

ABSTRACT BOOK - WORK III

8–9 December 2021

# WORK2021

WORK BEYOND CRISES



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K5

## ECONOMIC AND SOCIAL IMPLICATIONS OF COVID19 IN EUROPE – EVIDENCE FROM EUROFOUND SURVEY

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### **Abstract**

The COVID19 crisis started in March 2020 as a health crisis due to the fatal consequences of the crisis. However, as a matter of few weeks, it quickly developed as an economic and social crisis that profoundly disrupted the lives of all European citizens. This contribution will present the findings of the three rounds of the Living, working and COVID-19 e-survey, carried out by Eurofound to capture the far-reaching implications of the pandemic for the way people live and work across Europe. The three rounds of the e-survey have been carried out to date in spring 2020 and in spring 2021, when most Member States were in lockdown, and one in summer 2020, when society and economies were slowly re-opening.

After an overview of the economic situation, the presentation will show that the economic and social crisis affected differently the various sociodemographic groups. It will present findings employment and remote working. It will discuss the short and long term effect of school closures and the implication of the crisis for mental health and living conditions. It will elaborate the important effect of social protection and it will underline stark differences between countries and between socioeconomic groups that point to growing inequalities. Finally, it will discuss the issue of trust and vaccine hesitancy across Europe.

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K6

## RESEARCH METHODS FOR DIGITAL WORK AND ORGANIZATION

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### **Abstract**

Digital work is organizationally, interpretively, spatially and temporally complex. An array of innovative methodologies have begun to emerge to capture these activities, whether through re-purposing existing tools, devising entirely novel methods or mixing old and new. The speakers have recently edited a new book (published by Oxford University Press, Oct 2021) that brings together some of these techniques in one volume as a sourcebook for management, business, organizational and work researchers pursuing projects in this field. This diverse collection of methods is illustrated through contributors' reflexive accounts of real world research projects which outline debates in the field, confront the challenges such methods may raise and make recommendations for research practice. At the conference, the editors will provide an overview of the opportunities and challenges of researching digital work, and discuss ethical considerations, skill requirements and our view on the post-pandemic future of digital work. We welcome topics for discussion from the audience.

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## MEASURING EMPLOYMENT IN THE ENVIRONMENTAL SECTOR AND GREEN JOBS IN STATISTICAL SURVEYS: ILO GUIDELINES, EXPERIENCES AND LESSONS LEARNED

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### **Abstract**

The world today is facing tremendous environmental and economic challenges that call for bold actions to move us forward toward a sustainable future. The joint impact of climate change and destruction of our planet's biodiversity require an urgent change in the course of our economic system and the employment and drivers which sustain it.

To assist countries in successfully addressing the challenges concerning sustainable development while ensuring decent work for all, in 2015 the International Labour Organization (ILO) adopted the *Guidelines for a just transition towards environmentally sustainable economies and societies for all*. The Guidelines are both a policy framework and a practical tool to help countries at all levels of development manage the transition to carbon-neutral economies.

The key policy questions that need to be addressed in the transition to greening of the economy concern job creation and loss, changes in occupational and skills needs, organizational restructuring and decent work. Active labour market policies will be needed to facilitate structural change that comes during the just transition process. In particular, policies will be needed to support jobseekers and workers in sectors that will need to transform or even close down operations. Policies will also be required to facilitate exit strategies for environmentally harmful sectors while also supporting strategies for infant industries. Moreover, policies will be needed to support skills development, education and training for emerging green jobs, while supporting laid-off workers and their families through social protection measures.

The just transition process starts with understanding the information landscape. Policy makers require timely, relevant, high quality information to inform the policy strategies that can support a just transition for all, offering adequate decent work opportunities while limiting negative impacts such as job destruction and massive rural-to-urban migration. The growing number of policy questions related to a greening the economy has led to a growing demand for both statistical data and better conceptual guidelines on the measurement of green jobs in terms of the size, composition and contribution of the specific groups of workers and economic units to the green economy. Reliable statistics on green jobs are needed in order to gain a better understanding of the impact of "greening the economy" on the labour market. Such statistics can ensure that effective policy measures and tools are formulated to respond to the shift to a greener economy, and measure the economic and social impact of various policy interventions, especially with respect to employment. Statistics can help inform decision making on just transition policies, including providing evidence regarding vulnerable populations such as women and youth, who, without targeted interventions could be left behind.

Prior to the adoption of the Just Transition Guidelines, in 2013 the 19th International Conference of Labour Statisticians had adopted the first international statistical standards to support measurement of green jobs in statistical surveys. *The Guidelines concerning a statistical definition of employment in the environmental sector* represent the first internationally agreed conceptual framework for understanding the concepts and definitions associated with employment in the environmental sector and green jobs as well as the data collection programme and methods recommended at the national level.

The 19th ICLS Guidelines note that the national system of statistics should facilitate the assessment of the contribution of the transition towards a green economy to employment, including the number of people employed and their skill levels. It should also provide information on various aspects of sustainable development, especially when used together with statistics on production, value added, turnover, export and import, innovation, investments, fiscal schemes and subsidies. It should also inform the design and monitoring of specific support policies and assistance programmes for the environmental sector. Moreover, it should facilitate analysis of the economic and social situation of particular groups of workers in this sector such as women, rural and urban populations, youth and the elderly.

The ILO has conducted pilot surveys to measure green jobs in Albania and Mongolia. The objective was to collect statistics on a set of variables related to the number of green jobs in each country and their characteristics. The methodology consisted

of pilot testing a special module of questions linked to the labour force survey and another linked to the establishment survey on employment and earnings. The idea was to test the practical application of the concepts and definitions presented in the 19<sup>th</sup> ICLS Guidelines using the new ILO data collection methodology. The testing allowed for a better understanding of good practices and limitations associated with the methodology, and provided lessons learned and informed making recommendations for the future. Such statistical methods testing and further development of the international statistical standards on measuring employment in the environmental sector and green jobs will be essential for providing the needed statistical data and indicators to support countries in progressing towards a just transition to environmentally sustainable economies and societies for all.

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## 2.04

# A PROPOSAL FOR A CRITICAL APPRAISAL OF WORK IN SUSTAINABILITY RESEARCH

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### Abstract

Sustainability demands major changes in the way work is organised in modern-day economies. This is usually portrayed as a daunting prospect; job losses are pitted against demands of environmental and climate justice, and often it seems that the breakdown of life-supporting biophysical systems is easier to conceive than the organised phasing-out of harmful industries. Likewise, contemporary research on the relation of work and the environment in ecological economics and sustainability research more generally usually draws on the dominant conception of work as an end in itself and as a productive, meaningful activity that satisfies consumer demand, and allows for self-realisation and social inclusion. In this conceptual paper, we challenge this perception and argue for a fourfold critique of work as a (1) biophysically destructive instead of only productive activity; (2) a consumption-causing rather than a demand-fulfilling activity; (3) a heteronomous and often meaningless activity instead of an activity of self-realisation, identification and meaningful contribution to society; and (4) an institution of systematic social exclusion, dependency and control, instead of social inclusion.

(1) Work is usually conceptualised as a productive activity that transforms inputs into consumer goods and services. However, when considering the overall environmental impact of work itself across economic sectors (its immediate impacts as well as the time-use, consumption, infrastructure and mobility patterns it commands), it becomes evident that work is a highly resource-intensive and biophysically destructive activity. This is in line with previous studies on the positive link between working hours and environmental pressures.

(2) Paid work is also often understood as an activity that produces goods and services according to consumers' demand, and further provides workers with the means for consuming those goods. At the same time, the centrality of work in modern societies has to be seen as an ultimate driver of consumption. Modern societies sustain themselves mainly through market-based consumption financed by income-generating employment as the principal means to satisfy basic needs. They are locked into a 'work-and-spend' cycle, a way of life of working full-day, every day and life-long. The sheer amount of time dedicated to work itself, but also to commuting, preparing for or recovering from work deprives most people of the time and skills to satisfy their needs otherwise than through consumption. Moreover, long working hours, unpleasant working conditions and pointless jobs enhance compensatory and status consumption.

(3) Although work is often associated with the potential for personal development, self-realisation and identification, the agency of workers remains highly constrained, both when looking for work and in employment itself. In post-Fordist working environments, hierarchical working conditions are increasingly superseded by the promise of more autonomy and creativity at the workplace, even in low-paid and low-skilled jobs. This, however, does not change work's heteronomous nature; quite to the contrary, new risks of self-exploitation arise, or attention is diverted away from alienating working conditions. Even if workers do have an influence over the organisation of their work, there is no genuine autonomy about the means and purpose of work, the use-value of the goods and services produced, nor of their impact on society and the biosphere as a whole, which results in widespread outright meaningless or even destructive work ('bullshit jobs'), and seriously impacts on workers' mental well-being.

(4) Work fulfils the function of social inclusion and associated welfare provision for those that are in regular, (well-)paid, and socially secured employment in the first labour market. The work society's coercions ensure this is the social norm: existential dependence on waged work arises as it is the principal source of income, of entitlement to welfare and social security schemes, and to gain social integration and recognition. In OECD countries, the last three decades have shown a trend towards 'workfare' policies that focus on social control and activation for the labour market rather than social rights of the non-working population. At the same time, increasing shares of the population are unemployed, underemployed or work under precarious conditions. The inclusive function of employment thus also serves as a mechanism of systematic social exclusion.

Overall, work may therefore not be best understood as a productive, demand-fulfilling, and meaningful institution fostering autonomy, identification and social inclusion, but rather as a biophysically intense, consumption-causing, heteronomous and often meaningless institution of systematic social exclusion, dependency and control that stabilises societies in environmentally and socially unsustainable ways. We therefore argue that a social-ecological transformation of modern society requires to fundamentally question work and deal with its central and often adverse role. We also conclude that the aggregate volume of work and its cultural and material drivers have to be reduced substantially, harmful work needs to be discontinued, and the remainder limited to meaningful, autonomous, and biophysically as well as socially regenerative work. The notions of critique of work and postwork offer helpful perspectives in this endeavour.

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## 2.05

# THE EFFECTS OF CLIMATE POLICY ON EMPLOYMENT: A FINNISH PERSPECTIVE (BASED ON TERO KUUSI, JOHANNA POHJOLA, TUULI KASKINEN, VILLE KAITILA, SANTTU KARHINEN, ANTTI KAUKANEN, JUSSI LINTUNEN, TAPIO REINIKAINEN, HANNU SAVOLAINEN, OTSO SILLANAUKEE, HENRIK SUIKKANEN: VIHREÄT TOIMET - ILMASTOPOLITIIKAN VAIKUTUKSIA TYÖLLISYYTEEN. VN TEAS REPORT)

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### **Abstract**

We evaluate the effects of climate policy on employment from the Finnish perspective. The aim is to analyse how ambitious climate policy can be joined with concurrent ambitious employment objectives. We identify the potential positive connections between climate and employment policies, but also conceivable negative channels and risks. The exceptional scope of the topic requires dividing the work into subthemes: (i) the mechanisms of the employment effects caused by climate policy; (ii) the issues pertaining to the innovation, regulation and international markets of products used to mitigate the climate change; and (iii) the roles of public investment and labour market measures. We use a mixed-method approach that combines quantitative data, general equilibrium macroeconomic modelling and statistical analysis with qualitative interviews and surveys. Moreover, the project included close interactions with societal stakeholder groups.

The report shows that labour transitions during the structural change caused by climate policy must be supported through labour market policies and the maintenance and development of the functioning of the labour market. Raising the average level of education supports employment, but skills related to solutions to the climate crisis are also needed. Meanwhile, employment can be supported by shifting the focus of taxation from labour to environmentally harmful production and consumption. Public investment will also ease employment pressures during the transition phase of the energy transition. Competitive innovation in green products leading to market success can generate supporting positive economic and environmental impacts. However, it requires efficient R&D investments, cooperation and knowledge of emerging markets.

# THE ALTERNATIVE INSTITUTIONALIZATION OF DATA SCIENCE

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## **Abstract**

The institutionalization of a knowledge profession usually entails the establishment of professional institutions such as an association and training institutions, in what the literature calls a 'professionalization process' (Abbott 1991). The goal of professionalization is to create a coherent community and a unified identity for members and to promote a collective effort to gain recognition for the profession in the public eye, the state, and in work organizations (Abbott 1988, Larson 1977). Notably, professionalization is meant to create social closure which allows the profession control over the supply of experts (Abbott 1991). Unlike the established professions, such as medicine and law, engineering has never completed a professionalization process and has been considered anomalous among the professions (Larson 1977). Specifically, software engineering has hindered and objected to professionalization and to social closure (Ensmenger 2010), due to its open professional ethos (O'Mahony 2003).

Data science is a nascent profession, an offspring of software engineering (Avnoon 2021). Data scientists develop machine learning algorithms, sometimes called 'artificial intelligence', which are designed to perform a large variety of tasks, such as medical diagnosis, platform management, online marketing, and algo-trading. A 3-year ethnography of the Israeli data science community was conducted, including 60 interviews with data scientists, their professors, and employers, observations in community events, such as MeetUps and hackathons, and a netnography of international data science platforms.

Findings show that much like their mother-profession, software engineering, data scientists object to the classic model of professionalization and to the establishment of traditional professional institutions, and instead have established a set of alternative institutions and open platforms, which promote the open ethos of the computerized engineering professions. In this paper, I will present data scientists' attitudes regarding professionalization, the assemblage of alternative institutions they have established, their open ethos, and their ambivalence about founding an open knowledge profession. Finally, I will discuss the link between the institutionalized openness of data science and its power relations with the state and other professions.

These findings join current efforts in the professions' literature, to point to variance in the sense of professionalism across different socio-occupational contexts (Barley, Bechky and Nelsen 2016, Noordegraaf 2020), and accordingly to variance in professional institutionalization (Muzio et al. 2011, Muzio, Brock and Suddaby 2013).

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## SOCIAL MEDIA USAGE AND WORK ENGAGEMENT AMONG FINNISH PROFESSIONALS BEFORE AND DURING THE COVID-19

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### Abstract

**Objectives:** COVID-19 pandemic has changed work life profoundly and concerns of employees' mental well-being have risen. Organizations have taken rapid digital leaps and started to use new collaborative tools such as social media platforms overnight. Our study investigated how professional social media usage has affected work engagement before and during the COVID-19 and the role of perceived social support, task resources and psychological distress as predictors and moderators of work engagement.

**Methods:** Nationally representative longitudinal survey data were collected in 2019–2020, and 965 respondents participated to all four surveys. Measures included work engagement (UWES-9), perceived social support and task resources (COPSOQ II) and psychological distress (GHQ-12). The data was analyzed using hybrid linear regression modeling.

**Results:** Work engagement remained stable and only decreased in autumn 2020. Within-person changes in social media communication at work, social support, task resources, and psychological distress were all associated with work engagement. The negative association between psychological distress and work engagement was stronger in autumn 2020 than before the COVID-19 outbreak.

**Conclusions:** COVID-19 puts pressure on mental health at work. Fostering social support and task resources at work are important in maintaining work engagement. Social media communication could help in sustaining supportive work environment.

## THE WORKSPACES AT HOME DURING THE COVID-19

**Anne Kovalainen, Seppo Poutanen**

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### Abstract

The global pandemic not only moved globally the work done primarily in the public premises such as offices, meeting rooms and hallways, lecture halls and schools, to private spaces, to homes during the Spring 2020, but it also made our homes open and exposed to colleagues, customers, clients, students and even to invited or uninvited strangers to enter through Zoom and Teams meeting applications and other platforms and means of communication. This drastic and global transformation has repercussions to the ways we display our private homes as public space, and how we perform our professions and work identities.

How has the intimacy of a home transformed by the sudden burst of openness? How do we as workers display our homes and delineate the footages of camera and the angles of display? And how do we, as professionals, display our professionalism? How does the intimacy of home become part of the work place practices and patterns during the Covid-19 global pandemic? In the empirical analysis part of this paper, we will use results of a recent nation-wide survey to examine how people have found the remote work mode at their home and how they find out the role of the physical space, its permanence and transformation at home for the work. We discuss the material location of work at home, and compare this to the time pre-pandemic remote work situations. We then move on to explore the notions of spaces, performances and intimacies, and public and private spaces and work, through the literature review.

## SUSTAINABLE EMPLOYMENT IN THE AGE OF DIGITALISATION: UNPACKING THE ORGANISATIONAL LEVEL

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### Abstract

The increasing use of digital technology influences our society on multiple levels, including the world of work. The implementation of digital technologies changes tasks, jobs, organisations and eventually the composition of the labour market. Whereas it is theorised how technology possibly affects working conditions, the limited amount of empirical studies show that the organisation is the determining mediating actor (Veile et al., 2019). To understand how organisations choices affect the relationship between digital technologies and the sustainability of jobs, this study organises 25 case studies in Belgian organisations that vary in size and sector. Sustainability of jobs is defined as a multidimensional concept including objective job characteristics as well as subjective experiences of employees such as job satisfaction and health and well-being.

Digital technologies are defined as “the proverbial marriage between manufacturing and information technologies leading up to the networking of human, physical and digital components of industrial production processes throughout the value chain” (Vereycken, Ramioul & Hermans, 2020, p.1; Hermann, Pentek and Otto, 2016; Butollo, Jürgens and Krzywdzinski, 2018). This study distinguishes between three types of digital technologies: (1) measurement and recording technology; (2) automation technology; (3) interaction technology (Meylemans et al., 2020).

Regarding the organisational level, it is clear that the implementation of highly innovative technologies can have far-reaching effects on the organisational structure but also challenges leadership and HR policies, and implies changes in the job content and conditions of employees. To cope with new technologies, Veile et al. (2019) describe the need to adapt job design to adequately incorporate new tasks and responsibilities for employees. In the case of Belgium, it is expected that job content will mainly shift to control and monitoring as opposed to performing tasks (Delagrang and Notebaert, 2019). Since the organisational context is crucial for the workability of these newly adapted jobs, this study more specifically looks at the role of the middle manager in the design process. In the coming months, document analysis and interviews with employees, middle and top management are organised. Preliminary first results can be presented at the conference.

## EXPLORING AND DEVELOPING THE SKILLS OF KNOWLEDGE WORKERS REQUIRED FOR THE DIGITAL TRANSFORMATION – CREATING SHARED VALUE BY CO-CREATION

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### Abstract

The technological transformation of artificial intelligence (AI), robotic process automation (RPA), and related new technologies are changing knowledge work in organizations and raising demands to learn new skills, recreate work processes, and deepen cooperation between practitioners. Knowledge workers in support functions are specialists having solid knowledge of the organization and its people; therefore, are integral for organizations' strategic and digitalization processes, such as adopting new technologies [1]. They typically work at the nexus of organizations' internal and external networks at the mid-levels of

organizations between top management and personnel grassroots level. The role of supporting knowledge workers is essential but has remained scarce and siloed in previous research.

The research project funded by The Finnish Work Environment Fund (FWEF) answers the call for a better understanding of new views and approaches to planning work from the perspectives of human-machine cooperation. Partners in the project are the Finnish Institute of Occupational Health, the City of Helsinki and the administrative services of the cultural and leisure sector, and the trade unions of knowledge work. The duration of the project is 1.5 years starting from January 2021.

The research design consists of three parts: quantitative survey, qualitative interviews, and participative workshops, of which the workshop part is the focus of this abstract. The survey with so far 450 respondents was conducted at the beginning of the project. This is followed by interviews. Insight from previous phases is gathered for participatory workshops with around 40 knowledge workers of the city of Helsinki. The chosen organization is actively encouraging employees to adopt new technologies in everyday work life, and thus, an interesting case for this study. Workshops are based on an appreciative service design approach for its co-creative, interdisciplinary and cross functional nature [2] enabling empathy, learning, dialogue and engagement [3,4]. A constructive approach, gathering knowledge from quantitative, qualitative, and action-oriented research, builds a shared multilevel perspective of the phenomenon.

