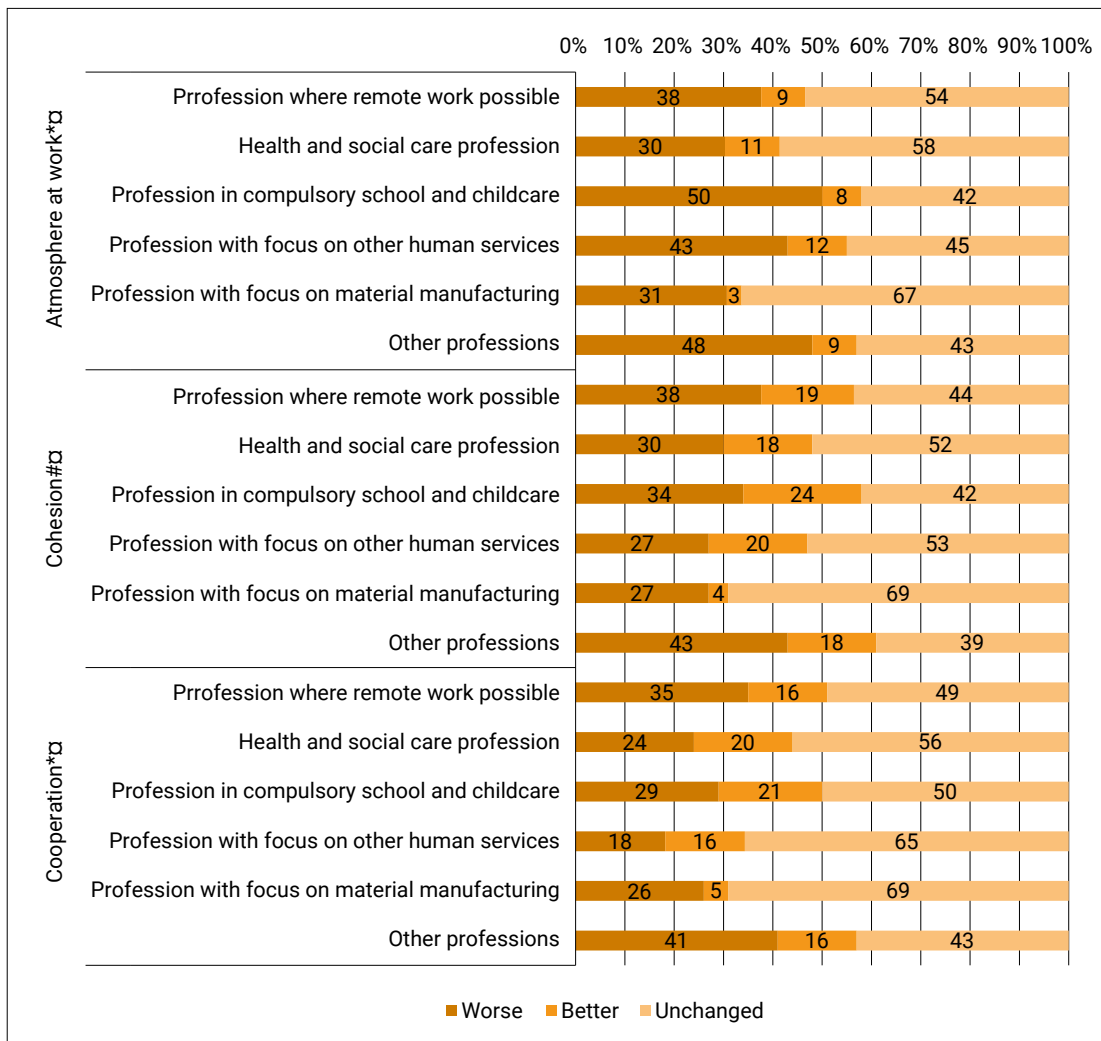


Figure S75. Proportion of respondents divided by professional group reporting the extent to which cooperation, cohesion and the workplace atmosphere had changed during the early to late stages of the pandemic compared to before.

*=Statistically assured difference between the groups for the worse category.

#=Statistically assured difference between the groups for the better category.

α=statistically assured difference between the groups for the unchanged category.

Differences based on remote work/working in the regular workplace

There is no clear difference based on whether the participants worked remotely/from home or in their regular workplace (Appendix 4, Figure S76).

Cohesion in the workplace

A summary of the responses to questions about cohesion shows that a larger proportion of respondents (36 per cent) felt that cohesion had deteriorated during the early and mid stages of the pandemic compared to before, than the proportion who believed that cohesion had improved (17 per cent) compared to before the pandemic.