Four participatory workshops are conducted involving both practitioners and researchers. The first workshop identifies collaboratively the professional identity and growth potential of individual knowledge workers. The second workshop aims at creating new ways of adopting and utilizing new technologies in teams. The third workshop develops value creation practices between different support functions, such as HR, IT, administration. The fourth workshop frames a co-creative value model for the work community. Data is collected in an abductive cooperative process and analysed in a hermeneutic phenomenological way.

The research tries to find answers to questions of utilizing new technologies in sustainable ways enhancing not only the productivity but also the professional identity, wellbeing and cooperation of knowledge workers in the technological transformation of work. First, we explore the unrevealed value of the knowledge workers in capabilities, interactions, and cooperative functionalities inside an organization. Second, we gather insight on how to enable their potential to adapt new technologies in sustainable ways that support performance and wellbeing. Finally, we construct a co-creative value model describing the co-operation of the knowledge workers and their practices across functions when adapting new technologies.

The aim is to explore the value creation of several stakeholders in three layers: individual, team, and organization. We suggest that the core is the individual value perception, which acts as a basis for team interaction and organizational productivity. Research in the field of intra-organizational co-creation is not as numbered as customer-related studies. The research is based on a subject-centered socio-cultural approach of professional identity and agency at work [5]. According to this view, individual and social agency are intertwined supporting each other. The co-creative value can be studied from theoretical approaches such as the service-dominant logic [6] and service design. We explore synergic benefits between several participants and resources in an organization.

The anticipated outcomes are three-fold. First, enhancing the professional identity and agency of individual knowledge workers. Second, developing co-operation between knowledge workers in teams. Third, building new understanding between professionals in the digital transformation at the various layers of a work community.

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## FIVE STARS FOR FRIENDLINESS. THE VALUATION OF HOUSEHOLD CLEANING IN THE PLATFORM ECONOMY

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### Abstract

The division of paid and unpaid work fostered by the industrial revolution resulted in a devaluation and a lack of recognition of reproductive activities, such as housework (Silbaugh, 1996). Attempts to grasp the value of housework reached from qualitatively analyzing household magazines (Schwartz Cowan, 1999 [1976]) to estimating the prize of housework, e.g. as part of the GDP (Yeginsu, 2018). Yet, others (e.g. Allen, 2004) criticize such approaches to estimate hourly rates of housework for their conflation of costs and values.

The digital revolution and moreover the rise of the platform economy, which is enabling its users to get the housework done at the touch of a button, yields new ways in how to value housework. Jokubauskaite and Schneebaum (2020) propose to use the hourly rates available on these platforms to estimate the wages of unpaid domestic work and childcare. These digital platforms, however, do not only shed light on value in terms of financial compensation. Due to their infrastructures “of connectivity, evaluation and surveillance” (van Doorn, 2017, p. 899) and inscribed algorithmic management (Wood et al., 2019), digital platforms also expose which aspects of housework are valued and made visible. Workers themselves, however, oftentimes remain invisible. The valuation practices in play are functioning on different layers on the platform infrastructure when booking a platform worker online. This spans from reading the website to searching through the profiles, to booking and finally to reviewing and rating the work/workers.

In our paper, we study the valuation practices based on a case study of a platform mediating cleaning services in Germany. This case is especially relevant, since cleaning work is particularly prone to being invisible and thereby oftentimes “culturally and economically devalued” (Hatton, 2017, p. 337). We conduct a “walk-through” (Light et al., 2018) of the platform infrastructures to gain insights in how cleaners (and their work) are valued by different actors involved (cleaners, clients and platforms). Further we gain insights in how these different valuation practices are separated, intertwined and potentially co-constructing each other.

i) *the cleaners*, who can add self-descriptions to their online profiles on one of the platforms, and thereby highlight what good cleaning is for them. They can curate their profiles according to what they value most to attract more clients (Ticona & Mateescu, 2018). Additionally, on some platforms, they are also able to set their hourly rates and, by doing so, the “value” of their working time;

ii) *the clients*, who can and are strongly encouraged to rate and review the cleaners based on how well they performed during their “gig”, how friendly and punctual they were, and oftentimes – due to the high number of migrant workers (van Doorn, 2017) – how good their language skills are. Further, by slipping into the role of a client, the netnography enables us to understand the processes behind these evaluations. This includes understanding how clients are prompted to give a review, and based on which criteria they can give stars, e.g. for quality, reliability and friendliness;

iii) *the platforms*, which include review and rating schemes, and online profiles of cleaners in their digital infrastructures as particular tools serving as a proxy for quality management and an efficient matching process. Clients are encouraged to rate and review cleaners, while cleaners (often) need to carefully cater for their online “image”. Both areas are highly sensitive with respect to valuation processes, and both are (algorithmically) controlled by the platforms and embedded in their digital infrastructures.

The material gathered will be analyzed with a grounded theory approach (Charmaz, 2006). Analyzing the aforementioned sites will yield insights into the “((d)e)valuation” of household cleaners/cleaning – hereby, besides unravelling what “good” cleaning is, we deliberately include devaluing to account for negative reviews, critique and denouncements. We acknowledge that some findings will overlap with themes from “the analog world of household cleaning”. However, we also expect that these digital intermediaries allow us to look at new spaces where valuation of housework takes place. These novel aspects of valuation in this specific work context get highlighted by and embedded into the digital infrastructure of the platform and thereby become visible. Apart from investigating the different forms and practices of valuation, evaluation and devaluation, we particularly pay attention to how the business models of the companies shape (MacKenzie & Wajcman, 1999) the sociotechnical infrastructure of the platform. Moreover, with this paper we pick up the crucial question posed by scholars studying the “devalued” and

precarious work mediated via platforms, namely “How does one value something one cannot *and often does not want to see?*” (van Doorn, 2017, p. 899) As such, we scrutinize the digitized practices of valuation through these platforms to learn how they yield to new perspectives when it comes to how cleaning workers and their work gets valued.

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4.15

## TO SEE OR NOT TO SEE. PRACTICES OF NEGOTIATING INDIVIDUAL (IN)VISIBILITY IN PLATFORM-MEDIATED LABOR.

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### **Abstract**

Martyna, a college student, uses the platform care.com regularly to get in touch with new clients for earning money on the side with babysitting. While she has much experience in the job, moving to another city - particularly in times of a pandemic - made getting in touch with customers difficult. Therefore, Martyna increased her attempts to gain visibility through the platform that mediates precisely the jobs she is interested in. For instance, she connects some of her social media accounts with the platform and makes sure to act according to the platform’s written and unwritten roles and codes of conduct. Also, she focuses on posting information on those channels that will help her produce an image of herself that boosts her chances of being perceived as a reliable and trustworthy babysitter. She is literally visible on sight during her work, but only as visible as her profiles allow her to be on the platform.

These are just a few glimpses into the daily work-life of one of the three protagonists of platform workers we developed elsewhere via a careful rereading of platform literature and closer looks at the platforms themselves (see Gruszka & Böhm, 2020). More precisely, these are glimpses into how workers who provide their services with the help of a digital infrastructure try to orchestrate their individual (in)visibility. In this paper, we focus on this specific aspect of how platforms render workers more or less obscure, with the broader goal of contributing to a better understanding of the particularities of platform-mediated labor. We build on a framework that emphasizes the aspect of visibility and invisibility and ask how individuals negotiate particularly their individual (in)visibility through and with platform-mediated labor.

This includes a closer look at the importance of the architecture of the platform and its algorithmic governance, but we explicitly also account for additional practices that accompany that labor and influence it. Such an angle allows us to tackle a range of questions, for instance, how workers connect and communicate with each other on and beyond the platform and how they “map out” the predefined digital infrastructure. And, crucially, how they adapt their working practices to smoothly navigate through the world of platform labor.

Thus, we relate to debates on practices connected to work that have so far largely been ignored in discourses on platform-mediated labor. We problematize the narrow understanding of what working on a platform means. And with the focus on individual (in)visibility, we highlight the negotiation of individuals’ agency, their limits and attempts of resistance.

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## ROBOTS, ARTIFICIAL INTELLIGENCE AND LABOR MARKET: A REVIEW USING TOPIC MODELLING

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### **Abstract**

The debate that relates the replacement of human workforce with the introduction of machinery in the work process is a long-term debate that has taken special prominence in recent years by the incredible advances that robotics and artificial intelligence has been reaching. This latest technology, in particular, generates special concern among policy makers and the scientific community worldwide for its potential to replace the human being in the cognitive tasks of the work process, thus differentiating itself from the previous wave of automation that focused on replacing them in manual tasks.

In this sense, all this debate encloses a range of areas of knowledge that includes engineering, economics, philosophy, political science, psychology, education, among many others. So, taking into account the multiple contributions and the different positions with their corresponding approaches, it is normal that the process of ordering such discussions is not so simple.

Based on the Scopus and Web of Science databases, this paper uses the Mallet LDA tool to make a topic modelling of works related to the area of knowledge that relates automation, robotics and artificial intelligence to the labor market in general. For this purpose, a search equation was built by conducting a discussion on each of the terms included in order to access the widest list of works with strict relation to the issue. Similarly, a complementary refinement process was carried out by reading the abstract of each of the works obtained, excluding those works that, despite having been leaked, were not related at all to the area. In this order, having delimited the specific sample of papers to be examined, different tests were carried out in the aforementioned software, varying parameters such as "number of topics", "number of words per topic" and "number of iterations per test". Once the topics had been defined (through the interpretation of component words and verification of their correlation with the articles with the highest weighting in each of them) and classified (grouping of topics into large areas), the positions were contrasted establishing a differentiation between those appreciations considered optimistic, intermediate or pessimistic with regard to the economic well-being of workers.

The study shows that the different research associated with the subject cover both the macroeconomic and microeconomic dimensions of the problem. In this sense, from a macroeconomic perspective, the debates on global economic development and the world race for the development of artificial intelligence are covered, taking into account the current role that different countries have been playing in this competition and considering the variations of their indicators related to the labor economy, specifically the employment level, wages, wage inequality and labor mobility. In the same way, from a microeconomic perspective, discussions relating to the effect of this technological change within companies and particular sectors are addressed, with special emphasis on health, education, journalism, tourism and commerce, for which scientific literature has a considerable number of case studies in which the focus is both on predicting the number of jobs likely to be replaced by technology and on changes in workers' skills and working methods. On the other hand, in a transversal way to these discussions, the debate on the ethics of artificial intelligence and the differences in the approach of the countries in relation to the establishment of normative principles for its regulation is presented. Finally, some thematic aspects are identified in which it is plausible to deepen from the point of view of scientific research, highlighting the urgency in carrying out quantitative studies that advance beyond simple predictions.

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## 5.01

# SAFE AND SUCCESSFUL REMOTE WORK

## Päivi Rauramo

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### **Abstract**

The development of information and communication technology has led to an increasing number of possibilities when choosing the time and place of work. Computers, mobile devices and the internet are commonplace tools in almost every industry. The development of technology is also constantly changing the environment in which employees operate.

For many people, the work that they do is at least partly knowledge work and no longer as tied to a certain time and place as before. This ongoing change has made it possible for people to work safely from their home basis during the COVID-19 Pandemic. Many organisations and individual workers have been well prepared for safe and successful remote work while others may struggle with severe problems.

Remote work refers to flexible work that is based on agreements and rules, performed outside the employer's premises. Remote workers may work in one or several locations, and the duration and regularity of remote work may vary greatly.

Communication technology can be used to support interaction and networking. Models of interaction and the concepts of time and place are constantly changing in the online environment. Information systems and virtual work spaces are platforms that can be used to support the work of groups and individuals.

Work can be carried out in an environment where it is most effective and appropriate for the employee, the employer and the task in question. People typically do remote work from their home or holiday home, on the move, or from a remote workstation appointed by the employer.

Not all tasks are suitable for remote work, but traditional, in-office work can be flexibly combined with remote work, like working from home once a week, doing project work and completing certain work phases or administrative tasks remotely, or working while traveling.

The amount of remote work may vary from short-term to full-time and from occasional to regular, depending on the situation. The main idea is to increase flexibility on the terms of both the employer and the employee but during the pandemic remote work has not really been a choice, more like obligation.

The EU level framework agreement on remote work and several industry-specific collective agreements discuss the terms and conditions of remote work.

### **Forms of remote work**

#### **Remote work may be**

- **Irregular**
  - o separately agreed on with the supervisor on a case-by-case basis
  - o carried out while on a business trip, for example
  - o performing a specific task
- **Regular**
  - o carried out according to a pre-agreed, regular schedule
  - o e.g. on certain days of the week or for a certain number of days per week/month
  - o full-time, in which case the work is entirely or mainly remote work
- **On the move**, in which case the work is carried out
  - o at the organization's other offices
  - o in cafés, airports, hotels, customer premises and various other place

### **Requirements for safe and successful remote work**

The requirements for remote work include functional technology, proper data security and trust between the employer and the employee. The remote work environment should be healthy, safe, peaceful and suitable for the task.

Remote work management is often handled virtually, as there are less opportunities for face-to-face encounters with the supervisor. For remote managers, issues such as building and maintaining trust, creating common rules through cooperation, setting goals and monitoring their implementation are particularly emphasized. Means for monitoring the workload and work atmosphere and the readiness to respond to faults and deviations in time are also required. The risks of remote work should be included in the assessment of occupational health and safety risks, and good orientation should be provided.

Rules, good meeting practices, communal tools and their active use are needed to ensure the smooth flow of work, cooperation, work community spirit and the development of the organization's strategic competences. Remote workers need self management skills meaning that they have to be able to take responsibility, be able to work independently and to draw the line between work and free time.

The employer is responsible for the safety and health of all employees, including remote workers. The employer has limited capacity to monitor working conditions, working hours and workloads in remote environments, so good cooperation practices should be developed for occupational safety management.

There is a need to have the nature and specific features of remote work under control. This is important for the risk management. The occupational safety and health legislation demands that the hazards and risks related to work are identified and assessed, and that preventive and corrective measures are taken. When planning an assessment, it is important to consider how to assess the risks and what risks are emphasized in remote work.

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## 5.02

# HOW DID FINNS TRANSFER TO REMOTE WORK DUE TO COVID-19 PANDEMIC IN THE SPRING AND AUTUMN 2020? SOME ANSWERS FROM A NATION-WIDE SURVEY

**Seppo Poutanen, Anne Kovalainen, Johanna Arvonen**

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### **Abstract**

The quickly accelerating and previously unmet global COVID-19 pandemic necessitated abrupt re-organisation of work in several spheres of economy and society around the world. The overall possibilities and success of managing the re-organisation of work depended on certain technological, and especially digital, readiness in different economies and countries. The significance of differences in labor market structures and general economic and cultural factors, for example, cannot be ignored either.

Finland's digital infrastructure is usually considered one of the best in the world, and as the pandemic-driven re-organization of work crucially meant relocating work tasks to be carried out remotely as much as possible, the Finnish digital infrastructure met its toughest challenge thus far.

We wanted to know, how the transition of working Finns to remote work had succeeded in the first few months of the pandemic, and in October-November 2020 we organised a survey with Taloustutkimus to investigate various dimensions of this question. The data was gathered as a web survey, and the weighted population of 1518 individuals who answered became a representative sample in relation to the population.

Our survey results show that the pervasive transfer to remote work mode did take place comparably well in Finland, Finnish workers do quite a lot of remote work, and are happy with their (relatively) new forms of work. The experienced benefits are in fact so important, that general return to some version of pre-pandemic work life with its less prevalent remote work has begun to look more and more impossible. Naturally, remote work is not possible to all workers, but it is more common amongst white-collar employees and individuals with higher education and better income. There are regional differences also.

In the paper, we will detail key empirical results of our survey, relate them to other relevant studies of the subject, and especially reflect on organizational and societal *trust* – in addition to the advanced digital infrastructure – as the key enabler of the pandemic-forced but successful adoption of various modes of remote work in Finland.



## REPORTS ON THE TRANSFORMATION OF WORK AND THE CORONA ERA IN THE MUNICIPAL SECTOR

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### **Abstract**

A transformation of work refers to a years- and decades-long change towards a new, more diversified world of work. This transformation is accelerated by the use of new technology, such as digital services, robots, artificial intelligence and platforms. However, it is also linked to the development and reform of practices in work communities and workplaces, and to limited resources.

The transformation of work changes work content, practices and the ways of organising work and the skills needed. As completely new occupations and tasks are created, some of the old tasks disappear or are taken care of in some other way.

This is how the transformation of work is often described but what really happens? How does the transformation in practice affect work in different sectors and different occupations? Is the transformation already well visible and at what pace is it progressing? What do employees and management think about it?

Reports on the transformation of work in the municipal sector are based on the joint monitoring by the social partners in spring 2019 and spring 2021, when the effects of the corona were also visible.

In each round, about 150 employer and employee representatives participated in the expert discussions and about a thousand in the follow-up survey asking about the introduction of new technologies and new ways of working in recent years and what is currently being planned. In addition, numerous studies, surveys and examples of activity development were utilised.

### **Results**

The transformation of work was already there, in the workplace. At the start of monitoring in 2019, we believed one possible outcome might also be that the transformation of work would not be apparent in workplaces. However, the changes were clearly visible in all areas of responsibility.

Substantial changes in work were caused by changes in customer needs and behaviour, for example in home care and comprehensive schools.

The transformation of work will continue. Many new technologies are still in the process of development and many new practices have not yet become widespread.

The corona era has further accelerated the adoption of new technologies and significantly changed the organisational culture related to remote services and teleworking.

The descriptions confirm that work continues to transform in different ways in different occupations and areas of responsibility. Legislative amendments too can cause major changes in the public sector.

The results are discussed in more detail with the help of transition reports of different fields.

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# TRANSFORMING EXPERIENCES OF WORKING FROM HOME DURING THE PANDEMIC TO CAPABILITIES FOR NEW WAYS OF WORKING, CO-LOCATED AND REMOTE

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## Abstract

A joke has circulated among business minded people this past year: "Who has done more for the digitalization of your firm – the CEO, the CIO, or covid 19?". The pandemic has forced many organizations to work wholly or partly remote through computer mediated work. Many are saying they are never going back to how they used to work before the pandemic, instead favoring some kind of *hybrid work* that is both remote and co-located (Gratton, 2021). What are we learning from coping with this crisis that we can apply in future ways of working?

The dynamic capabilities framework has been used to explain how organizations successfully adapt to changing environments (Nayak et al., 2020). Zollo and Winter (2002) define dynamic capabilities as 'learned and stable pattern of collective activity through which the organization systematically generates and modifies its operating routines'. We propose that *hybrid working* is a dynamic capability that organizations need to develop. The challenge is not primarily acquiring digital technology and educating people in "how to use it", but finding ways of working that work; generating "new useful practices" (Orlikowski, 2002).

IT implementation projects often fail to realize the supposed benefits of digitalization (Markus, 2004). Technology itself is rarely enough to achieve a sufficient change in the routines of how people go about their jobs (Pentland & Feldman, 2008). Dynamic capabilities are about making available resources productive; many organizational resources are underemployed (Teece, 2019), meaning that their potential for use in value creation is not realized. "Having" resources is not enough, they need to be utilized and enrolled in routines to contribute to value creation and the accomplishment of work. An example could be having access to and paying for software with functionalities that would be valuable, if used by all (or many), but where people are unaware, unable or unwilling to use them (while we acknowledge that far from all unused "functionalities" would be valuable). This in turn could depend on, for example, lacking competencies on how to use, lacking motivation for use, being unaware that something is even possible, lacking time to invest in exploratory search and learning new things.

Our study encompasses white collar workers and managers (n = 48) in two municipalities in Sweden, mandated to work from home (WFH) to the extent possible during the pandemic. WFH was mandated in March 2020 and as of this present moment, March 2021, is still in effect. Using Photo Elicitation Interviews (PEI) (Gorm & Shklovski, 2017), a technique of, in this case, having interviewees take and present photographs they feel meaningfully represent their experience working from home, we endeavor to bring more of physical space into the interviews and to increase their situational groundedness. The interviews also included several open-ended questions about participants experiences of WFH, what tools, technology and support has been available to them, how they go about their workday, social practices at work, and leadership.

In Sweden, WFH mandates have been a kind of soft lockdown. The Public health agency of Sweden and the government declared that everyone who can work from home, should work from home. However, the decision of what it means to be able to work from home is left to each employer (not employee, nota bene). Employees and employers have not always agreed on what it means to be able to work remotely or what is a valid necessity of working in the office or at a customer site, unions report (Funseth, 2020).

In this study, we examine notions of *capability* and *necessity* for remote working and co-located work, respectively. We demonstrate that the notions of capability and necessity are not referring to something pre-existing "out there", but are constructed and dependent on affordances, norms, goals, work design and resources.

In the sudden and ad hoc working from home situation brought about by the pandemic, people in our studied organizations had varying degrees of freedom to choose whether and how to enroll technology in their work routines. As a preliminary suggestion, organizations need to move past both ad hoc/laissez faire types of working, and a "transplanted" way of working in which old routines have been simply reenacted remotely and digitally, if they want to develop the collective capability for

working in a new and hybrid way. Generating new, useful practice incorporating ways of working both co-located and remote, asynchronously and synchronously, is a social activity.

In this paper we focus mainly on the use of digital technologies, but also consider other technologies or tools not previously enrolled in work, namely the home and its resources.

Funseth, S. M. (2020). *Anställda pressas att jobba från arbetsplatsen (Employees pressured to work from the office)*. SVT Nyheter. Retrieved 2021-03-15 from <https://www.svt.se/nyheter/inrikes/anstallda-tvingas-jobba-inne-pa-arbetsplatser>

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## 5.05

# CARE MANAGEMENT AND DISTRIBUTIVE LEADERSHIP – DIGITAL SPACE AND CHANGES IN WORKING LIFE.

**Magdalena Elmersjö**

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### **Abstract**

The Covid-19 pandemic has changed working life in many welfare sectors. An ongoing qualitative study on distributive leadership in Swedish eldercare, highlights the premises of care management during the pandemic. In the study, distributive leadership is understood in the transition from physical work places to digital spaces, which shows the importance of co-work, co-responsibility and the interaction between leaders and employees. The concept of temporality is vital for understanding the transition and in this case the pandemic sheds light on *digital spaces and temporality*. The material collection involves several organizational levels within the care management and both individual interviews and participant observations are conducted. Preliminary findings show benefits and challenges of distributive leadership in digital spaces. While the leadership on the one hand becomes clearer, there are on the other hand limitations in e.g. conflict prevention. In addition, the study contributes to methodological knowledge on conducting *digital observations*.

**Key words:** Covid 19, care management, eldercare, distributive leadership, digital space, temporality, digital observations.

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## 5.06

# FLEXIBLE WORK ARRANGEMENTS IN A DIGITIZED WORKING LIFE: STILL A SOURCE OF STIGMA AND CAREER PENALTIES?

**René Schmoll**

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### **Abstract**

The rapidly accelerating digitalisation of work offers new possibilities to arrange work in a more flexible manner. Modern information and communication technologies (ICT) enables knowledge work to shift beyond the traditional temporal and spatial boundaries (Nansen et al., 2010). Against this backdrop, there has been an increase in the prevalence of flexible work arrangements (FWA), which are broadly defined as work options that permit flexibility in terms of when (temporal flexibility) and/or where (spatial flexibility) work is performed (Allen et al., 2013).

Even though FWA are increasingly manifested in organizational policies and national laws, during the last decades many employees hesitated to use the offered policies (Bourdeau et al., 2019; Perrigino et al., 2018). In qualitative studies, employees

have frequently expressed the fear to be perceived to lack commitment which in turn may damage their careers (e.g., salary penalties and less promotion opportunities) (Croft & Fernando, 2018; Shauman et al., 2018). However, there is a lack of experimental research that permits inferences regarding such claims. In their seminal work, Leslie et al. (2012) found that the use of temporal flexibility can negatively influence managerial perceptions of employees' commitment and in turn harm their careers. However, it is unclear whether this also applies around one decade later in an increasingly digitized and flexibilized working life. Furthermore, there is no causal knowledge with regards to spatial flexibility.

Besides this lack of knowledge, the question arises to what extent the COVID-19 pandemic has changed perceptions of FWA. Answering this question is crucial as FWA have gained dramatically momentum during the COVID-19 pandemic (Kniffin et al., 2021). And the existing body of research on attitude change highlights the influence of unique events (e.g., crisis) on evaluative judgments (Albarracín & Shavitt, 2018).

Against this background, the current research project aims to analyze the effects of FWA use on managerial perceptions of job commitment and reward recommendations (e.g., promotion and salary increase). Several randomized vignette-based experiments are conducted: A pilot study was performed to assess the effectiveness of the manipulations, construct validity and experimental realism (December 2019). In main study 1, the model was tested before the major COVID-19 outbreak (February 2020). In main study 2, the model will be tested again after "overcoming the current state of emergency" (e.g. lower infection rates, less occupational restrictions); maybe in summer 2021. Together, the studies form a natural experiment.

## **Theoretical background**

The study draws on signaling theory (Spence, 1973) in combination with the work devotion schema (Blair-Loy, 2003). The latter one reflects cultural assumptions, institutionalized in organizational practices, that work demands and deserves undivided and intensive allegiance (Cech & Blair-Loy, 2014; Williams et al., 2013). An elementary component of this schema is that ideal workers are expected to be totally committed to their jobs (Blair-Loy, 2003; Croft & Fernando, 2018). In order to fulfil this schema, employees are expected to be visible within the office to demonstrate their commitment (Croft & Fernando, 2018; Kelly et al., 2010). It is argued that FWA use signals a lack of commitment and in turn harm reward recommendations. However, it is assumed that this is no longer true for the "post-COVID-19 era".

## **Method**

Knowledge workers (50% in management position) are asked to imagine themselves as a manager at a fictitious company and to evaluate an employee who is eligible for a promotion. Respondents receive an information package via e-mail that is modelled based on previous research (Leslie et al., 2012). This involves a memo with information about the job (sales manager), employee's background (e.g., 34 years, MBA, ten years of relevant work experience) and the last performance rating. Then, a short HR file is presented which includes various employment details (e.g. date of hire, weekly hours). In both stimulus materials, spatial (yes/no) and temporal flexibility (yes/no) are manipulated. After reading the materials, participants are asked to evaluate the employee regarding their perceptions of job commitment and reward recommendation. All measures are drawn from validated scales with good psychometric properties. Structural equation modeling (SEM) including multiple-group analysis is applied to test the hypotheses. In study 1, CFA and SEM results showed a good fit between the model and the data.

## **Summary of preliminary results**

In the first main study hypothesis 1 finds no support, as temporal flexibility is not related to managerial perceptions of employees' job commitment. The other hypotheses are confirmed. The use of spatial flexibility is negatively related to managerial perceptions of employees' job commitment (H2), what in turn harm reward recommendations (H3). In the second main study, it is argued that the negative relationship between spatial flexibility and perceptions of employees' job commitment is moderated by the COVID-19 pandemic, so the negative relationship does no longer exists. The results of the whole natural experiment could be presented at WORK2021.

# IMPLICATIONS OF DIGITALIZATION FOR QUALIFICATION, WORKPLACE DESIGN AND EMPLOYMENT – SECTORAL INSIGHTS FROM GERMANY

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## **Abstract**

Digitalization has engendered a profound societal transformation and presents one of the major challenges for the future of work. While digital processes have become an integral part of working worlds, the impact on work, qualification and employment is far from being fully understood and difficult to project for the future. Given that the Covid-19 pandemic has been accelerating the permeation of digital processes for a broad range of working areas with anticipated lasting restructuring effects, understanding the digital transformation of working processes is ever more important.

The interaction between technological innovation, work and production processes and changing job tasks, as well as the relationship of employees to their working environment, have been a research focus of the sociology of work since many decades. Despite diverse perspectives and approaches, studies agree that in the context of digitalization and the reintegration of job tasks into more holistic work processes, job-related tasks and qualification requirements are changing significantly. Hence, the diffusion and implementation of digital technologies at work is likely to affect our working life in many ways, including the work contents, working environment and the needed job-related skills and qualifications. This trend of changing jobs and qualifications under conditions of technical innovations can be shown for technical areas as well as for production and services.

Against this background the German Science Foundation has recently launched the priority program “The Digitalisation of Working Worlds. Conceptualising and Capturing a Systemic Transformation” (SPP 2267), which encompasses about 15 research projects. In this context, we investigate the diffusion and implementation processes of digital technologies and their implications for qualification requirements, workplace design and employment based on a systematic analysis of two selected sectors, namely the logistics and the healthcare sector. The sectoral approach is motivated by the insight that technological innovation and other global developments (e.g. the Covid-19 pandemic) affect different segments of the labour market to different degrees and in different ways, which typically varies by sector and occupational domain and, hence, has different implications for employees, but also for employers. Moreover, by studying the digital transformation in the logistics and the healthcare sector, we focus on two rapidly growing, but also contrasting sectors that will be fundamentally restructured by digital innovations in the future. Both sectors have gained significant attention in the ongoing Covid-19 pandemic, assuming a new strategic role in the economy. In a comparative perspective, the logistics sector is mainly characterized by unskilled and male employees working full-time in warehousing or as professional drivers, while the healthcare sector is female dominated and mainly characterized by skilled employees working part-time in nursing.

To profile the sectors and forecast future workplace and work process changes as well as related changes in the qualification and skill requirements, we conduct sector and labour market studies applying both quantitative and qualitative methods. The systematic analysis covers developments of the past 5-10 years and will consider selected occupational domains and profiles, different qualification levels and gender and age distribution. By considering sector- and domain-specific aspects, our study provides first insights into dominant trends engendered by digitalization in logistics and healthcare, thereby focusing on the restructuring effects of digital technologies on work processes as well as on skill profiles and related qualification requirements. This is important to understand future skilling needs to prepare the workforce and meet new challenges resulting from digitalization at work.

**Keywords:** Digitalization, job-related skills and qualifications, logistics, healthcare

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## TRANSFORMED KNOWLEDGE WORK INFRASTRUCTURES AT THE TIMES OF FORCED REMOTE WORK

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### Abstract

The COVID-19 pandemic has forced majority of knowledge workers to transfer to remote work. This change concerns not just individuals but whole organizations. The pandemic has been a natural experiment of remote work. The abnormal situation has forced organizations and individuals to come up with new ways of managing normal daily work completely through technology.

Most of the previous studies on remote work have concentrated on analyzing it from the point of view of individuals, for example, who are working remotely, and how it affects their well-being and motivation (see e.g. Felstead & Henseke 2017). The COVID-19 pandemic, however, brings forth also transformed organizational practices, and novel ways of organizing and supporting remote work. In this paper we develop and apply the concept of *knowledge work infrastructures* to examine conditions for remote work.

Various kinds of technological infrastructures have been studied for long (Star 1999; Bowker et al. 2010). Our presentation is based on social and pedagogical infrastructures developed in the context of technology-mediated collaborative learning (Bielaczyc 2001; Lakkala et al. 2008). We are adapting the concept of infrastructures to knowledge work in the workplace context. By infrastructures we mean not just a technical infrastructure in itself, but also its functions and affordances as well as other kind of support that is focal in remote knowledge work. We define knowledge work infrastructures (building on Bielaczyc 2001; Lakkala et al. 2008; Star 1999) as supporting knowledge work structures embedded in the everyday sociomaterial environment enabling or disabling desired interaction between collaborators and/or in relation to the object of work. Practically, knowledge work structures refer here to all kinds of configurations of human and material resources, scaffolds, arrangements, and ways of working.

The COVID-19 pandemic is especially amenable for analyzing knowledge work infrastructures because infrastructures become more visible when they break down or are abruptly transformed. We are analyzing what kind of knowledge work infrastructures became prominent in the forced remote work situation, as well as beneficial and challenging aspects of these different kinds of knowledge work infrastructures for professionals' work.

The data consists of 16 semistructured interviews of knowledge work professionals in the educational sector (teacher trainers, lecturers, project workers) as well as consultants, managers and team leaders in the IT sector in European countries (mostly in Finland). Interviews were conducted in May-June 2020, when people had worked remotely for a few months. Interview themes included changes caused by the pandemic in the following areas: the use of technology, individual ways of working, social practices and relations, and organizational level practices and support.

On the basis of preliminary analysis, we discerned at least four knowledge work infrastructures (KWI in short): 1. social (supporting social interaction), 2. epistemic (operating with knowledge), 3. pragmatic (organizing working processes), and 4. reflective (methods for self- and co-evaluation, guidance and awareness). On the social KWI: Unsurprisingly, people are missing social contacts, physical presence, accidental encounters and small talk with others, which many people feel are impossible to replace with remote connections. Interviewees were also commenting how virtual presence is in many ways different to physical presence. On the epistemic KWI: It seems that people have found often small but successful and novel ways of using technology in brainstorming and information sharing. On the other hand epistemic practices were difficult in the changed situation especially because of missing non-verbal communication typical to face-to-face situations. Also joint design activities became different and more challenging. On the pragmatic KWI: The COVID19-pandemic has forced teams to rethink their meeting practices, for example, to have shorter but more frequent meetings. On the reflective KWI: In some organizations, the pandemic has promoted other work-related discussions on issues that have bothered employees.

The COVID-19 pandemic has brought forth a need to transform and rethink ways of working and organizing work. The situation of forced remote work made knowledge workers to construct novel interlinkages between different kinds of knowledge work infrastructures. Many of these changes will persist after the pandemia.

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## 5.09

# ENFORCED DIGITALISATION IN GERMANY'S SCHOOLS - RESULTS OF A SURVEY OF 2,750 TEACHERS FROM ALL OVER GERMANY

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Abstract

Compared to other European countries, Germany lags far behind in the use of digital media in schools. For example, the ICILS study showed that in 2018, learning management systems are not available to 45.4% of teachers in Germany, compared to an average of 26.7% across the EU and only 2.2% in Finland (Eickelman et al 2019, 155). Accordingly, 88% of teachers in Germany say that they never use a learning management system, while the international average is only 23.2% of teachers. However, homeschooling and distance learning during the Corona pandemic have seriously changed the situation in Germany's schools. Germany's teachers are currently experiencing forced digitalisation.

## Purpose

The central question of our Germany-wide survey is how the work situation of teachers have changed as a result. The survey enquires into the requirements and conditions for successful digitalisation in the school system from the perspective of teachers. Central questions are: To which extent have the schools been unlocking the potentials for digitalisation in teaching and in the school administration and which factors are these potentials connected to? Which significance do institutionally created conditions have? How important is the disposability of certain technological applications, digitalisation strategies in schools, pedagogical concepts with regard to those strategies, or the implementation of measures aimed at developing competences for teachers? On the other hand, which values do individual expectations of teachers have as pertains to digitalisation or their developing digital competences? What consequences does this have on their working conditions and their individual situation of strain and resources as well as digitally induced stress?

## Design / Methodology / Approach

A survey on the state of digitalisation at public schools in upper secondary level (general programmes), during which the teaching staff assess the current use of potentials for digitalisation in their schools, their own digital competences as well as their working situation. In doing so, they compare the current state of digitalisation in their schools with the situation prior to the COVID-19 pandemic. This takes place on the basis of an integrated concept of digitalisation. The focus lies on the embedded use of technology as pertains to the organisation of school as well as social, content-related and pedagogical aspects. Furthermore, the teachers are questioned in regards to the strain imposed on them during the special situation of the

pandemic. The inquiry into the working situation follows the tradition of occupational and ergonomic teaching research on the basis of a multidimensional model of job strains and resources.

## Findings

Because the fieldwork phase was just completed at the end of February 2021, no final evaluated results are available at the moment. A total of 2.750 teachers from all over Germany took part in the survey. Our first look at the data suggests that there have been major changes in the work situation of teachers due to digitalisation. As an indicator, we take the increase in the use of learning management systems: In retrospect, 36% of teachers surveyed say they used learning management systems immediately before the pandemic, compared to 58% in February 2021. So there is a clear leap in digitalisation. We will describe the changes in the work situation from the teachers' point of view and focus on three central topics:

1. To what extent has the use of digital technologies intensified in the everyday work of teachers?
2. How do teachers assess their digital competences?
3. How much does the assessment of working conditions (resources, strain) depend on the framework conditions of digitalisation in their schools (technical infrastructure, digitalisation strategy, pedagogical concepts, etc.).

## Originality / Value

The emphasis of the survey lies on the experiences and expectations of the teaching staff involved in the digitalisation of the school system. This is meant to balance out a potentially one-sided discussion in Germany, for the foreground of the public discussion of the design of digitalisation in the education sector is filled with the (dis-) advantages and requirements of digitalisation with regard to the students. In view of analysis, the focus is on taking inventory of the state, perspectives and requirements of digitalisation as experienced by teachers.

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## 5.10

# DIFFERENT ASPECTS OF WORK ENVIRONMENT WHEN PUBLIC SCHOOLS ARE BEING DIGITALISED

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## Abstract

During the pandemic year of 2020, many schools were forced to change from on-site classroom teaching to on-line teaching. It has, like in many other businesses, been a rapid transformation. However, the digitalisation of the Swedish school system is not new. In 2017, a national digitalisation strategy was introduced. The overarching objective of the strategy is to ensure that Swedish schools have the prerequisites for achieving a high level of digital literacy among children and pupils, and to promote knowledge development and equality (Ministry of education, 2017). At the same time, this is part of the wider governmental strategy to make Sweden best in the world at using the opportunities offered by digitalisation (Government, 2017). These strategies can be understood as two separated but connected goals: 1) improve children's digital skills and 2) digitalise teaching, learning and administration in schools.

Digitalisation got a kick-start as an effect of measures to retain the spread of COVID-19-virus and the goal was simply to keep work running. Normally, digital solutions are introduced to rationalise work. In the public sector, this means maintaining well-functioning welfare services catering a growing population, while at the same time trying to simplify and facilitate the work of the employees. Considering these incentives to drive digitalisation, it is important to study the effects of new technologies on working conditions.

Research on digitalisation and its effects on the work environment is still scarce and the results often points in different directions (Palm et al 2020). The same digital solution can lead to both positive and negative outcomes. Robots can relieve workload, but in the long run make the employee socially isolated when human colleagues are exchanged to robots (Wasen, 2010). Bordi et al (2018) describes how the workload has increased due to increased digital communication, at the same time



digital communication led to positive participation in organisational development work (Bayo-Moriones et al, 2017). This possible double arrow makes it even more important to study the effects of digitalisation.

In this study we focus on how digitalisation affect employees within the school system and how managers take the employees' work environment into account when introducing digital solutions. This study is part of larger three-year project focusing on public sector workplaces at the municipal level in Sweden: one rural and one urban municipality. Semi-structured interviews were made with managers, health and safety representatives, change leaders within digitalisation, and employees. The interviews were analysed thematically. To complement the interviews, governance, and policy documents relevant to the work environment and digitalisation were collected and analysed.