A total of 47 per cent believed that cohesion was unchanged (Figure 15).

Differences based on background factors

The proportion of those who felt that cohesion had deteriorated during the early and mid stages of the pandemic compared to before was greater among those with high levels of education. There was also a higher proportion of people who believed that cohesion had deteriorated during the early to mid stages of the pandemic compared to before among people who worked in professions where remote work was possible, and other professions. This proportion was slightly smaller for health and social care professions, those working in the compulsory school and childcare and other human service professions as well as material manufacturing. There was a higher proportion of women, those with high levels of education, non-manual workers and people working in the compulsory school, childcare and other human service professions who believed that cohesion had improved in the workplace (see above and Appendix 4, Figures S71–75).

Differences based on remote work/working in the regular workplace

The proportion of those who believed that cohesion had deteriorated during the early and mid stages of the pandemic compared to before was larger among those who mainly worked remotely/from home. It was also somewhat higher among those who partly worked from home (Appendix 4, Figure S76).

Cooperation in the workplace

A summary of the responses relating to cooperation shows that a larger proportion of the sample respondents believed that cooperation had deteriorated (32 per cent) than the proportion who believed it had improved (16 per cent) during the early to mid stages of the Covid-19 pandemic, compared to before. A total of 51 per cent did not believe cooperation in the workplace had changed (Figure 15).

Differences based on background factors

A larger proportion of non-manual workers and those with high levels of education reported that cooperation in the workplace had deteriorated during the early to mid stages of the Covid-19 pandemic, compared to before. And the proportion was also higher among people who were able to work remotely and other professions (Appendix 4, Figures S71–75).

Differences based on remote work/working in the regular workplace

A greater proportion of those who mainly worked remotely/from home believed that cooperation had deteriorated from before until during the pandemic. And there was a somewhat larger proportion of those who partly worked remotely/from home who believed cooperation in the workplace had deteriorated (Appendix 4, Figure S76).

Work-life im/balance

How work situations affected private lives

When asked, approximately 16–20 per cent of the sample respondents stated that their work situation often/always had a positive impact on their private life during the pandemic, 36 per cent stated this was the case occasionally, and 48–44 per cent answered rarely.

On the other hand, 5–6 per cent of respondents stated that their work situation had a negative impact on their private life during the pandemic, with 23–22 per cent answering occasionally and 72 per cent rarely. A total of 28 per cent believed that their work situation either occasionally or often negatively impacted their private life. 52–56 per cent believed that their work situation either occasionally or often had a positive impact on their private life (Figure 16).

Differences based on background factors

There is a slightly higher proportion of those who report ‘often/always’ for the ‘the work situation has a positive impact on my private life’ among women, non-manual workers and those who work in professions where remote work is possible, the compulsory school and childcare and other professions. A larger proportion of those with high levels of education and health and social care workers also reported an occasional positive impact. People younger than 36 were more likely to report that their work situation often/always had a negative impact on their private life. This was also true for the groups who were able to work remotely, health and social care workers and other professions. The proportion who reported that their work situation occasionally had a negative impact on their private life was also slightly higher among women, those with high levels of education and people working in compulsory schools and childcare (Appendix 4, Figures S77–81).

Differences based on remote work/working in the regular workplace

A larger proportion of those who mainly worked remotely reported how their work situation had a positive impact on their private life during the pandemic. However, there is no clear difference in the proportion who believed their work situation negatively affected their private life due to remote work or working from their regular workplace (Appendix 4, Figure S82).

How private lives affected work situations

When asked, approximately 8–9 per cent of the sample respondents stated that their private life often/always had a positive impact on their work situation during the pandemic, 28–30 per cent per cent stated this was the case occasionally, and 65–61 per cent answered rarely. On the other hand, three per cent stated that their private life often/always negatively impacted their work situation, with 16–14 per cent answering occasionally and 81–83 per cent rarely. A total of 17–19 per cent believed that their private life either occasionally or often had a negative impact on their work situation. 36–39

per cent believed that their private life either occasionally or often positively impacted their work situation (Figure 16).

Differences based on background factors

A greater proportion of non-manual workers reported how their private life often/always affected their work situation positively during the early to mid stages of the Covid-19 pandemic, compared to before (Appendix 4, Figures S77–81).