*Some preliminary results.* The rural municipality has far less economic resources to digitalize work, meaning they are less digitalized than the urban municipality. The employees and health and safety representatives are involved in the digitalization processes to different extent. In the urban municipality the employee perspective is often forgotten, while in the rural municipality the employees are more often involved. There seems to be a general lack, from the managerial perspective, to take the work environment into account in the urban municipality. Instead, they have a very clear focus on the customer value, i.e. delivering well-functioning welfare services to their inhabitants. Still, the teachers in our study do not consider their work being digitalized to a large extent, besides during the pandemic when they did teach from home. They do consider some of the old IT-systems as slow and inefficient, and when new solutions are implemented, they seldom got time enough to learn the new systems. There is a risk that when teachers' work is being digitalized, it can lead to both positive and negative outcomes.

Although the bold strategies on digitalizing the schools in Sweden, there is still a long way to go. When continuing the digitalization, it is important for school managers to consider the work environmental perspectives and include both health and safety representatives and employees in the implementation processes.

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## 5.11

# DIGITAL READINESS OF TEACHERS IN HIGHER EDUCATION DURING COVID-19

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## Abstract

The megatrend of digitalization has had a proven positive impact on the quality of work life and an organization's performance, but it also has proved to be challenging in terms of work-life balance, work design and studying. The evolution of digitalization is natural, but recently the whole world, and especially work life, faced a sudden phenomenon, the Covid-19 pandemic, which affected turmoil in society and thus, the burden to change from a traditional organization into a digital one within the limited time. The digital competence of the staff is crucial if the university is to effectively answer the drastic need to implement new technological tools as part of the functions of teaching, research and administration. This kind of digital readiness or dexterity

(Gartner group 2019) has been estimated to be a key factor in the future of successful institutions. Digital readiness refers to the ability and willingness of staff to utilize existing and evolving technical equipment to improve work results.

The aim of this presentation is to explore the digital readiness and capabilities of coping among university professionals due to Covid-19 pandemic in 4 Finnish institutions of higher education. Teaching staff of the institutions responded to an online survey on digital readiness during spring and fall semesters of 2020 (n = 766). The digital readiness survey relies on the theories of self-determination (Deci & Ryan 2000) and planned behavior (Fishbein & Ajzen 1975; Ajzen 2002) in exploring willingness and capabilities of staff members. The former pays particular attention to the motivational factors that drive change in action, the latter to the effects of attitudes and social norms on action. The survey consisted of items on behavioural intention to use ICT (Ajzen 2002; Valtonen et al 2015), ICT usage motivations (Lam et al 2010; Syvänen et al. 2017), technology self-efficacy (Wang et al 2004) and self-developed items on quality of ICT, use of institutional support functions and difficulties in switching to distance teaching.

Descriptive statistics were used to study the prevalence and distributions of intention to use ICT in teaching. Linear regression analysis was used to ascertain the relationship between variables. SPSS-26.0 and Excel were used in statistical analysis.

The research question we posed for this presentation was;

- What is the relationship of technology use motivation, self-efficacy, TPK, demographics and contextual factors to the different levels of ICT usage intention in teaching?

The relationship of age, gender, ICT usage motivations, technology self-efficacy, quality of ICT, technical support and difficulties in switching to distance teaching to levels of intention to use ICT in teaching were studied with a linear regression analysis. The model indicated ( $R^2 = .54$ ) that internal motivations were the most significant predictor of usage intentions ( $\beta = .53$ ), followed by difficulties in switching to distance teaching ( $\beta = -.16$ ), technology self-efficacy ( $\beta = .13$ ) and higher usage of different institutional support functions ( $\beta = .06$ ). It would seem that higher levels of internal motivations (e.g. enjoy new challenges), self-efficacy and higher usage of available support (e.g. training) increase the willingness of future increased use of ICT in teaching. Difficulties in switching to online teaching had a dampening effect on these intentions. These relationships were statistically significant ( $P < .05$ ).

The digital readiness of teachers in higher education would seem to rely heavily on their orientation to improve themselves, interest and enjoyment of new challenges. Also the perception of their own capabilities in using ICT in teaching was somewhat important and habit of using available support. What is interesting was that the quality of teaching tools did not affect their intentions. However, during Covid-19 various difficulties in switching to online teaching (e.g. had to make rapid changes to teaching) affected their readiness.

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## 5.12

# EXPLORING COVID-19 EFFECTS BY MOODLE ACTIVITY (COMPARISON OF 2020 WITH 2019) IN THE FIELD OF UNIVERSITY OF APPLIED SCIENCE

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### Abstract

More and more work is performed with the help of digital tools, as a result of which digital information about the work is left in the system log data as digital event data. This organization's own data warehouse has still been little used in the development of well-being at work.

We conducted "Wellbeing from digital work data" project with three UAS (University of Applied Sciences) 2020-2021. The digital data was generated by user events stored in Moodle logs. The main aim was to explore usability of knowledge discovered from digital data as a tool for development and for monitoring the organization's own interventions and their effectiveness, if any.

COVID-19 made it possible to make visible the consequences of a “forced intervention” when all UAS transferred teaching to the virtual network and the present work shifted to remote work.

First, we introduce the data and analysis of topic modelling ending up to topics as practices and visualizations over weeks as processes of practices. Secondly, we share preliminary experiences from three workshops with each UAS, where we interpreted the graphs and the knowledge they contained.

### Data, analysis and visualization

Moodle is a digital platform on which teaching, and learning takes place. We got data from teaching staff from three UAS from January 2019 to the end of September 2020 millions of data rows. One Moodle event (row) has four dimensions as unique ID-code signifying individual, time stamp, action, and target in which target and action form pair of words. Event information is viewed as weekly entities that form textual documents. The information in the weekly texts corresponds to the information obtained through the interview: Each week, the individuals report by the texts on the content and amount of their work. If there are 100 weeks and 200 people, 20,000 texts are obtained.

Textual data were analyzed using unsupervised machine learning called LDA (Latent Dirichlet Allocation), and several topics (=practices) were identified. For visualizations of the processes of practices total staff intensity for each week was calculated for the topics. Table 1 shows, as an example, the intensities (workload) of all topics in total at weeks 6-25 and the difference between 2020 and 2019 in one UAS.

**Table 1.** Intensities of topics discovered from Moodle-data over weeks 6-25

week	Total intensities of all topics		Differences
	2019	2020	2020-2019
6	18	27	9
7	17	26	9
8	14	17	3
9	16	19	3
10	18	22	4
11	18	25	7
12	19	23	4
13	20	32	12
14	19	29	10
15	20	26	6
16	14	31	17
17	18	28	10
18	18	21	3
19	19	32	13
20	17	34	17
21	20	28	8
22	18	28	10
23	21	34	13
24	7	22	15
25	2	3	1

### Workshops

We implement workshops using Teams and Howspace platforms. UAS have invited people responsible for the resourcing, management and wellbeing to the workshop. The work in the workshops has been based on intermediate assignments where participants have been asked to write on the platform what they see in the graphs of processes. We have also suggested interpretations ourselves. Interpretations have been discussed with the assistance of Teams.

From the discussions, we were able to summarize some general observations. Teaching has been taken online and virtual activities have been developed at UAS for a long time. We can see from the Table 1, that Moodle activity has already increased before COVID-19 (week 10), although it has increased the pace of development later in the spring.

Teaching and learning online involves entirely new ways of presence and dialogue that are central to both workload management and student progress. For example, automated messages and follow-up are part of a new teacher-student dialogue. A new phenomenon is “dark screen teaching”, which poses a new challenge for teachers.

Teaching staff is supported through various long-term projects of development and, for example, the services of network pedagogy. Resourcing in long-term competence development seems to be a way to manage the workload. Overall, precise advance planning of teaching is emphasized which makes teaching more visible in the virtual. However, it is necessary to consider the areas of education where it is not possible to bring teaching online, but present teaching is needed.

Using an organization's own data in this way is a new kind of co-learning and co-development opportunity for personnel, management, researchers and developers. Nearly nothing work-related has been viewed as a process to date. Some of the graphs were easy to interpret as representing work and the organization's own interventions. What was needed more was more education - specific graphs and new content that could not be discovered by the analyzes now used.

This work was supported by the WORK2030 program of the Finnish Government

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## 5.13

# DOES THE NEW TELEWORK GENERATION NEED A RIGHT TO DISCONNECT?

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### **Abstract**

Evidence from surveys such as the European Working Conditions survey show that remote workers and particularly home based teleworkers are twice as likely to work over 48 hours per week and not avail of the legally mandated 11 hours minimum rest period than workers based on the employers' premises. Long hours and work intensification carry with it an increased risk of physical conditions such as eye strain and headaches, as well psychological impacts linked to stress and burnout. The expansion of telework during the COVID-19 pandemic has revitalised the policy discussion around the need for a 'right to disconnect'. This was most recently demonstrated by the adoption of an own initiative resolution by the European Parliament calling on the Commission to take step to legislate for a right to disconnect at the European level to ensure minimum standards of protection for workers and level the playing field. A crucial role is foreseen for social partners to negotiate in this area, as it is perceived that the precise implementation of the right to disconnect needs to be tailored to the requirement of different sectors and workplaces. This is also the approach taken in the four EU Member States that already have a right to disconnect on the statute books.

The purpose of this paper is fourfold: to look at the reasons why it is considered increasingly important to ensure a right to disconnect for workers; to assess the way in which this has been implemented in legislation and collective agreements at national, sectoral and company level; the advantages and pitfalls of different approaches taken for maintaining flexibility in work organisation while protecting labour standards; and available findings from monitoring the impact of the implementation of a right to disconnect on working hours and worker wellbeing.

It will be argued that evidence of the impact the increasing digitalisation of workplaces and the ability to work remotely, while offering some significant advantages also has negative consequences through the blurring of work and private life, which have been amplified during the COVID crisis and are likely to persist as the use of hybrid models of work are likely to increase in the aftermath of the pandemic. The experience of existing legislation demonstrates that this provides a significant boost to social partners to conclude collective agreements (rather than limiting their ability to act) but that reliance on collective agreements could potentially lead to very different outcomes in countries with different industrial relations systems and social partner capacity. It highlights the challenges of achieving a balance between desired flexibility and security at the workplace level and emphasises the importance of discussing the right to disconnect in the context of drivers for the perceived need by workers to be constantly connected and to perform long working hours, as well as the implication of a closer monitoring of the working hours of home based workers for privacy. This delivers important lessons for future workplaces where output rather than presence based systems of measuring performance are likely to become more and more important.

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## PROFESSIONAL IDENTITY DURING COVID19: EXPERIENCES, IDEALS, AND DIGITAL AGENCY OF FINNISH SERVICE SECTOR WORKERS

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### Abstract

In this presentation we discuss our research design and preliminary results from our on-going study on professional identity construction in the Finnish private service sector. Our aim is to discuss how professional identity in the service sector is both experienced and socially constructed during the pandemic. The Finnish private service sector employs over 400 000 people which is approximately 20 percent of the working population. The largest industries are retail trade, property services, security services as well as tourism, restaurant and leisure services.

Current research in organization studies acknowledges the impact Covid19 has on professional identities in constructing the 'the ideal pandemic worker' (Scholz et al. 2020). The questions what kind of possibilities and constraints for agency the pandemic generates for professional identity construction merit more attention. The service sector – characterized by non-remote work, several low status professions as well as the label of 'essential work' reinforced during the pandemic – is a fruitful field for studying how the pandemic challenges and reinforces professional identities.

Although Covid-19 has generated many challenges for work in these sectors, research on professional identity acknowledges that societal changes affecting the work environment can also be interpreted as opportunities for constructing professional identities and positions (Lindström 2019; Kuhn 2009). We view professional identity as a constantly developing entity which is formed by characteristics, values, experiences, and positions in relation to others (Kreiner et al. 2006; Ibarra 1999). They both mirror changes in surrounding societal values and norms but, simultaneously, allow professionals themselves agency in their construction (Wright et al. 2012; Thomas, & Davies 2005).

The research design is mixed methods research which combines different empirical materials and ways of analysis. It comprises of qualitative data derived from social media, news media, and survey data collected from a representative sample of service sector employees in Finland.

The qualitative data is collected from two primary media sources: the largest private subscription newspaper in Finland (Helsingin Sanomat) and social media (Instagram ja Facebook). From Helsingin Sanomat, we include news texts, editorials and columns where service work is mentioned. From social media, we include public posts including photographs, videos and text from Facebook and Instagram, which can be interpreted as produced by service work professionals themselves. By analysing data from two different kinds of sources, we are able to take into account both societal norms constructing the ideal pandemic service worker (through news media) and the digital agency in professional identity work exerted by the service workers themselves (through social media). The media data are published during the so-called first wave of the pandemic in Finland in March-June 2020.

By means of the representative survey data collected in 2021, we are able to report how service sector employees, who report having undergone considerable changes in their work during the pandemic, experience questions addressing professional identification and professional future.

The qualitative data offers views on professional identity in service work produced by journalists in news media and service sector employees in social media. Correspondingly, representative survey data offers information on the commonness and magnitude of professional identification and professional prospects among employees in the service sector.

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5.15

## GENDERED CHANGES IN WORK LIFE IN FINLAND DURING THE COVID-19 CRISIS

**Hanna Sutela, Anna Pärnänen**

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### **Abstract**

Our presentation assesses gendered impacts of the COVID-19 crisis on labour market and working conditions. Unlike the previous major labour market shocks in Finland – the deep economic recession in the early 1990's and the financial crisis in 2008 – the beginning of the corona crisis first hit female-dominated service sector rather than the male-dominated manufacturing and construction sectors. To put it short, the covid-19 crises meant fall in employment and growth in unemployment.

With the prolonging of the crisis, the gendered impacts have become more evenly spread in the labour market. However, in spring 2021 it seemed that the Finnish labour market and economy might overcome the crisis with relatively small damages compared to many other countries.

Another evident consequence of the corona crisis was the increase of teleworking among those remained in employment. While in 2018, less than 30 per cent of Finnish employees teleworked, the share increased to about 50 per cent during the crisis. The successful spread of teleworking has been made possible by the rapid digitalisation wave, which had cross-cut the Finnish work life already in the previous years.

On the one hand, teleworking may have promoted work-life balance and the experienced efficiency of work for many. On the other, as the situation prolonged, the lack of social contacts and isolation may have affected the well-being at work; it is been even talked about 'telework apathy'.

For the other half of the employees – those for whom telework has not been an option – the corona crisis has meant increased health risks taken at work and often, especially in the female-dominated health care sector, increased workload and pressures. Indeed, there are signs of deepening polarisation among the wage and salary earners, a development accelerated by the COVID-19 crisis.

In our presentation we firstly analyse changes in employment and unemployment by gender and age during the COVID-19 crisis in Finland on the basis of the Labour Force Survey.

Secondly, we examine changes in working conditions and well-being at work among employees, comparing those having and those not having teleworked during the covid-19 crisis. This analysis is mainly based on a web survey conducted by Statistics Finland in spring 2021, the results of which are compared to the Finnish Quality of Work Life Survey 2018.

The analysis presented is part of the project The impact of the COVID-19 crisis on gender equality in Finland, funded by the prime Minister's Office.

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## INVISIBILITY WITHIN VISIBILITY: CLEANING WORK IN AND BEYOND THE PANDEMIC

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### **Abstract**

Cleaning work is *hidden work* (Noon/Blyton 1997), particularly when it is done unpaid in the household or paid on the informal labour market. It still has aspects of *hidden work* even when done in its most formalized way: as paid, official work in the formal cleaning industry. In my contribution, I scrutinize questions of invisibility and inequality in the cleaning sector based on qualitative empirical research I have been conducting in the Austrian context. In so doing, I look at general patterns as well as specific developments during the COVID-19 crisis.

There are several reasons for the invisibility of cleaning work. One is its proximity to domestic work done unpaid, mostly by women, in the household, which is linked to low societal and economic recognition (see England 2005). Another reason is that cleaning work is part of what is also referred to as *dirty work* (Hughes 1958; Soni-Sinha/Yates 2013) or *invisible work* (Hatton 2017), which is stigmatized and therefore largely ignored by society. Based on my empirical, qualitative research in the field, however, I argue that work in the formal cleaning sector is also *made invisible* by means of the way it is *organized*. This refers mainly to the working times that are typical for the cleaning sector, especially in the important area of office cleaning. In many countries, office cleaners work before and after the operating hours of the customer companies in order not to disturb the employees. This renders their work invisible in the sense that the cleaners are not met physically and are not seen doing their jobs (Sardadvar 2019). I argue that this physical, socio-spatial invisibility (Hatton 2017), facilitated by the typical working times in the sector, further contributes to the work's low esteem (see also Gruszka/Böhm 2020).

Gender is strongly involved in these patterns, intersecting with other dimensions of inequality, particularly ethnicity. Cleaning is a sector with a typically high share of women and migrants, but at the same time, there are inequalities along *within* the sector, too (Sardadvar et al. 2015; Sardadvar 2016; Schürmann 2013). Contributing to the gender inequalities is the fact that work in the sector is allocated to female and male workers in different ways, based on gendering of the work and the workers. As a consequence, women are overrepresented in those parts of the sector that have particularly unfavourable working conditions, e.g. with regard to fragmented working times, involuntary part-time work, low wages, and, indeed, invisibility.

How did the pandemic influence the working conditions and invisibility in the cleaning sector? Based on some additional recent research that I conducted on this particular question in the Austrian context, I conclude that the COVID-19 crisis has had ambivalent effects on cleaning work's visibility. On the one hand, cleaning is among those jobs that have finally gained some attention as *key work* or *essential work* (or, in the German-speaking countries, *system-relevant work*). On the other hand, *within* those key jobs, cleaning work scores particularly low in many regards, such as wages or working times (Schönherr/Zandonella 2021; Statistik Austria 2020). On the whole, I find that cleaning work remains comparatively invisible even *despite* the increase in visibility during the crisis.

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## 8.10

# GENDERED WORKING CONDITIONS DURING THE COVID-19 PANDEMIC IN STARTUP COMPANIES IN FINLAND

**Katri Pöllänen**

*University of Helsinki, Helsinki, Finland*

### **Abstract**

This research explores gender differences in employees' experiences of working conditions in startup companies in Finland during the COVID-19 pandemic. Previous research has revealed that COVID-19 pandemic has caused gender differences in work satisfaction and working time: Mothers' work satisfaction has declined and they have had to reduce their working time significantly compared to fathers. Furthermore, startup companies are usually male-dominated and research has suggested that women may have trouble fitting into a highly masculine setting. Therefore, this research compares gender differences of working conditions in startup companies in Finland. The focus of this research, in particular, is to compare social and psychological factors of work, such as job demands, role expectations, control and freedom at work, and commitment to organization. The study design is a cross-sectional survey-based research that is carried out in in 2021 through online surveys. The study is multidisciplinary and contributes theoretical discussions in the fields of gender studies, management and leadership studies, and health sciences, in particular aspects related to working life equality and work well-being. Furthermore, it contributes by providing research-based knowledge about gendered working conditions in startup companies in Finland in the time of a global pandemic.

**Keywords:** Working conditions, Gender, Startups, COVID-19, Finland

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## 8.11

# GENDER IN RESEARCH AND KNOWLEDGE-BASED ENTREPRENEURSHIP: EXPERIENCES OF WOMEN ENTREPRENEURS IN FINLAND AND TURKEY

**Demet Demirez**

*Tampere University, Tampere, Finland*

### **Abstract**

The literature on innovation from a gender perspective demonstrates that innovation continues to be a highly gendered field. Additionally, while there is a growing body of research about women business owners and their enterprises, there is still little research on the intersections between gender, entrepreneurship, and innovation. Innovation-based entrepreneurship studies have frequently focused on male-dominated high technologies and industries (Ranga, M. and Etzkowitz, H. 2010, Ezzedeen R.S. and Zikic J. 2012). Furthermore, as the statistics show, women researchers are significantly under-represented in the research and knowledge-based innovation sectors across countries. For example, in both Finland and Turkey, the proportion of women entrepreneurs in the research and knowledge-based sector is low. In Finland, as one of the leading countries in gender equality, the ratio of women in the private sector research and innovation is 17.3 %, whereas in Turkey, despite being influenced by the intensive religio-conservative gender climate for the last few decades (Günes-Ayata and Doğangün 2017), the proportion of women researchers in the private sector is 24.4%.