Differences based on remote work/working in the regular workplace

A higher proportion of those who worked remotely/from home during the pandemic stated they often/always felt that their private life had a positive impact on their work situation. However, remote work and remaining in the regular workplace made no clear difference regarding any negative impact a person’s private life may have had (Appendix 4, Figure S82).

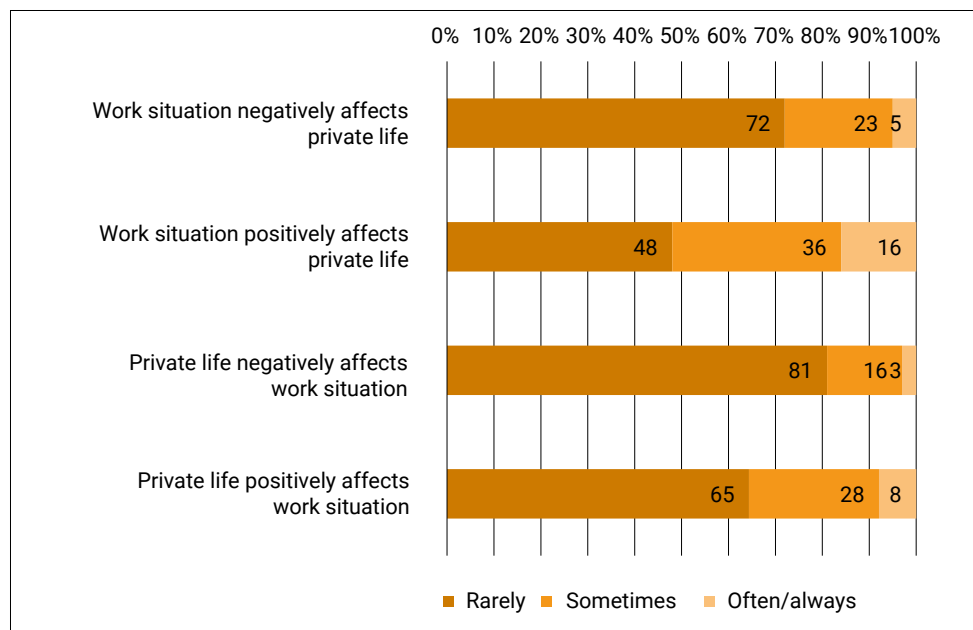


Figure 16a. Proportion of respondents reporting how often their work situation affected their private life, and how often their private life affected their work situation both positively and negatively during the early to mid stages of the Covid-19 pandemic.

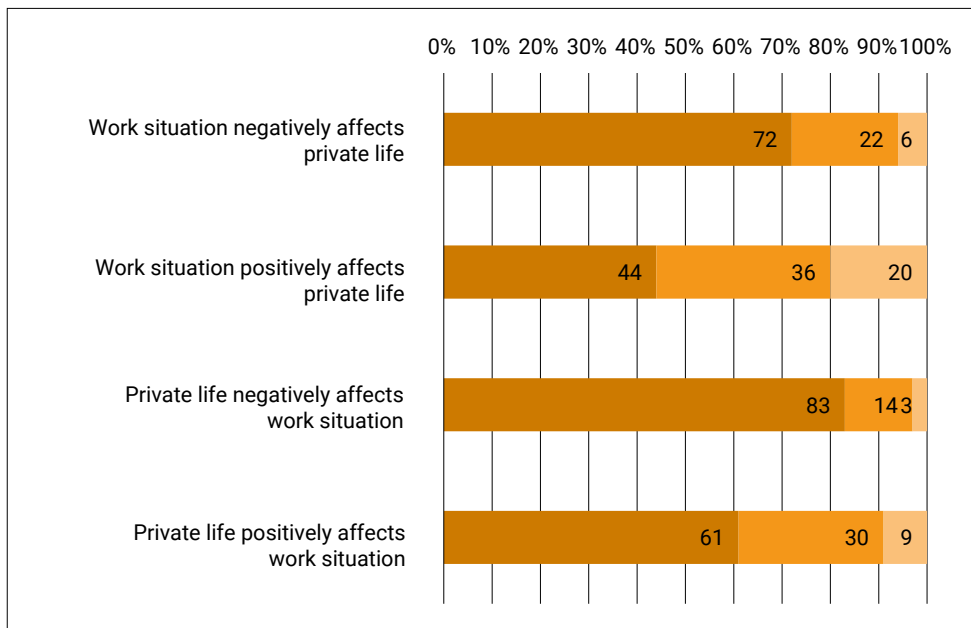


Figure 16b. Proportion of respondents reporting how often their work situation affected their private life and how often their private life affected their work situation both positively and negatively during the mid to late stages of the Covid-19 pandemic.