The paper discusses the inequalities that women entrepreneurs who use research/knowledge-based innovation face because of gender. The aim is to bring out the women entrepreneurs' experiences related to structural and interactional constraints in research and knowledge-based entrepreneurship. Furthermore, my research focuses on the women entrepreneurs' strategies to cope with inequalities in the sector. The structural level consists of barriers to accessing economic opportunities like capital,



markets, formal networks like business associations, government support in policy, laws, and services such as child and elderly care facilities. Further, the focus is on gender beliefs, perceptions, and discourses in everyday practices on the interactional level.

My study addresses why gender imbalance still exists in the innovative business sector across countries and contributes to understanding such women's experiences from a cross-cultural perspective. It uses the theoretical framework of doing gender and postfeminist ideas and contextualizes findings from the semi-structured interviews with 29 women entrepreneurs in the research and knowledge-based innovative sector. (16 from Turkey and 13 from Finland). The research interviews were conducted in 2019–2020. I interviewed 29 women entrepreneurs who work in the energy, software, consulting, information technologies, and health technology sectors in Finland and Turkey. The interviewed women were between 25–61 years old.

The most important finding is that the interviewed women in Finland and Turkey recognized the existing gender inequalities outside of their entrepreneurship. The same women entrepreneurs believed that they had never personally experienced any form of gender inequality and implied that gender does not appear to have been significant in their work environment. Although women entrepreneurs talked about some gender-related experiences, they tended to deny the importance of gender and tried to ignore gender inequalities by using neoliberal ideas at this point. Individualization was a common way not to acknowledge gender inequality in different ways. While Finnish women individualizing gender inequalities by assuming that there are individual reasons for the situation rather than believing that gender might cause inequalities, Turkish participants prefer to reject structural inequalities by relying on their strong personalities, and they criticize other women for their lack of success and frames them responsible for wider-structural inequalities. e

My research analysis shows that although Finland and Turkey have different socio-cultural backgrounds and cultural routes in terms of gender equality debates, gender" still affects women entrepreneurs in the research and knowledge-based sector. One of the interactional level barriers associated with being a woman in research and knowledge-based entrepreneurship articulated by the respondents is that general disbelief in their technical ability. Many of the respondents in Finland and Turkey described having their skills and abilities questioned. Other descriptions relating to this included not being listened to and not being taken seriously by customers/clients. Also, younger women entrepreneurs, rather than seeing gender as only a potential explanatory factor for their experiences, often attribute their situation to age and lack of expertise. Gender appears in interactions (with customers), and although they otherwise believe that gender never made a difference in entrepreneurship.

**Keywords:** Gender, Gender inequality, research and knowledge-based entrepreneurship, Turkey and Finland

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8.12

## WORKLOAD OF EMPLOYED WOMEN AND MEN IN FINLAND DURING COVID-19 — CHALLENGES IN WORK LIFE BALANCE

**Marjut Pietiläinen**

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### Abstract

In my presentation, I will discuss experiences of Finnish employees' during COVID19 times based on a qualitative data collected by Statistics Finland. The data is collected as part of the research project "The impact of the COVID-19 crisis on gender equality in Finland" funded by the Government's analysis, assessment and research activities (2020–2022). The data consists of qualitative interviews targeted at the respondents of a large web survey data researching the quality of work life during crisis among Finnish employees. The web survey was conducted during spring 2020. My focus is to find out what a qualitative data — interviews — can bring to the research on well-being at work and working conditions amidst the crisis and how such qualitative data can enrich a large employee level survey data on the quality of work life and work life balance. I discuss how women and men have experienced work life balance, the burden of paid and unpaid work, how they have managed to combine work and family life during the crisis, and what kind of challenges they have met while working remotely or not.

**Keywords:** gender equality, work life balance, quality of work life, remote work

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## STRATEGIC LEADERSHIP AND THE GENDERED NEOLIBERAL UNIVERSITY: AFFECTIVE PRACTICES AND THE CONSTRUCTION OF IDEAL ACADEMIC SUBJECTS IN FINNISH ACADEMIA

**Johanna Hokka, Elisa Kurtti**

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### Abstract

The neoliberal university is said to bring forth a powerful affective economy in which academic identities are based upon the ability to meet dominant key performance indicators. This shift in academic work environments has reformulated the figure of an ideal academic worker. The competitive logic of neoliberal university favours a figure that portrays a form of masculinity that is openly individualistic and aggressively competitive at the expense of feminized care and communal values. This context both exposes researchers to increasing anxiety and stress and can loosen the communal and collegial ties that are at the heart of academic collaboration. The knowledge-based work of researchers can be seen to be pushed towards a direction where emotions are expected to be controlled and harnessed in order to increase productivity in research. This can, for example, entail suppression of negative emotions and the imperative towards enthusiastic innovation – even at the expense of researchers' personal resources and well-being. In our presentation, we address how the production of a neoliberal academic subject is portrayed and challenged in interviews of academic leaders in Finnish universities.

In the context of Finnish academia, the process of neoliberalisation has been accompanied by strategic leadership, which has led to universities' profilation and the growing role of organisational strategies in higher education. The rise of managerialism has established stronger leadership and management positions and increased hierarchy in the academia. Academic leaders are increasingly pushed to respond and react to the environmental and science policy changes. Especially deans, as mid-level leaders, play a critical and complex role in the preparation and implementation of changes, such as universities' strategies, at the grassroots level. Both academic mid-level leaders and faculties' unit leaders work between universities' central administration and their units' staff, causing a dual status and role for them. The decision-making of deans is also influenced by managerial mechanisms and different budgeting systems, which are stated to create tensions when acting in the role of a mid-level leader. Meanwhile, the role of universities' rectors is to act as proxies between governmental level policies and their implementation in universities.

The viewpoints of universities' administrative personnel regarding today's academic capitalism and strategic management of higher education have been scarcely researched from the perspective of affective meaning-making. Our aim is to answer this need for further research by providing understanding of the affective work of universities' leadership personnel on three levels: the roles of rectors, deans and faculties' unit leaders. We apply the Wetherellian concept of affective practice to conduct discourse analytical reading of the differing ways in which the leaders do affective work and produce depictions of legitimate academic subjectivity. We also compare how the leaders' differing statuses in the organizational hierarchy influence the means and directions of their affective work, and how it relates to the affective practices present on other levels of organizational hierarchy. By affective practices we refer to the processes in which our actions, and the consequences they produce, are shaped by emotions. We conceptualise that emotions are influenced by cultural norms and social structures.

Our data consists of 30 interviews of deans and faculties' unit leaders in humanities and social sciences, as well as the rectors and vice rectors in three, research-intensive, Finnish universities. The focus on humanities and social sciences enables us to look more closely at how the changes in recent decades' higher education have influenced these fields of science. They can be seen as underdogs in the scientific competition, where the rules and evaluation systems of research have adverse consequences for the diversity of knowledge production. In addition, the powerful discourse that emphasises the economic and social use value of research is led by natural and technical sciences and their connections to business and national economies.

In our presentation, we view gender and work through the lense of affective work, where affects and leadership of research communities are produced via practices that are gendered and have gendered implications. We will show how the cultural constructions of a masculinised, aggressively competitive, academic worker and the feminised ethics of care and communal values are intertwined in complex ways. Thus, in a broader sense, our study contributes to the discussions on the gendered practices of neoliberal university and their material and immaterial impacts.

## GENDERING EFFECTS OF AVOIDING AND DENYING GENDER

**Päivi Korvajärvi**

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### **Abstract**

The aim of the paper is to explore the implications of everyday ways of doing gender in research and innovation (R & I) work. The starting point is an empirical analysis on the ways in which highly educated women in R & I simultaneously not do, do and undo gender in their work. The aim of the empirical analysis is to study work situations, in which women themselves experience that they not do, do or undo gender. A broader question is, what kinds of gendering effects the lived experience of not doing, doing or undoing gender achieve at work, and what does it tell about gender (in)equality in society. The social context of work is Finland, a country with a favourable reputation for gender equality that is nonetheless contested.

The empirical analysis is based on the interviews of 30 women in R&I conducted in 2018-2019 in Finland. The 30 women are all white and, except one, of Finnish origin. The age of the interviewed women varied between 25–62 years. The biggest age group were women between 35–38 years, born in the early 1980s. Nearly all were, or had been, heterosexually married, and most of them had children. The interviewed women had completed their PhD degrees most commonly in bio or health sciences and technologies. Many had multidisciplinary backgrounds and doctoral studies and/or post doc research in new emerging multidisciplinary research areas. Their work organizations include universities, sectoral research institutes, and private firms. The themes of the open-ended interviews comprise R&I career histories, current work situations and future plans, the role of gender in R&I work, and work-life balance.

The analysis process resembles, however, not systematically follows, the constructivist grounded theory in its aim to explain the analysis transparently, going back and forth between the data and the conceptualizations and continuous comparisons between them, coding the material accordingly and memo-writing on analysis- in-progress.

The focus is on the views of women in R & I, who seem to express or justify indifference, denial of gender, or avoidance and hesitance in relation to the meanings of gender. A majority of interviewed women (24 out of 30) told at some point the interview that gender did not matter in their work or organization. The underlying research questions in the empirical analysis were: What are the ways in which highly educated women working in R & I do, undo and not do gender in their everyday? What kinds of implications the ways of not doing, doing and undoing gender have on gender (in)equalities? And what does this reveal on gender (in)equalities more broadly in society?

The analysis of the interviews disclosed five patterns on the ways, in which women in R & I were justifying gender or its lack in their everyday. I name the patterns related to not doing, doing and undoing gender, however, the patterns are intertwined with each other. The patterns analyzed out of the data are the following: 1) Doing gender by not doing gender 2) Doing gender by justifying one's doubts 3) Doing gender with reservations 4) Doing gender by speculating and anticipating, 5) Doing gender by dismantling female domination.

The ways of doing gender were characterised by uncertainty and indifference. The interviewees were not willing to express, or did not know, how gender related to their working lives. If gender aspects were felt to be vague in a given situation, the women expressed scepticism that gender was genuinely present. Certainty about the presence of gender was related to its non-existence on the one hand, and to numerical gender balance on the other. Further, the gender binary, a strong reliance on the truth of one's own individual experiences, and a simultaneous denial of and suspicion towards existing orders as gendered imbued the interviewees' patterns of doing gender.

The aim of the paper is to widen the empirical analysis and relate the findings more broadly to the gendered frames of society. The empirical findings support the continuation of the analysis towards two directions. Firstly, to relate the findings to the suggestions of moderate feminism, gender fatigue, and postfeminist gender regime. Secondly, based on the empirical analysis the paper suggests a possibility to rethink 'doing gender' by claiming that the affects such as indifference, uncertainty and hesitance are embedded in the various ways of doing gender in R & I work.

## MIND THE TASK: EVIDENCE ON PERSISTENT GENDER GAPS AT THE WORKPLACE

**Marta Fana<sup>1</sup>, Davide Villani<sup>2</sup>, Martina Bisello<sup>3</sup>**

<sup>1</sup>Joint Research Center-European Commission, Seville, Spain. <sup>2</sup>The Open University, Goldsmiths College, London, United Kingdom. <sup>3</sup>Eurofound, Dublin, Ireland

### Abstract

This article investigates gender differences in tasks performed at the workplace over a period of 25 years, from 1991 and 2016 in France. We exploit data from the *Enquête Complémentaire Emploi: Conditions de travail*, the oldest survey at the worker level among European countries on a wide range of work attributes and working conditions measures. In our study, we focus both on the content of work from a material perspective, looking concretely at what job tasks are performed by men and women, and on work organisational practices, to capture gender disparities in authority and power relations at the workplace. Our findings reveal that women tend to perform different tasks compared to their male colleagues within the same job also after controlling for supply-side factors, like education, age and seniority. While in line with previous studies we find that women still tend to perform fewer physical tasks than men, despite significant increase in such activities in female dominated jobs, there is no strong evidence supporting the “brain” hypothesis. On the contrary, women appear to be less involved in intellectual tasks and, especially, social tasks such as managing and coordinating. Furthermore, social interactions with clients or customers do not significantly characterise feminised jobs, challenging the idea according to which gender segregation between jobs is explained by the predominance of this type of tasks. Additionally, and more importantly, our analysis shows that gender matters also in terms of work organisation and distribution of power, highlighting strong asymmetries in the way authority and autonomy are distributed between male and female workers, unbalanced in favor of men. Finally, our study shows that these gender effects often exacerbate within male dominated jobs, although they do not necessarily disappear as the share of female workers increases at the job level. We conclude that power and authority are structurally a prerogative of men, regardless of individual and job characteristics, even within female dominated jobs.

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## MODULES FOR CHANGE MANAGEMENT WHEN INTRODUCING AI SYSTEMS IN COMPANIES

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### **Abstract**

Artificial intelligence (AI) offers great potential for companies and their employees – whether through improved work processes and relief or digital business model innovations. At the same time, the change in companies must – and can – be shaped together and the challenges in the use of AI systems must be solved. This is the only way to overcome challenges and negative side effects in the use of AI systems. The overall aim is to create a new relationship between humans and machine, in which people and AI systems work together productively and the respective strengths are emphasized.

Change management is a decisive factor for the successful introduction of AI systems as well as the human-centric design of AI deployment in companies. Good change management also promotes the acceptance of AI systems among employees, so that the potential of the new technologies can be used jointly by all those involved, further innovation steps can be facilitated and both employees and their representatives can shape technological change. The participation of employees and their representatives significantly contributes to the best possible use of AI systems and the interface between people and machine – especially in the sense of efficient, productive and health- and learning-promoting work organization. Early and process-oriented participation of employees and co-determination representatives is therefore an important component for the human-centred design and acceptance of AI systems in companies.

We are still at the beginning of a transition phase to AI technologies and companies have the opportunity to sound out opportunities and potentials as well as risks and challenges of AI systems in good time and to discuss design options so that the use of AI benefits the economic success of the company as well as the good work and the personal development of the employees. It is now necessary to make targeted use of this possibility. The aim of this article is to raise awareness of the requirements of change management in artificial intelligence and to provide orientation for the practical implementation of the introduction of AI systems in the various phases of the change process. These practice-oriented requirements are aimed at all stakeholders who are involved in change processes and are intended to provide orientation for the successful introduction of AI systems in companies. In addition, these requirements should also inspire the further development of existing regulations - for example in legislation, social partnership or standardization - and thus enable employment-oriented, flexible, self-determined and responsible work with AI systems and promote the acceptance of AI systems.

The paper shows the possibilities as well as concrete solutions and best practice examples of how AI systems can be introduced successfully and in the interests of the employees in the company. The challenges and design options for companies are based on the phases of the change process: starting from the goal setting and impact assessment, planning and design, preparation and implementation, right through to evaluation and continuous adaptation, starting points are formulated that are specific to companies - explicitly too to small and medium-sized companies - and those responsible in the companies as well as to employees and their interest groups as well as management. The involvement of employees and their representatives in every phase of change management is a central interface for a successful transformation process: Solutions can be designed and adapted in the best possible way based on the reality of the workforce in order to ensure acceptance of the use of artificial intelligence, to achieve changes in work organization or in the handling of personal data.

Based on:

*Introduction of AI systems in companies*

by Sascha Stowasser, Oliver Suchy et al.

Working Group Future of Work and Human-Machine-Interaction

Lernende Systeme – Germany´s Platform for Artificial Intelligence

[https://www.plattform-lernende-systeme.de/files/Downloads/Publikationen\\_EN/AG2\\_Change\\_Management\\_Executive\\_Summary.pdf](https://www.plattform-lernende-systeme.de/files/Downloads/Publikationen_EN/AG2_Change_Management_Executive_Summary.pdf)

## WORKING CONDITIONS AFTER 2020: CHALLENGES FOR (AND FUTURE OF) RESEARCH AND POLICIES

**Isabella Biletta, Agnès Parent-Thirion**

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### **Abstract**

Building on Eurofound long-standing [research on working conditions](#) and job quality, the paper looks at impacts of the Covid-19 pandemic on assessing how working conditions develop during these turbulent times for individual and public health, for economy, work and society in general.

Since the 90's, Eurofound has been monitoring working conditions across European Member states and beyond, via the European Working conditions survey (EWCS). It analyses job quality through seven working conditions indices. The Covid-19 crisis has highlighted persistent differences in the way workers performed their activities; It has also added and deepened inequalities, leading to identify three 'lockdown groups' of workers: the 'essentials', the 'teleworkers' and the ones in reduced working hours. The analysis of their working conditions has required few adaptative steps.

This paper presents some of the adaptations requested, methodologically and content wise.

First, it addresses the impacts of the pandemic on the methodology used for studying working conditions. Face-to-face surveys stopped, given the potential risks for both interviewees and interviewers, and so did the 2020 EWCS. Changing mode has been a logical way to go, opening however, the Pandora box: which mode, limitations (in terms of survey length, coverage, sample representativeness), impacts on the questionnaire. Some of the lessons learned in adapting the 2020 CAPI questionnaire for the 2021 CATI exercise and experimenting (modularisation, imputation), are here presented.

The paper then turns to discussing the delimitation of working conditions as such. The Covid-19 crisis questioned the very concepts and indicators for assessing working conditions.

Various features are directly challenged by the way activities are performed following health constraints and economic measures, in place since the Covid-19 burst. Challenges apply at many levels, from what could be considered, at first value, a very simple question such as the number of working hours, to more complex concept, such as support at work.

Indeed, working time quality is one key indicator of the well-being of workers. However, during the pandemic, measuring working time of individuals asked to work from home, in a context where children schooling was not available, is far from straightforward. Similarly, social environment features as support from colleagues and bosses, are paramount for helping workers in their activity; advise and help from peers for instance are important 'resources', allowing workers to mitigate work constraints and respond to demand while preserving well-being. However, measuring support proves particularly delicate when social distancing applies.

Finally, the points discussed linked to the Eurofound 2021 CATI experience, highlight some considerations on the current place of work in European workers' life; they are also relevant in the context of future employment, job and work developments.

# FINAL RESULTS FROM THE RESEARCH PROJECT “OPEN ACCESS IN VOCATIONAL EDUCATION AND TRAINING RESEARCH”

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## Abstract

The research project „Open Access in Vocational Education and Training Research“ at the Federal Institute for Vocational Education and Training (BIBB) (project duration: 1/2019 until 6/2021) is close to its completion. The research project aims to uncover the technical and structural, and policy-oriented and normative conditions as well as conditions inherent in the academic research system that influence the acceptance, dissemination and use of the open access (OA) publication model in vocational education and training (VET) research in German-speaking countries. VET research, as an interdisciplinary research field, comprises of various academic disciplines rather than one stand-alone discipline (cf. Sloane 2006; Weiß 2008). The project team therefore assumes that outcomes of the research project will be transferable to other fields of the social sciences and the humanities.

Based on a sociology of knowledge and media theory approach, the methodological approach of the project follows a mixed-methods design, combining qualitative and quantitative research methods. Through group discussions in the form of focus groups (cf. Krueger/Casey 2014) with academic authors from VET research, the research team gathered qualitative empirical data in 2019. Group discussions were analysed using the qualitative content analysis (cf. Mayring 2014; Kuckartz 2018) to identify researchers' publishing, research and reading practices regarding OA, thereby paving the way to uncover conditions affecting their attitude towards the OA publication model.

Following the exploration of the research field through group discussions, the project team designed an online questionnaire, based on results from the group discussion analysis. In the Spring of 2020 the online questionnaire was sent out to approximately 5.000 academic researchers who were either members of relevant academic societies, research associations and institutions or were listed as authors of VET research publications, e.g. in BIBB's VET Repository. The response rate of the survey was high with 32% participating and 22% of the respondents completing the survey. As a result, our analysis is based on responses from over 1.000 researchers from the field of VET research. In order to account for differences in academic experience in publishing and researching literature based on academic status, age or gender, participants' demographics were included in the survey. This enabled the research team to thoroughly grasp and further describe the sample and take into account respondents' social and academic backgrounds.

The first part of the presentation will outline the aspects most relevant to authors when publishing their own research. However, authors are never just writers of academic publications but also users thereof. Therefore, we will also outline varying selection criteria applied by authors when researching and reading publications. To illustrate this, we will present results from a factor analysis displaying varying selection criteria by authors when choosing to use publications for their own academic work. Finally, authors' views on and their awareness of open access as a publication medium that is not only digital, but also easily accessible and free of charge, will be presented. We will close our presentation by outlining selected results regarding authors' opinions on print publications as opposed to the digital format of academic literature.

The analysis of the online survey reveals different types of research communication practices among authors of VET research. With our analysis, we take a closer look at i.e. attitudes, concerns and prevailing knowledge regarding OA to uncover the technical and structural, policy-related and normative conditions, as well as conditions inherent in the academic research system that influence the acceptance, dissemination and use of OA in VET research. We propose that these conditions may play an important part in how researchers of VET relate to OA.

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10.18

## MULTIPLE JOB HOLDING AMONG YOUNG WORKERS IN EU-28 COUNTRIES

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### Abstract

The objective of this study is to analyse multiple job holding (MJH) among young workers in all EU-28 countries. The flexibilisation measures adopted in recent years have increased both part-time and temporary jobs in European countries, which have increased the insecurity within labour markets. In this context, the Organisation for Economic Co-operation and Development (OECD) has recently focused on the quality and security of jobs, stressing the importance of MJH as a strategy adopted by some workers to face insecurity. This study focuses on the study of young workers because of their higher vulnerability within the labour market.

There are some previous studies that have focused on the determinants of MJH among the young population and there are also studies that analyse MJH for some European countries. These studies make emphasis on the effect of both pecuniary and non-pecuniary determinants. However, to the best of our knowledge, no study has compared MJH among the young population at EU-28 level, and certainly not in recent years. Furthermore, the effect of non-standard forms of employment over MJH has not been studied at a country level for all EU countries.

This study focuses on the main characteristics of first jobs and some socio-demographic characteristics of young workers and estimates different econometric models to analyse their influence over MJH. In addition to comparing the effects of these characteristics across countries, we have analysed the influence of over-education on the decision to hold a second job, which has not been studied before. Also, job seeking has been studied to analyse if MJH may be understood as a desired alternative by young workers or as a response to the increasing insecurity. The analysis is based on data from the European Union Labour Force Survey (EU-LFS) provided by Eurostat, which allows the comparison between all EU-28 countries using a large-scale dataset that ensures harmonisation and sample homogeneity.

In the analysis carried out, important differences were found between all the European countries reflecting the diversity of the labour markets and the influence of non-standard forms of employment in each country. Furthermore, certain differences on the probability of holding a second job are observed when analyzing the socio-demographic characteristics of young workers. The main results obtained in this research are:

1. In terms of MJH, the evidence reveals major differences across all the countries, reflecting the diversity of the European labour markets. On one hand, Nordic countries have the higher incidence of MJH among young workers and the lower intensity (hours in second job). On the other hand, the incidence of MJH is low in the other European countries, particularly on Central and Eastern countries. However, in Continental, Mediterranean, Central and Eastern countries the intensity of MJH is high. A positive effect of non-standard forms of employment is observed for almost all the countries, being higher the effect of part-time jobs than temporary jobs. Also, the probability of holding a second job is higher for young workers that work less than 25 hours in almost all European countries.
2. A good predictor of MJH is the education level, as a higher education level increases the probability of holding a second job among young workers in almost all EU countries. However, there are some differences across countries being the effect greater for Nordic countries followed by Estonia, the United Kingdom, Mediterranean and Continental countries. Statistically significant differences are not observed for over-education. However, differences are observed on the probability of seeking a job. Therefore, we can affirm that over-educated young workers do not use MJH as a strategy to find a new job.



3. When differentiating the probability of holding a second job by gender, the results obtained show small differences. This probability is higher for women in some Nordic countries and higher for men in Continental, Central and Mediterranean countries. Differences are not observed by country of birth probably because of the small sample sizes of young migrants.
4. Regarding the influence of age over MJH, most countries record statistically significant differences. In the Continental and Mediterranean countries, the probability of holding a second job is higher among older workers. However, there are some Nordic countries as Denmark or the Netherlands where this probability is higher for workers under 25 years old, stressing the differences across European countries.

It is important to bear in mind that the period analysed here is defined by the ongoing flexibilisation of European labour markets. Having in mind the effect of the non-standard forms of employment over MJH, public institutions should therefore focus on how flexibilisation is addressed. Within the EU proposal on the push for flexicurity, all member states should work together and policies need to be adapted to each situation depending on the country. Furthermore, it is important to highlight the importance of quality education because of its influence on MJH.

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10.19

## DOES TECHNOLOGY SUBSTITUTE “REPLACEABLE” TASKS?

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### **Abstract**

The presentation aims at analysing processes of substitution and complementarity linked to firms' technology introduction (manufacturing/process technology, software, machinery and equipment) on a task level. We propose a conceptual model with the purpose of explanation rather than prediction of these processes. In doing so, we follow the task approach to the analyses of occupations (Autor et al., 2003) but we take a different approach to the vast amount of labour market research mainly concerned with predicting the extent to which technical change may be able to substitute tasks. Almost all of this research allocates tasks into categories that *a priori* determine their technical substitutability (e.g. Arntz et al, 2016; Bonin et al., 2017; Frey/Osborne, 2013 & 2017). The tasks categorization usually follows expert judgements on tasks' routine content. In their conclusions, these studies often make occupation-level statements. This is problematic, if the analyses use task-level data only. Neglecting intra-occupational task variation by treating occupations as homogenous likely leads to overestimation of the amount of jobs at risk (e.g. Bonin et al., 2015 for the US und Germany; Autor/Handel, 2013). Some models focus more on the type of technology that determines the extent to which tasks are being replaced, drawing on the idea that different technologies vary in their effects on labour demand (Acemoglu/Restrepo, 2019). Empirically, the evidence on the extent to which substitution of routine tasks and jobs actually occurs comes to mixed results with little evidence for polarisation in Europe (e.g. Goos/Manning/Salomons, 2014; Fernández-Macías/Hurley, 2017; Oesch/Piccitto, 2019). Apart from cross-national differences in training and occupational systems, sociological labour research suggests that certain firm- and individual-level contexts crucially shape the effect technology introduction has on tasks and occupations (e.g. Hirsch-Kreinsen, 2016).

We add to the discussion on technical change and work insights on the effect of a specific technique's introduction. More specifically, we examine the effects the introduced technique (e.g. software) has on specific work tasks (e.g. repairing, maintenance) at the individual level. Thus, we examine empirically and retrospectively whether tasks classified as "replaceable" are in fact being replaced by the introduction of a certain technology.

We exemplify the application of our model using the German BIBB/BAuA Employment Survey 2018 as a data basis, since the survey includes detailed tasks data and distinguishes several types of technical and organisational change on a workplace level. Within the framework of a causal analysis we use Propensity Score Matching to estimate the causal effect of technology introduction on the frequency of particular tasks (never, sometimes, often), controlling for relevant context variables (occupation, sector, company size, individual skills, and company restructuring processes). Preliminary results indicate that some tasks commonly classified as "replaceable", such as manufacturing, producing of products and goods, measuring, testing, quality control, repairing, maintenance; or buying, providing, selling are more likely performed in firms that introduce new technology. This finding does not imply that future substitution in these tasks is impossible. Yet, it challenges the usual assumptions of routine tasks' widespread and imminent technological substitution.

One of the distinguishing features of our model is that it considers the complementarity of technology and tasks as the vastly overlooked counterpart to substitution. This helps to develop a more complex understanding of technology-task interaction at the firm level. Learning about the already observable effects of technical change in the workplace and their contextual factors could warrant a more thoughtful application of the ubiquitous assumption of “replaceable” tasks and jobs.

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10.20

## WORKING CONDITIONS IN ESSENTIAL OCCUPATIONS AND THE ROLE OF MIGRANTS

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### Abstract

Following a national lockdown in response to the Covid-19 pandemic, state governments in Germany published lists of “essential” occupations that were considered necessary to maintain basic services such as health care, social care, food production and transport. Against this background, this paper examines working conditions and identifies clusters of similar jobs in these essential occupations. Differences across clusters are highlighted using detailed data on job characteristics, including tasks, educational requirements and working conditions. Two clusters with favourable or average working conditions account for more than three-quarters of jobs in essential occupations. Another two clusters, comprising 20% of jobs in essential occupations, are associated with unfavourable working conditions such as low pay, job insecurity, poor prospects for advancement and low autonomy. These latter clusters exhibit high shares of migrants. Further evidence suggests that this pattern is linked to educational requirements and how recent migrants evaluate job characteristics. It is argued that poor working conditions could affect the resilience of basic services during crises, notably by causing high turnover. Policies towards essential occupations should therefore pay close attention to working conditions, the role of migrant labour and their long-term implications for resilience.

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10.21

## THE LONG EXPANSION AND DECLINE OF BLACKSMITHS: NEW EVIDENCE FROM LINKED US DECENNIAL CENSUSES

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### Abstract

Blacksmiths feature in our collective memory in a variety of ways. School children learn of the village blacksmith as a skilled artisan, a representative of pre-industrial craft technology and social relations. In this view, the blacksmith was a hard working member of the community whose work was an essential part of keeping farms and small towns functioning. Another view of blacksmiths emphasizes the artistry that went into decorative ironwork. Most recently, books on blacksmiths provide manuals and other advice for would be hobbyists.

Here we will focus on the trajectory of the work of blacksmiths, and especially the role of technological change in the evolution of this skilled craft position. We interrogate this historical case for clues as to the likely impact of current technological disruptions on the work and careers of today’s workforce.

In the case of blacksmiths, there was no single technological change that made the work of blacksmiths obsolete. Rather, the work of these craftsmen evolved over two centuries and eventually was eclipsed by a series of changes in manufacturing, transportation and agriculture.

We review the long history of blacksmiths in the US and present new evidence regarding the experience of blacksmiths during its period of decline after 1910. In the US, blacksmiths represented an essential if differentiated craft occupation during the colonial period. The work of blacksmiths evolved over the course of the 19<sup>th</sup> century due to the growth of external substitutes for a number of blacksmith's products as well as internal changes in the technology of smiths' work. In particular, blacksmith's role in the production declined as the manufacture of nails and guns and other household items substituted for blacksmith's merchandise. The reliance of blacksmiths on the repair of household and especially farming items increased, as did the focus of some specialty smiths on decorative ironwork. Even as the range of work performed by blacksmiths narrowed over time, data from as late as 1940 portrayed blacksmiths as highly skilled artisans who required extensive occupation-specific training.

Over time, many blacksmiths focused increasingly on making and fitting horseshoes. (Traditionally the fitting of shoes on horses was considered the work of a companion trade, the farrier.) The number of horses continued to increase in the US until approximately 1920. While the absolute number of blacksmiths grew until 1910, the share of the labor force in this field began to decline after the Civil War. The trajectory of employment of blacksmiths is in some ways similar to that of agricultural employment.

The number of blacksmiths declined by one third between 1920 and 1930 and experienced an additional 50 percent decline between 1930 and 1940, even as the size the labor force was expanding by more than 20 percent.

What happened to the former blacksmiths? We provide new answers to this question by linking data from the 1920, 1930 and 1940 censuses. We draw on approximately 45,000 linked individual cases. We examine the extent of cohort replacement, that is, simply aging out of the workforce or retiring early. We find that age-graded exits are a key part of the story. For example, less than two fifths (37.1%) of blacksmiths who were under age 40 in 1930 remained in the occupation in 1940, compared with three fifths (60.7%) of those age 50 or older. Perhaps the high level of occupation-specific skills led some blacksmiths to cling to this line of work as long as possible.

Geographic mobility was not the most common strategy for blacksmiths during this period. Only 5.1 percent of blacksmiths moved to a different state during the 1930 to 1940 period, while 14.4 percent moved to another county.

In many cases, part-time work as a blacksmith was combined with farming, and consequently there are many cases in which the origin field of work is blacksmith and the destination is listed as farmer. We also examine the extent to which factors such as location facilitate the transition to other occupations.

While our data analysis is still in progress, it is clear that at least some segments of blacksmiths had difficulty in navigating their careers during the period of sharp and continued decline. We discuss whether those employed in declining fields in the future may expect to experience similar hardships, and what policies might be devised to minimize the disruptive effects of technological change.

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10.22

## **GENDERED ASPECTS OF MICROWORK PLATFORMS**

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### **Abstract**

This paper examines the gendered aspects of microwork platforms. Microwork includes standardized, fragmented and repetitive tasks such as labelling objects in images and videos, recording utterances and translating texts that eventually feed automated machine learning software for driverless cars, drones, speech recognition speakers and other tech products. Emerging research by digital sociologists suggests that there are millions of hidden low-paid workers in countries in the Global South as India, the Philippines and Kenya performing microwork to cater to the growing demands of machine learning companies in the Global North. Existing studies using a gender lens focus on issues of the digital divide mainly

referring to access to the internet, the conflation of home and workplace, the algorithmic bias in hiring and task distribution. The literature mostly misses analysis of both the relation between the labour market and patriarchal societies as well as gendered subjectivities that one brings to/experiences at work. Using the case of microwork platforms in India, I highlight the gendered aspects of these platforms.

Platforms as infrastructures allow for geographically dispersed workers and an algorithmic distribution of tasks. The model is exploitative as it promotes the replaceability of workers. As infrastructures, platforms displace the physical workplace. This alters the mobility of workers across spaces. Women, in patriarchal societies traditionally worked in agriculture or in domestic work, both requiring them to be geographically limited and hence restrict mobility. Due to the feminist struggles across the 1960s and 70s combined with increasing demand in manufacturing and service sectors, women increasingly became mobile and travelled to the workplace which also granted more visibility. Visibility in the workforce also meant increasing participation in worker struggles (even though minimal in comparison to working men) and hence, demanding (and in many cases achieving) labour rights as increasing social security, paid childcare leave, paid maternity and employer-sponsored health insurance at least in the formal sectors and increasingly in many informal sector public and private companies as well. Platforms with their dispersed workers and decomposed tasks model encourage mostly home-based work. This work reverses the rights attained over decades by feminist struggles. Instead, it pushes workers towards insecure and precarious work that makes home, the site of work. For women in patriarchal societies, the home has been historically the most exploitative site when it comes to women's economic and political position.

Platforms as mediators transform social relations between the employer and employee making these relations hidden and impersonal. Microwork platforms signify feminized work in the service sector where these infrastructures also build on the traditional social relations of workplace violence and surveillance that are necessary to sustain piece wages and absence of worker rights or benefits. The largely invisible platform labour process enables misclassification of workers, fragmentation of tasks and alienation from the larger tech industry. This invisibility proliferates the exclusion of platforms from labour laws and policies. What does this mean for women in this workforce? Women, who already lack representation and participation in unions are at a disadvantage and violence against women that occurs on the platform or due to the platforms in their homes, are out of the purview of state response.

Microwork, as low skill work, enables an easier entry point for women with incomplete educational milestones (considering overall low literacy rates of females in India). In that, it contributes to maintaining a permanently deskilled gendered workforce. Positioned as flexible, low skill work, it is likely to also burden women's overall working time further and become a quicker exit route from the labour market in the absence of adequate social support. Further, to get back into the workforce, say after a childcare break, in a better-skilled job would require reskilling initiatives which in most countries in Global South is hardly ever state-sponsored. The likelihood of then re-entering the labour market remains low.

The political economy of these platforms in India remains unexplored from a feminist and materialist framework. The interdisciplinary approach of the paper helps bring together research from digital sociology, political economy, gendered violence and agendas of active labour struggles for platform workers. As the pandemic continues, traditional service sectors with substantial participation of women are turning into platform work. The focus of the paper is microwork platforms but holds implications for the gendered impact of platformization of work in general for research and activism.

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10.23

## MIDDLE-AGED WELFARE RECIPIENTS' EMPLOYMENT BIOGRAPHIES AND EMPLOYMENT OUTCOMES

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### **Abstract**

Middle-aged welfare benefit recipients are likely to have quite divergent employment biographies. Those with a history of precarious employment may be at risk of reentering peripheral work, while those with very little employment experience may have difficulties finding employment at all. This paper classifies welfare benefit recipients' employment histories using sequence analysis combined with cluster analysis, on the basis of register data for Germany. Employment histories over the past twenty years are considered. The sample consists of welfare benefit recipients aged 45-54 in August 2012. Findings are

that one major employment biography cluster consists of people with very little or no employment experience over the past twenty years. A further cluster is characterized by frequent short employment spells over the entire observation period, a third by a phase of stable employment at the beginning of the observation period, and a final cluster by a long phase of stable employment over the majority of the observation period. Using propensity score matching methods, further findings on the impact of employment policies over the subsequent six years are that longer vocational training programs and to some degree also shorter training programs increase benefit recipients' probabilities of taking up insured and stable employment. This holds for each of the employment biography clusters, such that participants with previously instable employment biographies can for instance achieve more stable employment. Workfare programs, on the other hand, only minimally increase employment probabilities and only for welfare recipients with very little prior employment experience.

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## A SPACE OF ONE´S OWN - WOMEN WRITERS´ FREEDOM AND CREATIVITY IN THE CHANGING WORK LIFE LANDSCAPE

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### **Abstract**

Already in Virginia Woolf's novel *A Room of One's Own* (1929), women's writing and aspirational dreams of being writers was discussed in relation to intellectual, economic and social freedom. In Sweden today, worries about work life stress and insecure working conditions is high, especially among women (Futurion, 2019). Work life stress and insecurity can be understood through the lens of the major changes that working life is going through. Flexibilization of work; eg the increase of temporal positions and the "gig economy", is bringing major structural changes to working life (Beck, 2000). Digitalization plays a role in flexibilization, as internet and technology provide new conditions for work, work collaborations and work arrangements (Fudge & Owens, 2006; Kessler, 2018). Critical scholars associate flexibilization with the decades-long rapidly expanding marginalization and exploitation of workers engaged in temporal and insecure conditions for labour (Standing, 2011). However, the ongoing change of flexibilization has also been described as an opportunity both for employees and employing organizations; increasing individual autonomy, enabling increased work-life balance and matching organizations demands and individuals' conditions in private life, as well as enabling new forms of collaborations (Coyle, 2005; Kessler, 2018).

Without neglecting the seriousness of labour market segregation and exploitation, the struggle for individual freedom and creativity in the changing landscape of working life must be brought to attention and further understood. According to national surveys, among the four most desirable professions among women in Sweden is becoming a professional writer, as this profession holds the potential for "personal growth and freedom" (ManpowerWorkingLifeGroup, 2016, 2017). Higher educations in creative writing are among the courses with most applications at Swedish universities and literature on creative writing are among national bestselling titles. The Swedish Royal Library indicate that in the year 2017 in total 15302 printed books were published in Sweden, an increase with 17 % since 2016, the highest increase in ten years. Fiction comprises 37% of these published titles and the amount of fiction in Sweden is larger today than ever in history. Writing, publishing and selling books is hence a rising part of national economy. However, being a creative writer is far from a stable and secure profession (Fürst, 2017). Few creative writers can support themselves financially through their published works. Instead, they need to combine their writing with other options and professions, related or not related to writing, while pursuing their writing aspirations, with or without holding the dream of one day becoming a full time, professional writer. Becoming a professional writer is hence not to be understood as human's aspirations to create stable economic living conditions, but to express individual creativity, freedom and self-fulfilment. How this aspiration is socially constructed can develop our understanding on how women take action in the challenge of altering otherwise stressful and insecure work life conditions.