4. Discussion

In this report, we explored how the work-life balance and experiences of the organisational and psychosocial work environment changed in connection with the Covid-19 pandemic among a sample of Swedish workers.

Discussion on the interpretation of the results in relation to previous knowledge and studies

The organisational work environment

The results in this report are in line with several of the scenarios anticipated following the Covid-19 pandemic in relation to the development of the work environment and work conditions. This includes aspects such as decreased working hours and a slight increase of insecure employment forms such as zero-hour contracts (4). The results are also in line with what has been noted during previous financial crises such as the one that began in 2007–2008 that led to increased unemployment (27). We primarily observed a lower proportion with long working hours (over 40 hours per week). This may be related to the financial crisis, but also the fact that many were in short-term employment or furloughed and were able to keep their job, although they were forced to work fewer hours. However, there was no clear long-term increase in levels of fixed-term employment, which was seen at the time of the 2007/2008–2010 financial crisis (27).

This may also be the result of more organisations furloughing their employees, rather than making them redundant. It was particularly clear that remote work/working from home increased significantly during the pandemic. We had expected a deterioration in the quality of leadership in conjunction with the pandemic, given the fact many worked from home and were more isolated from their workplace, with a greater distance from their managers. However, we did not observe any deterioration in leadership among this sample, nor did we see any clear group differences. In contrast, Finnish studies observed great variation in how remote work affected leadership and communication with managers. Some report that remote work created positive opportunities for development and worked well, whereas others report more problems (28). A relatively large proportion also believed that their duties had increased during the early stages of the pandemic in particular. This can be explained by the major transition many faced when starting to work remotely/from home, or as a result of adaptations to organisations that were implemented following the introduction of restrictions and recommendations.

Demands and resources

The results were not entirely clear with regard to demands and resources. There was a general decrease in the psychological demands at work. This is in line with the reduction of work intensity that was observed during the 2007/2008–2010 financial crisis (27) and the most recent work environment survey that found a smaller proportion with ‘psychologically demanding work’ in 2021 compared to 2019 (29). Control in the form of decision latitude also appeared to have increased towards the end of the pandemic, which is in line with certain findings from previous crises (30). However, the most recent work environment survey conducted on a representative sample of the Swedish working population between 2019 and 2021 shows there is no statistically assured difference regarding being able to decide where work will take place (29).

The results in this report suggest an overall decrease in ‘job strain’ as psychological demands generally decreased somewhat, while control increased. This could indicate a better balance between these demands and resources. Nevertheless, previous studies suggest an increase in job strain in conjunction with crises (27). Furthermore, no statistically assured difference was identified for the category of job strain/high tension between 2019 and 2021 in the latest work environment survey (29). The results in this report relating to demands and control therefore partly differ from a number of other studies. Hence, the results may need to be interpreted with caution and require confirmation in other studies. A relatively large proportion of the analysis sample in this report experienced an increase in work duties, workload and mental workload. This may indicate an increase in certain demands in conjunction with the Covid-19 pandemic, at least for certain groups on the labour market. It is possible that the psychological demand measurement that focuses on time pressures, work intensity and complexity does not capture demands relating to aspects such as workload and cognitive and emotional strain. The fact that an increase in mental workload was common may indicate that emotional demands increased, i.e. the requirements to manage personal emotions and those of others in the workplace. An increase of emotional demands before and in the early stages of the pandemic was also indicated in a previous analysis of data from SLOSH 2018 to 2020.

As expected, we also see a certain general increase of job insecurity during the early stages of the pandemic. However, we did not find a more long-term increase. This pattern appears to differ from the financial crisis of 2007/2008–2010, where the general trend was an increase in job insecurity in Europe (27). The fact that job insecurity did not increase by the final stages of the pandemic may be due to the fact the economy had begun to recover in 2021, and the threat of furlough or redundancy, bankruptcy and closures was much lower. The most recent work environment survey presents a downward trend between 2019 and 2021 as regards redundancy threats or enforced shorter working hours (29). Companies in Sweden appear to have had good opportunity for utilising short-term work, rather than giving notice to staff, which may have contributed to lower job insecurity. Additionally, there may

have been greater hope towards the end of the pandemic that the worst of the crisis was over, and the labour market would recover once the restrictions were lifted. It is also possible that other support measures such as increased unemployment insurance and training opportunities may have contributed to limiting employees' fears about losing their jobs.