Internet has provided new ways of publishing as well as marketing one's books and oneself as a writer. Through internet and social media, writers can communicate to and with their audience and other writers, and writers in different stages of publishing can engage, exchange hints on how, where and when to write, publish, market etc. Hence, social media is a space where the working life and work life identity of creative writers is relational narrated and socially constructed. The empirical material used for this paper is text gathered from writer's blogs and Facebook posts from one of the largest writer's group in Sweden. The study draws on a discursive psychology approach where social media posts are seen as spaces for the production of socioculturally shared narratives (Blomberg & Börjesson, 2013; Blomberg & Stier, 2016). Within this framework, the individuals use of discourse is emphasised, and hence the emancipatory power of adopting, opposing and resisting troubled or untroubled positions (Wetherell, 1998). Through the analysis of discourses in use attention can be payed to dilemmas between the taken for granted and the desired (Billig, Condor, Edwards, Crane & Middleton, 1988).

My aim in this paper is to explore constructions of writing as work in the changing work life landscape in Sweden, further which rhetorical resources that are used by writers to construct their working life in time and space and themselves as credible professional identities. Through this study we can advance our understanding of constructions of individual freedom and creativity, and further shed light on discursive constructions of age, family and solitude as resources in the changing work life landscape for women.

## THE EFFECT OF PROGRESS OF REMOTE WORK ON WORKERS' ATTITUDES IN THE SPREAD OF COVID-19

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### **Abstract**

The progress of remote work due to the spread of COVID-19 infection was a phenomenon also seen in Japan. Before the spread of COVID-19 infection, the rate of introduction of remote work was still low in Japan, and there were not many workplaces and managers who were accustomed to remote work. In Japanese corporate organizations, it is common for everyone to get together and work in a large room, and various knowledge sharing (including tacit knowledge transfer) has been carried out. Therefore, it was very challenging to introduce remote work as one of new work forms in Japanese companies. This remote work, however, is also an inevitable "social experiment" in advancing work style reform in Japan.

We conducted 3-wave survey for 480 workers who are White-Collars in Japanese private sector. The questionnaire set up to investigate the impact of COVID-19 on them.

In this study, we examined the differences in work engagement and creative process engagement between those who used remote work only during the recommended telework period and those who performed remote work even after the recommended telework period. As a result, the results showed that work engagement and creative process engagement were higher in those who performed remote work even after the recommended period for working from home. In addition, contrary to expectations, it became clear that those who carried out remote work even after the recommended period for working from home had higher quality of communication with their bosses and colleagues. These results suggested that, with the rapid penetration of remote work in Japan where remote work was not common before, workers who conducted remote work may be using them as one of job resources.

It was also found that, compared to before COVID-19, increasing the frequency of progress management with supervisors and colleagues have positive effects on their work engagement and trust in supervisors. In other words, improving the frequency of communication under remote work may function as a job resource for workers.

It was also suggested that increasing the frequency of progress management with supervisors and colleagues may improve the quality of communication between them.

In the analysis limited to those who continued remote work, it was also found that a small change in the recommended telework period and the number of remote work days after the period improved their work engagement. This result suggested that Return to Workplace should not be carried out unnecessarily. It is considered important for workers who have benefited from remote work to have flexibility and to carry out a gradual return to work place.

Regarding technology utilization and its impact in remote work, it was found that high technology acceptance and usage skills have a positive impact on worker work engagement.

It can be said that the results of this study, which clarified the relationship between remote work and work engagement and creative process engagement, are thought-provoking in Japan that is an underdeveloped country of remote work.

## DIGITAL NETWORKS AND PROFESSIONAL SELF-PRESENTATION: EXPLORING FACTORS AFFECTING JOB ATTAINMENT VIA SOCIAL NETWORK SITES

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### **Abstract**

As the usage of social network sites (SNS) is ever more penetrating people's daily lives, the digital boundaries between work and personal spheres are becoming increasingly intertwined. Even though the majority of people join SNSs for enjoyment and leisure purposes, employees and employers alike can utilize social network sites for professional goal-oriented action. Employers utilize digital platforms to post job advertisements, but also to screen and attract potential job candidates. Social network sites offer job seekers possibilities for seeking job-related information, professional networking and professional self-presentation. Interestingly, only a few studies have looked, how much people actually find jobs through social network sites. This paper seeks to review this phenomenon: the first goal of this study is to examine how much SNS-users find jobs through social network sites. The second goal is to examine, what kind of factors influence the probability of attaining a job through social network sites. For this paper, a sample of 5000 people, representative of Finnish labor force in regards to gender, age and education level is examined. The original sample was reduced in a way so that students and retirees were excluded from the analysis. The final sample consisted of 3019 respondents, a sub-sample representing the active labor force in Finland.

How job seekers attain jobs through social network sites is largely dependent on the ways, how employers utilize social network sites in their recruiting efforts. Previous literature indicates that employers utilize social network sites binarily for organizational knowledge sharing and job advertising but also for identifying, screening and contacting purposes. Practice-driven common knowledge entails, that through social network sites like LinkedIn, HR professionals are utilizing publicly available information especially for identifying and attracting job seekers, who aren't actively looking for a job but might be interested in a job change. In the supply side of labor market, this means that for attaining a job, job seekers must possess necessary information-seeking skills for finding job-relevant information through SNS, but also cultural capital and knowledge to present themselves in a way, so that employers can find them through SNS. This study considers both sides by examining separately, whether respondents have found a job through SNS themselves, or had they received a job offer through social network sites.

Cross tabulations show variations between socio-economic groups and attaining a job through SNS. In the group of blue-collar workers, approximately one out of ten (11 %) respondents had attained a job through SNS. The job attainment was highest in the group of self-employed persons without employees (27 %). To examine what kind of factors relate to the probability of finding or receiving a job through SNS, a logistic regression analysis was conducted. In the regression model, gender, age, education, strategic networking, production of professional content, job search activity and the usage of specific platform was taken into account. The review of social network sites was narrowed to the "big three" of SNS, namely Facebook, Twitter and LinkedIn. The model was utilized to blue-collar, lower white-collar and upper white-collar sub-samples respectively, so that the differences between socio-economic groups could be examined.

In the case of finding a job through SNS, the production of professional content had a statistically significant effect regardless of socio-economic status. Strategic networking was shown to be important especially to blue- and lower white-collar workers. Job search activity in turn increased the probability for blue- and upper white-collar workers, but not in the group of lower-white collar workers. There were no significant variations between gender, education level and the usage of different platforms. The effect of age was statistically significant only in the group of blue-collar workers, where younger age increased the probability of finding a job through SNS.

In the case of receiving a job offer through SNS, strategic networking increased the probability in all socio-economic groups. Production of professional content increased the probability in blue and upper white-collar workers, but not in the group of lower white-collar workers. LinkedIn usage was shown to be especially beneficial to lower and upper white-collar workers, whereas for blue-collar workers none of the platforms had any significant effect. Gender, age, education level or job search activity did not have significant effects for the groups examined.

The results indicate that attaining a job through SNS, albeit more or less scarce in all socio-economic groups, is more common in higher socio-economic groups and especially in entrepreneurial groups. Results also support the notions made by the previous literature that employers seem to utilize LinkedIn to contact potential job candidates for higher-level positions, whereas blue-



collar workers don't seem to benefit much from LinkedIn usage. The results also suggest that job seekers can benefit from strategic networking and professional self-representation.

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13.04

## ENTANGLEMENTS OF WORK AND NON-WORK IN SCHOLARLY SOCIAL MEDIA USE

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### Abstract

The recent massive shift to remote work across multiple sectors of society, wherever it has been possible, has revived the discussion of digitalisation and its impact on the eradication of boundaries between work and non-work. There are sectors where remote work is still not possible but also ones where working from outside of the formal workplace and blending of boundaries has been a commonplace for a long time. Scholarly work is an example of the latter, a sector where the absence of borders between professional and non-professional life has been common well before the advent of digital technologies. For this reason, by looking at academic researchers' use of digital and non-digital tools, it is possible to understand strategies of navigating across and within work and non-work boundaries and observe the consequences of their altering presence and absence.

The aim of this paper is to report findings from a study of scholars' use of digital technologies to share information about and for their work and their strategies to navigate the often unclear and arbitrary boundaries between professional and non-professional life. The study is based on qualitative semi-structured interviews (N=16) of senior researchers in social science and science disciplines at a major Canadian research university conducted using video-conferencing in the spring and summer of 2020. The interviews were audio recorded, transcribed, coded and analysed using qualitative content analysis. The analysis revealed that the study participants had a variety of different views of how they kept work and non-work separate from each other and how they often weaved together. Researchers engaged in boundary work both to make boundaries between different domains of their everyday life and to span and ease them whenever appropriate. The data also suggests of gender and age related differences in how the study participants coped and struggled with maintaining and managing boundaries. The classification of technologies and genres that were used to share research related information as professional, non-professional or both, could be traced back to multiple factors, including disciplinary traditions and practices, individual and social preferences, availability of services and personal historical trajectories that had driven certain technologies to be placed and used in particular areas of everyday life.

The findings show that the boundaries between professional and non-professional spheres are fluid and that it is impossible to make a sharp distinction between different areas of everyday life and how different technologies were or were not perceived to belong to one or several of them. Further, it appears that the technologies themselves can be often flexible and their use, usefulness and meanings are determined in the social practice. It is the practice rather than the technologies themselves that regulate what types of information they are used to share and how.

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## SOCIAL WORK IN DIGITAL TIMES: BETWEEN ALGORITHMS, DISCRETION AND PERSONAL RELATIONSHIP

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### Abstract

Social work with people in vulnerable positions has traditionally been associated with face-to-face meetings and a reflective, trustworthy social worker making discretions about solutions together with the person in a vulnerable position. Digital efforts to make social work more efficient have changed the ways in which social work is conducted, and face-to-face work and decisions about appropriate measures of intervention, is now increasingly being mediated by algorithms pointing towards proper evidence-based solutions. Although algorithms has been around for many years, the field of social work has been reluctant to adopt the digital realm into social work practice. As a result, research on algorithms impact on social work is scarce. However, algorithms are increasingly beginning to have an impact on social work practice with children and families, criminal youth, rehabilitation of vulnerable adults and the unemployed. Consequently, we find research on Decision Support System (Liedgren et al, 2015) and efforts to conceptualize the gap between these technical systems that challenge the discretion of street-level bureaucrats. Concepts such as system-level bureaucrats (Bovens and Zouridis, 2002) and street-level algorithms (Alkhatib and Bernstein, 2019) are directing our attention towards issues of accountability, transparency and biases but does not give us an overview of how these issues are impacting the different areas of social work through different algorithmic system.

This paper addresses the lacuna in the research. The paper is presenting results of a scoping review on current research on how social work is affected by algorithms and other means of digital assisted decision making in social work in general and in employment services in particular. The paper highlights how different algorithmic system might impact different areas of social work in different ways. It will uncover how existing research can illuminate the potentials and challenges in the implementation and use of these different algorithmic systems. Question such as how involvement of the social worker in implementation and developing can affect the usefulness of the systems will be discussed together with questions of how accountability, transparency and biases can be handled in relation to the actual decision making. The paper therefore discuss issues of ethical, professional and legal aspects of these new forms of social work and thus relates to changes in carrying out social work profession. Furthermore the paper conclude that there is basic for substantial research in this field – especially qualitative context sensitive approaches seems to absent from current research and as such the paper points towards a new area of research in social work.

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# TELEREHABILITATION CHANGING THE WORK OF HEALTH AND SOCIAL CARE PROFESSIONALS - EXPERIENCES FROM SPARSELY POPULATED AREAS IN NORTHERN FINLAND

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## **Abstract**

### *Introduction*

In sparsely populated areas the long distances add to challenges in providing health and welfare services for the ageing population. One solution is provided by telerehabilitation, which enables rehabilitation to be carried out remotely with the use of telecommunication networks and ICT solutions (Tousignant et al. 2015). Research on telerehabilitation has studied its effectiveness on a variety of rehabilitation needs (Hung & Fong 2019, McLean et al. 2013, Peretti et al. 2017). Introducing telerehabilitation changes both work of rehabilitation professionals and practices of organisations providing rehabilitation services. They need to succeed in mastering the new technology to ensure effective and safe rehabilitation.

### *Methods & Materials*

This research presents telerehabilitation pilots carried out in two municipal health and welfare service organisations and one company providing rehabilitation services. The aim was to support the introduction of telerehabilitation services for different customer needs in sparsely populated areas. Pilots began with workshops where rehabilitation needs of prospective customers and possible solutions were explored in collaboration of rehabilitation professionals, supervisors and other relevant stakeholders, e.g. ICT experts, facilitated by rehabilitation education experts. Workshops resulted in initiation of eight pilots including tele-homecare, tele-mediated rehabilitation assessments, support for informal caregivers, telerehabilitation for patients returning home from ward-care, support for young customers of mental health and social care services and virtual-reality rehabilitation.

Experiences were gathered from rehabilitation professionals and customers. Data was collected utilising so-called diary method, where the informants answered a questionnaire on their experiences before the pilot, one or more times during the pilot and once more after the pilot. This data was supplemented by interviews of the rehabilitation professionals and supervisors or coordinators of the pilots.

### *Results*

The experiences were generally positive, although a variety of challenges and development needs were identified. In most cases, telerehabilitation was viewed to support the overall rehabilitation process of the customer. Effective telerehabilitation calls for consideration of the needs of employees, customers and organisation.

For the work of rehabilitation professional the functionality of the technical solution is vital. It also affects the employee experiences and attitudes. Introduction of telerehabilitation changes work practices and interaction with the customer. Employees need training in the use of new technology and resources to familiarise with the new solution. Sharing good practices and experiences among the employees and other professionals dealing with the same customers was seen important to advance the introduction of telerehabilitation.

The needs, attitudes and technical competence of the customers are varied. Elderly customers are often unfamiliar with tele-mediated solutions, whereas younger population might possess both skills and devices needed in telerehabilitation. The customer experiences in the pilots were in general positive, and customers viewed telerehabilitation as a safe solution they would also be willing to use in the future. Telerehabilitation was mainly rated as supporting the customers' every-day life. Customers need information on telerehabilitation, a technical solution that meets their rehabilitation needs and cognitive abilities, and support in case e.g. of technical problems.

Introduction of telerehabilitation demands determined planning from organisations, support from management to find and implement functional solutions and resources for procurement, training and continuous support. Organisations highlighted the need to build telerehabilitation into an integral part of their service provision. Up-to-date knowledge is needed regarding technical solutions and telerehabilitation methods. Coherent instructions from the officials were also requested. In turn, telerehabilitation can enable organisations to utilise their human resources more efficiently compared to traditional rehabilitation.

Two main prerequisites for successful telerehabilitation were indicated. First, the telerehabilitation solution must meet the needs and abilities of the customer, and the rehabilitation professional must possess the knowledge in assessing this. Often a hybrid solution including both tele- and traditional rehabilitation might be a viable option. Secondly, sufficient user support is vital. The operator providing support (eTutor, eAssistant, ICT services etc.) must understand the customer needs, the work of the rehabilitation professional and master the technology allowing both the professional and the customer to focus on their core task.

### *Conclusions*

Introduction of telerehabilitation services is timely: In addition to demographic change, COVID-19 pandemic has forced health and welfare organisations to find new ways of providing services. Telerehabilitation can provide solutions to meet various rehabilitation needs. Succeeding in introduction of telerehabilitation services, however, calls for considering the perspectives of all actors – the customer, rehabilitation professional and organisation.

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## **WHAT DOES OSH HAVE TO DO WITH IT? IMPLEMENTING DIGITAL SOLUTIONS AMONG MUNICIPAL HEALTH AND WELFARE PROVIDERS IN SWEDEN**

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### **Abstract**

We present findings from KomDig – a research project that investigates the effects of digitalisation in two Swedish municipalities. The project investigates to what extent work and working environments are taken into consideration when digital solutions are implemented in municipal workplaces, and how digitalisation affects the form and content of work. Focus in the presented paper is on digitalisation of elderly home care and the use of robots in the administration of social services.

### *Background*

In 2020 and 2021, Covid-19 and its consequences accelerated the introduction and use of digital solutions. Swedish municipalities had faced strong incentives to digitalise well before the pandemic, cost savings being a principal one. Another was pressure from the government and the Swedish Association of Local Authorities and Regions (SALAR) to improve citizen services through e-government.

Besides digitalisation, municipalities in Sweden experience a shift in management philosophies in Sweden (Astvik et al, 2020). The popularity of New Public Management (NPM), characterised by measurable targets, individual preferences, and market mechanisms, is slowly giving way to the concept of Public Value Management (PVM). PVM centres around the needs of the public as citizens and consumers and the creation of value rather than achieving targets. For the municipal workers, increased focus on quality rather than numerical targets has strengthened their role as professionals (Astvik et al, 2020). One unanswered question is, has it also improved working conditions for the professionals themselves?

Another aspect of municipal employees is their position as civil servants in the front-line, or as “street-level bureaucrats”. Lipsky (1980) argues that policy implementation, in the end, comes down to those who actually implement it, and that the street-level agents have considerable discretion in how they execute their work and make decisions. This street-level pragmatism generates much needed flexibility in bureaucracies, but also tension due to the emphasis of the government on the rule of law (Piore, 2011). An interesting question is to what extent the discretion of street-level bureaucrats is affected by the introduction of digital solutions. According to Buffat (2015), the literature is divided between a “curtailment thesis”, which claims that e-government reduces or eliminates frontline policy discretion and an “enablement thesis”, which claims that ICT opens new possibilities for action to street-level bureaucrats.

### *Methods*

We use an inductive approach when analysing our data: interviews with managers, health and safety representatives and employees; strategic documents including strategic plans; employee surveys from the municipalities; and steering documents from the government and SALAR.

### *Preliminary findings*

At the time of writing the abstract, we have found that first line managers include employees in the processes leading up to the implementation of new digital solutions, for instance in the specification of requirements and testing. However, there is a disconnection between the processes of work environment and digitalisation in the organisation. While decisions about digitalisation have moved up in the hierarchy to a more central level, work environment issues have been decentralised to the line managers at the lower echelons of the organisations. The result was a gap between the work environment management in the municipalities and the implementation of digital solutions.

The second question, to what extent and how digitalisation has affected the form and content of work, is still work in progress. However, we see that public value management results in a rather one-eyed focus on employees’ ability to perform well in providing services, neglecting their own working environment.

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# MOBILE TECHNOLOGY OF CARE MANAGEMENT TRANSFORMING THE COMPETENCE AND PROFESSIONAL AGENCY OF ELDERLY CARE PROFESSIONALS

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## Abstract

### *Motivation*

The digitalization of health and social care of elderly people is considered to provide a wide range of benefits for working professionals, service providers and clients. It is believed that digitalization will improve the quality, availability and cost-effectiveness of services and creates new ways to organise daily work of the care professionals. However, health care technologies are often implemented without full understanding of how these technologies will change the quality and competence requirements of care work from the professionals' point of view.

Earlier research (Kamp & Dybbroe 2016, Ertner 2019, Tufte 2013, Saari et al 2020) has recognized that the standardization of care work creates tensions between experienced meaningfulness of care workers and the quality of care reported by clients. There are also existing tensions between how technology developers justify the benefits of technology and how nurses themselves see the consequences of these technologies. While technology developers promise more time for immediate client encounters, nurses may perceive time-saving technologies to diminish possibilities to focus in providing good care (Bergschöld 2018).