Social work environment

The results in this report suggest that social support declined slightly, particularly among health and social care workers. This is in line with previous studies from Sweden that found that social support at work was rated more negatively among healthcare workers (7, 10). However, this report also suggests that many believed conflicts increased, and cohesion and cooperation in the workplace deteriorated, indicating a general deterioration in the social work environment.

Work-life balance

There was a slight deterioration in the work-life balance in Sweden during the 2007/2008–2010 financial crisis (27). However, analyses in this report suggest that more people believed their work situation affected their private life positively, rather than negatively. This is also in line with earlier results from the SLOSH study, which shows how there was a better work-life balance during the first wave of the pandemic (15). A report from the Swedish Agency for Work Environment Expertise (2022) also suggested that the work-life balance had improved as a result of remote work (19).

Relevance of background factors and remote work/working in the regular workplace

Studies conducted during the pandemic suggest that, given the right conditions, remote work can have positive effects such as increased influence and flexibility at work, as well as a better work-life balance. However, there may be negative effects, such as less contact with colleagues and managers and social isolation (19). For example, this report observes a greater deterioration in the social work environment for those who worked remotely, in terms of a worsened atmosphere in the workplace, less cohesion and problems with cooperation. This may be the result of less contact with colleagues and managers as well as the social isolation. However, an increase in conflicts was more evident among those who remained in their regular workplace during the Covid-19 pandemic. Hence, the way the social work environment was affected appears to have differed depending on where the work took place. Working hours and certain demands also appear to have been affected differently depending on whether work was carried out remotely. Those who were unable to work remotely/from home were more likely to feel increased time pressures and a heavier workload.

Some of these patterns can also be observed among certain professions and socioeconomic groups. Being able to work remotely is likely associated with specific professions and level of education and socioeconomic situation. Those

working in human service professions were more likely to remain in their regular workplace during the pandemic, while non-manual workers with high levels of education were more likely to work remotely. There appears to have been a greater increase in workload and mental workload among health and social care workers, as well as those working in the compulsory school and childcare. This is in line with previous pandemics that have shown how they can be linked to an increase in quantitative (a high workload) and qualitative (complex duties) demands within health and social care (31). Similarly, social support appeared to have decreased considerably among health and social care workers.

Some of the results also indicate that women were more likely to have experienced heavier workloads and mental workloads compared to men. This most likely depends on which industries were most affected during the pandemic, and that women are more likely to work in health and social care, compulsory schools and childcare. Male-dominated industries, such as manufacturing and construction, were more affected by the previous financial crisis, whereas the Covid-19 pandemic has affected sectors where women dominate, such as the hotel and restaurant industry, travel and tourism and arts and entertainment. Nevertheless, there was a need for more workers in sectors where women dominate, such as health and social care (3). Hence, the Covid-19 crisis differed from the 2007/2008–2010 financial crisis, and affected growth industries rather than industries with a gradually shrinking economy (27).

Methodological considerations

Discussion on the interpretation of the statistical analyses

Due to limitations with the surveys, it is not possible to use the estimates from before the pandemic as starting points for all the factors we explored in the report. It is mainly when it has been possible for us to conduct regression analyses that we have been able to determine whether there is a definite increase or decrease over time. This enables clear conclusions as to whether there is a trend over time that can be linked with the Covid-19 pandemic. The results should, however, be interpreted with more caution where participants themselves estimated whether there was a change compared to before the pandemic. When we analysed the trends over time, we have not controlled for other factors in this report that can influence the development. There may be a general tendency towards an increase/decrease of certain work environment factors that can affect our results. Hence, it is not possible to say with certainty whether a certain trend over time was the result of the pandemic. To better determine whether the changes are the result of the pandemic, it would be wise to study the changes over a longer period, taking any long-term trends into consideration. In the results section, we have focused on statistically significant differences between the different groups. This may mean there are other differences that have not been acknowledged here. The results relating to the group differences are more uncertain due to the more limited power of

the analyses in cases where we have tested several groups with relatively few individuals in some groups (the occupational groups, for example). We have performed a wide range of analyses for this report, meaning there is a risk that some of the results are due to random variation. There are no adjustments for the large number of tests conducted in this report.

Discussion on work environment estimates and work-life balance

This report has explored changes in conjunction to the Covid-19 pandemic. It has looked at some of the most studied organisational and psychosocial factors such as work hours, demands, control, support, and job insecurity. Several of the factors are based on well-used instruments that have been validated in research literature, see, for example, Fransson et al. (2012). However, there is a limitation due to fact that so many questions have been asked and/or are only included in some of the data collections. Some of these questions have also been developed for SLOSH or SLOSH Covid, which means we do not know how well the questions work. Some of the questions also build on the respondent's memory of life before the pandemic. Remembering what life was like before the pandemic may have been difficult, thus affecting the accuracy of how the situation was described – especially long after the start of the pandemic, and similarly when comparing the situation before and during. Furthermore, all details about the work environment and work-life balance are self-reported, which in itself creates some uncertainty. For example, there is a risk that respondents have not answered certain questions truthfully, and that the results have been affected as some people have not answered a specific question. The proportion of respondents in the sample can be misleading to some extent, if participants with a low or high occurrence of a specific work environment condition have chosen not to answer. Answering some of the survey questions may have been difficult for the participants who mainly worked from home, for example, the questions about the workplace atmosphere, cohesion and cooperation. It would have been a good idea to find out more about short-term work and furloughs in order to understand the results and the consequences they may have.

This could have contributed to changes to the worker's contract, type of employment and to a lower degree of job insecurity. Furthermore, short-term work, furlough and remote work may have been voluntary or involuntary, which is something we do not know. Nor do we know how this has affected participants' financial situations, something that may have been significant to their health and wellbeing. It would also have been good to know more about other changes to employment during the pandemic. This would provide us with an increased understanding of the results, such as changing careers, retirement/semi-retirement and the extent to which these changes were voluntary. This can also affect the results relating to changes in the work environment during the pandemic.

Discussion on the selection risk and generalisability

The analyses are based on a relatively limited sample. Generally, large samples

are needed to be able to perform analyses in sub-groups such as men and women, and various professions. This means that there may be differences between the groups that were not discovered in this report. We divided the sample into as few groups as possible to increase the chance of conducting analyses in subgroups, which may have limitations. However, we can see statistically assured differences in several cases, despite the relatively limited sample. Nevertheless, some differences were marginal. In these cases, it is unclear whether the statistically assured difference is relevant to the working population. Interpreting the results with caution is also important, as the sample comprises people who continued to work during the pandemic. Furthermore, there is an over-representation of those with high levels of education and older working people in the sample, meaning that many of the conditions in this report may differ to those among the rest of the population. It is possible that some of the results in this report underestimate poorer work environment conditions, or overestimate positive work environment conditions, as people with a lower socioeconomic status, who are younger or who are less connected to the labour market often have poorer work environment conditions. However, trend analyses over time may, however, be less affected by a sample based on specific response groups. Finally, it is worth highlighting that Sweden's pandemic strategy differed from many other countries in terms of how to limit the spread of the virus. The strategy may, for example, differ as regards the transition to remote teaching in compulsory schools. Changes to the work environment may have looked different in many other countries, as Sweden did not impose a total lockdown and compulsory schools remained open for the most part.

5. Conclusions

The results of these analyses suggest that the Covid-19 pandemic gave rise to several changes to the organisational work environment for workers in Sweden. This primarily applies to a general increase in remote work and a general decrease in work hours. The results are slightly less clear as regards demands and resources at work. Psychological demands decreased slightly, while control or decision latitude increased somewhat. This means that a smaller proportion of the sample had job strain during the pandemic, which in turn suggests a general improvement in the balance between these demands and resources. At the same time, there are indications that there was an increase in certain demands such as workload and mental strain, at least among certain groups on the labour market.

Furthermore, the results suggest a general deterioration in the social work environment, although there is a relatively good work-life balance. However, there are significant differences depending on several factors, but particularly professional groups and remote work. For example, the results suggest an increase in certain demands and deterioration of some social work environment factors among people working in health and social care and education, as well as those who remained in their regular workplace. At the same time, the results suggest a better work-life balance, although other social work environment factors deteriorated among those with high levels of education and non-manual workers, as well as those who worked remotely/ from home.

These results can guide continued and future labour market initiatives and work environment management. The results point towards the social work environment being a prioritised area should there still be high transmission of Covid-19, in the event of similar future crises, and if remote work continues. The results also indicate that those working in human service professions – particular health and social care – are a prioritised group in the event of high transmission levels of Covid-19 or similar crises in the future.

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7. Appendices

Appendix 1. Description of survey questions

Appendix 2. Description of background factors

Appendix 3. Dropout analysis

Appendix 4. Overall results (from entire sample)

Appendices can be downloaded from the agency's website, www.sawee.se



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