In our study, we examine how the use of a care management software, we use pseudonym 'carehelp', transforms professional agency and competences in elderly care. This mobile application in care work enables scheduling, invoicing, care plans and reporting tools for assisted living for the elderly.

### *Theoretical framework*

In our study, we combine different theoretical approaches including theories of agency (Emirbayer & Mische 1998) and professional agency (Eteläpelto 2017) and earlier studies on technological transformation of care work (e.g. Kamp & Dybbroe 2016, Strandberg et al. 2012). When examining the transformation of care work, we assume that technology creates conditions that professionals can either adapt to or actively modify (Saari et al 2020).

### *Research questions*

The research questions of our paper are 1) What kind of competences a technology for care management demands from the care workers?, and 2) How does the use of the technology for care management shape the agency of the care workers? We approach these questions from multiple stakeholder perspective and include in the analysis the experiences and views of the care workers', their supervisors and a technology developer.

### *Data and analysis*

The qualitative data consist of eleven thematic interviews (5 nurses, 5 supervisors, 1 technology developer) conducted in 2021 in one private sector organization providing elderly care in Finland. The themes of the interviews were: change of work and technology-mediated communication; learning and professional agency; relationship with clients and empathy, sense of community and well-being at work. The data is analysed using qualitative content analysis.

### *Expected results*

Preliminary findings indicate that the use of mobile technology in care work requires ethical sensitivity and a new kind of professional agency in order to provide good care. The use of "carehelp" was experienced both as supporting and restricting good care. It seems that the more care professionals can develop and feel flexibility in their work practices as they use

technology in care work, the more meaningful they perceive their work. The different technologies are not yet integrated with each other, and alarms from different sources are experienced as overload in mundane care situations. In our paper, we discuss what kinds of professional agency and competencies are manifested in mundane use of technology in care and how these relate to care workers' ideals of providing good care.

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14.18

## TECHNOLOGY AND ELDER CARE: WILL THE ROBOTS TAKE CARE OF GRANDMA?

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### **Abstract**

Robots currently do not provide physical care for the elderly, not even in Japan. So the short answer is “no,” robots *per se* will not replace scarce home-health aides or visiting nurses anytime soon.

Instead, technolog(ies) are likely to facilitate aging in place. This is going to shift where work is located rather than decrease the amount of work. The home care devices will include:

1. general purpose devices
  1. Smart phones
  2. voice control in digital assistants and other devices
  3. smart homes (internet of things)
2. monitors and sensors
  1. in home, installed
  2. wearables
3. medical communication systems (telehealth)
4. medical advances
5. transportation and mobility technologies
  1. driver assist as well as self-driving cars
  2. personal mobility technologies (personal airbags, exoskeletons)

While many of these technologies are being adopted by institutional care providers, the effect of these is likely to increase aging in place because most elders prefer living independently as long as possible. Ironically, new technologies may increase work, as home-based care is arguably more labor intensive than is institutional care.

Another key trend is that increases in frail or dependent life expectancy is increasing along with increases in healthy life expectancy. So the demand for care work for the elderly is almost certainly going to increase for the foreseeable future as both healthy and disabled life expectancy increase.

Efforts to increase the supply of home-health aides and professionals are likely to involve gig—economy strategies and paying family members to be caregivers. Stark inequalities by income, gender, race and ethnicity – for both caregivers and recipients – are likely to persist

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## CAREGIVERS' USE OF SOCIAL ROBOTS: WORK ROLES AND PROFESSIONAL IDENTITY

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### Abstract

Despite the lively discussion on the pros and cons of using robots in health care, little is still known about how caregivers are affected when robots are introduced in their work environment. The present study fills this research gap by focusing on the relation between the use of robots in care and caregivers' working life. The aim of the paper is to contribute to a better understanding of the robotized working life of caregivers by exploring their use of social robots and implications for work roles and professional identity.

Because of the specificity of their work tasks and the long duration of tasks in care institutions, caregivers are vulnerable to various occupational risk factors, such as high incidence of work-related neck, shoulder, arm, knee and back injuries. Physical work-related risks often go hand in hand with psychosocial risks such as stress, anxiety, depression, and mental disorders. Also, caregivers encounter workplace violence and abuse at higher rates than any other profession, which negatively influences their physical and mental well-being, their experiences of job satisfaction, as well as their professional development.

Reducing the work burdens that caregivers face may play an essential role in providing a positive work environment and an effective quality of care. In this regard, robots appear as a potentially promising tool in care work. However, they may also pose new risks if, for example, they replace the empathic relationships with patients that help to make the work meaningful. Ethical issues have been raised, not only regarding patients' integrity and safety, but also in relation to caregivers' understanding of their work role, the philosophy of care, and important care values when using robots in their work.

The paper draws upon qualitative interview data with caregivers in dementia care settings from an ongoing empirical study. The interviews are part of a larger study with the purpose to explore implications for caregivers working life and work environment when using various robots. The interviews are conducted both face-to-face and at a physical distance with the help of video calls (due to the pandemic situation). The interviews focus on the caregivers' ways of working with the robots in interaction with the patients, and the caregivers' experiences of various situations when the robots have created unforeseen problems or solutions. Special attention is given to the caregivers' considerations and understandings of situations when working with the robots have actualized issues in regard to their understanding of care values and the meaning of care work in relation to their professional identity. Empirical material is gathered in the form of recorded interviews with caregivers. Interviews are transcribed verbatim.

Our theoretical approach is materialist social psychology, combining symbolic interactionism, posthumanist theory, and identity theory. With this approach, we add a new perspective to the body of research within the field of social robotics in health care, which is currently dominated by technological studies and care studies. Our theoretical contribution to the field consists of highlighting the social relationships between social robots, caregivers, and patients in care settings and their implications for social agency. People behave toward objects according to the meanings the objects have for practical purposes; such practical purposes – and meanings – are created in social interaction and individuals learn meanings through a dynamic and interpretive process, which is applied to everything encountered during the experience of living. Accordingly, this approach takes into account the way that meaning of objects, such as social robots, rely on practical purposes related to each interaction (e.g., requesting information or help) as well as the broader context of individuals' experiences and normative frameworks within institutions. The introduction of robots in care settings changes the interaction between caregivers and patients, e.g., by transforming certain work routines. Changed ways of working can, in turn, actualize issues regarding caregiving culture, workload, and hierarchies in care organizations. It has been suggested that robots may also actualize the meaning of professional values and prestige for caregivers. Building on role identity theory – and especially theories regarding professional identity formation – we examine possible impacts on caregivers' professional identity when using robots as social objects in the caring work and interaction with patients.



# THE ROLE OF WORKS COUNCILS IN FIRMS' TRAINING PROVISION IN TIMES OF TECHNOLOGICAL CHANGE

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## Abstract

In recent decades, scholars have intensely discussed technological change and its impact on the labor market (e.g. Acemoglu & Restrepo 2020; Frey & Osborne 2017). New technologies change the task composition in firms and alter their demand for skills (Acemoglu & Restrepo 2019). A strand of literature suggests technological change to be skill-biased, i.e. firms' skill demand increases with technology adoption. (e.g. Goldin & Katz 2009). For firms, a common strategy to adapt to changes in skill demand is to invest in training and apply more skilled labor. Previous findings propose a positive relationship between firms' introduction of new technologies and their investment in training (e.g. Bartel & Sicherman 1998) expressing the importance of workplace provided training to cope with technological change. Nevertheless, firms' training investments in Germany are below average compared to other member states within the EU-28 (Cedefop 2019).

Works councils are the primary actor of employment relations in Germany. Empirical evidence on the relationship between work councils and training is mixed. Whereas Backes-Gellner et al. (1997) report no impact of works council on training investments; the majority of the studies find a positive association (Stegmaier 2012; Zwick 2005; Gerlach & Jirjahn 2001). More recent studies focus on the relationship between works councils and training investment for differently skilled workers since an institutional voice is in particular beneficial for low-skilled workers (Wotschack 2020a,b). Although technological change and firms' digital equipment is a driver for training investments, we know little about the role works councils play in this relationship.

In this paper, we investigate the relevance of works councils on further training activities on the intensive and extensive margin for differently skilled workers in German establishments. We differentiate the impact of work councils on training for low and high- tech establishments. We use comprehensive data from the BIBB establishment panel on qualification and competence development, conducted by the Federal Institute for Vocational Education and Training, covering the years 2016-2019. The data set provides comprehensive information on firms' digital equipment and workers' participation in further training.

From a methodological point of view, we first apply logit and tobit regressions for calculating probabilities of training decisions and for the share of participants. Since endogeneity is a concern in works council studies, we apply a matching algorithm using inverse-probability weighting (Imbens & Wooldridge 2009).

Our preliminary results confirm previous studies showing digital equipment having a positive impact on further training at the extensive and the intensive margin. Works councils seem to mediate the positive effect. By differentiating low-tech and high-tech establishments, our work analyses the relationship between works councils and training in the light of the current debate on technological change. In high-tech establishments, works councils increase training participation of low-skilled workers, while we do not find this effect for low-tech establishments. These findings underline the importance of works councils as representation of low-skilled workers with respect to firms' technology adoption.

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## 15.02

# DOES TECHNOLOGICAL CHANGE FOSTER FIXED-TERM WORK ARRANGEMENTS? - A FIRM-LEVEL ANALYSIS FROM GERMANY

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## Abstract

In the last decades, working arrangements as well as the employer-employee relationship have been subject to major changes. For example, in industrialized countries, we could observe a global rise in marginal, fixed-term, part time or self-employment (Cooke and Jiang 2017; Eichhorst and Marx 2015; Hipp et al. 2015; Kalleberg 2009). Due to automation workers are often hired on demand (Bloom et al. 2018) and new models of work such as crowd work (Degryse 2016) supplement “traditional” dependent forms of employment in the Western world (De Stefano 2015; Friedmann 2014). Scholars believe automation and changing technologies to be either a driver or an enhancer of flexibility and changing working arrangements (Eichhorst et al. 2016; Oesch 2013; Paulussen 2012; Valwenduc et al. 1999). Moreover, modern communication technologies allow for more flexibility regarding time and place of work. In Germany, employees working in high and low-skilled jobs are more likely to work in non-standard work arrangements (Eichhorst et al. 2015). These polarization tendencies of non-standard work arrangements (Eichhorst et al. 2015) seem to be similar to the polarization tendencies in the skill composition caused by routine-biased technological change (RBTC) (Goos et al. 2014).

So far, we know little about the relation between digital technologies and shifts in fixed-term contract employment. This paper tries to shed light on the relationship between the introduction of new technologies and temporary work arrangements in German firms. We focus on the firm level, because often the aggregated level does not sufficiently cover the effects of technological change and the intra-industry or intra-firm shifts are overseen when looking at the labour market as a whole (e.g. Autor and Salomons 2019; Bessen et al. 2020).

Therefore, our study analyses the impact of the introduction of new information and communication technologies (ICT) in firms on their use of fixed-term contracts. Thereby, it answers the question, whether newly introduced ICT lead to a greater share of fixed-term contracts in the firm. The aim of the paper is, to untangle the relationship between technological change and fixed-term contract employment on the firm level.

The analysis builds on the one hand on the task-framework (Autor et al. 2003) and RBTC (Goos et al. 2014), and on the other hand on a framework of transaction costs (Williamson 1985). Following the theoretical concept of transaction costs there are two counteracting factors influencing a firm’s decision to rely on fixed-term contracts: uncertainty and asset specificity. Due to the shift to knowledge work in the 20th century (Ramírez and Nembhard 2004; Drucker 1999) and the technological change, less routine (programmable) tasks and more manual and complex or knowledge based task are performed by workers (Autor et al. 2003; Goos et al. 2014). Therefore, firms have more difficulties to monitor worker output. This affects uncertainty and asset specificity in employee-employer relationships. We examine firm-level data from Germany between 2012 and 2019. As treatment, we use the introduction of new ICT from one year to the other. Dependent variable is the share of employees with fixed-term contracts. Our first findings indicate that the introduction of new technologies leads to an increase in temporary employment contracts. This result is in contrast to the stagnating numbers of fixed-term contracts in Germany in the official

data. Therefore, our work stresses the importance of firm or individual data use, when studying the technological change. Moreover, we show that new technologies can alter work arrangements within a firm.

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15.03

## THE BIG GAP OF THE PROFESSIONAL JOB MARKET IN AN INCREASINGLY INTERNATIONAL CAPITAL: SENIOR DEMAND BUT JUNIOR OFFERING

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### **Abstract**

While employers have high demand for senior talent, the work force has a hard time transitioning from junior level to seniority. Education doesn't equip people with those real-life skills and practical experience that employers value. In its report 'Continuous Learning in Working Life in Finland', the Organisation for Economic Co-operation and Development (OECD) has recommended that Finland should make the education and training provided more labour market relevant (OECD 2020).

The Ministry of Education and Culture has been preparing a reform towards continuous learning to address these shortcomings. The vision of the reform includes that everyone will have 'the skills and competence required for a meaningful life and in a changing world of work' (Ministry of Education and Culture Finland 2019).

This study asks, how international talent sees its position in the Finnish labour market, and how the position would be improved. Our insights are derived from the analysis of 12 interviews and 1 337 job descriptions posted in Oct-Dec 2020 in 6 popular job boards and career page providers (thehub, Lever, Workable, Teamtailor, Startupmatcher, Startup.jobs). The interview process is ongoing and more data will be available by the time of the conference.

Based on the current analysis, the keyword for 'senior' was cited 2.7 times more often than the keyword for 'intern' in job titles. The job market is very mature on the demand side, but on the supply side it hasn't matured yet up to that level.

Among our interviewees the average years of experience in their own professional field was 3.5 years. For foreigners in Finland it feels extremely challenging to break into the occupation they have studied, due to language limitations, lack of networks, stereotypes, and in some ways just the color of their skin or their name. This leads them back to unemployment or employment that they don't like, but need in order to survive (D'souza 2020).

The stories that interviewees have shared for the present study align, and this is a representative narration of their experiences:

...After graduation it was an uphill battle. I had no experience and I tried to build my network in various events. Everybody that I wanted to reach out to was in those events, I spoke with them, yet nothing happened in terms of a job. I studied and intensively practiced Finnish for a long time. Even then I wasn't getting anywhere close to getting a job in my field of studies. I was only able to get odd jobs, nobody else would do those jobs, so they hired foreigners to do them. It was demotivating to continue learning Finnish to become fluent. It was also expensive, and taking much time without the expected pay-off. So I stopped learning Finnish...

Furthermore, age and career satisfaction among interviewees were related to one another. There was a 15-20% increase in work satisfaction from the 18-27 yo to the 28-37 yo and the 38-47 yo group. Young, female, educated employed internationals are the least satisfied with the work they are able to get. At the same time according to the Minister Tuula Haatainen "We're no longer able to find enough talent in Finland" (Teivainen 2020). Clearly there is a mismatch in perceptions and expectations between employers and people seeking professional employment. Employers have high expectations, whereas young talents are not being prepared by the education system to meet these expectations.

The results of the present study present special interest for employment authorities, municipalities, schools, universities and other relevant public entities and learning providers.

Universities should be more vigilant when it comes to job market changes as employers adopt new technologies and tools, and require different types of workers. They need to be agile to serve their students in the best way. The public sector has a big responsibility in supporting universities and companies to do this work, so the market supply and demand can be bridged.

Suggested experiments include:

- Giving better incentives to employers to hire junior talent by opening up and increasing the salary subsidy for all with less than 2 years professional experience, so that unemployment and the costs of work dissatisfaction can be prevented.
- Including bias-acknowledgement exercises, and teaching how to focus on skills and competence, rather than judging based on looks, to all levels of education. This will trickle down to company leadership in the long-run.
- Language is the major obstacle for foreigners and many of them suggested during their interviews as a solution the introduction of English as a 3rd official language in some cities. This could offer the opportunity to revive 'dying' cities in Finland as the language would give people a reason to move there. Helsinki Metropolitan area and cities with more than 10% non-Finnish speakers could also adopt the same in order to be inclusive.

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16.24

## AN EXISTENTIAL PERSPECTIVE TO MEANINGFUL WORK

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### **Abstract**

The pursuit of meaningful work and life has become an overt trend in western societies in the 21<sup>st</sup> century (Bailey et al 2019a; Csikszentmihályi 2006; Leontiev 2013; Lepisto and Pratt 2017; Seligman 2008, Teerikangas and Välikangas 2014; Yeoman et al 2019). It has even been suggested that “meaning is the new money” (Erickson 2011). Some scholars claim that how individuals find meaning in the prevailing economic sphere “should arguably be one of the most important questions for organizational scholarship” (Podolny et al 2005, p. 1). Within academia, the burgeoning interest in the meaning phenomenon can be portrayed with the pace and volume of published articles on the topics of meaningful work (MW) and meaning in life (MIL) over the past ten years.

Myriads of studies conclude that meaning matters to well-being (Ward and King 2017, p. 77), and, moreover, experiencing life as meaningful has important benefits associated with a variety of positive markers of psychological and physical health (King and Hicks 2021, p. 564). MW, the focal area of research on meaning in management and organization studies, ‘is a significant variable in understanding motivation and well-being at work’ (Lips-Wiersma & Wright 2012, p. 656). Research “shows that finding meaning in one’s work predicts both personal and organizational benefits” (King and Hicks 2021, p. 576). On the other hand, lack of meaning is recognized as a modern malaise (Reker and Wong 2012; Chan et al, 2018) and in the work context, ‘meaningless work is often associated with existential burnout, apathy, and detachment from one’s work’ (Lips-Wiersma & Wright 2012, p. 657). A definitional ambiguity is still associated with both areas of research, MIL and MW (Ward & King 2017, p. 65).

From an individual perspective, meaning is deeply rooted in the question of *what makes life worth living*, penetrating the existential dimension of meaning. This existential understanding of meaning is a key element in *logotherapy* that affords a coherent whole of a theory of knowledge, a dimensional ontology, and a theory of meaning and values (Dubois in Frankl 2004, p. xi-xiii) to understand human nature, human behavior, and well-being. It is the theoretical basis of *logotherapy* developed mainly in 1926-1936, validated and systemized in 1945-1997 (Batthyány 2010). The founder of logotherapy, Viktor E. Frankl (1905-1997), is credited as the seminal figure and pioneer in the study of meaning as a topic of scholarly interest (e.g. Baumeister and Vohn, 2002 s. 608; King and Hicks 2021, p. 563; Steger 2019, p. 209). Especially, he is considered to be the initiator of the scholarships of meaning in life (MIL) and existential psychology. Based on my review of MW and MIL literature in the area of organization studies, it becomes evident that despite the fact Frankl is widely known and cited in meaning-related research, particularly within the MW, the influence of logotherapy on theory development, elaboration, and practice is weak.

In order to start addressing the paradoxical situation of logotherapy in organization studies and, in particular, understanding the existential dimension of the meaning phenomenon, this paper focuses on reviewing key literature on the *nature of personal*

meaning within MW, MIL, and logotherapy. The aim is to discern and compare how the nature of personal meaning is addressed in these fields and conjoin knowledge to put forward a conceptual framework (Post et al 2020, p. 359-360) illustrating a deeper understanding of the meaning phenomenon. To discern the blind spots in the current scholarly understanding, an exploration of the nature of human, ontology, and epistemology of the meaning phenomenon is conducted. A problematization methodology (where appropriate) (Alvesson & Sandberg 2011) together with Burrell & Morgan's (1979) scheme (the subjective-objective dimension) are used for assumption identifying, analyzing, and evaluation. As problematization research typically emphasizes in-depth reading of the key texts (Alvesson & Sandberg 2011, p. 256), the literature included in this paper is narrow.

The main contribution of the paper is the conceptual framework of the nature of personal meaning incorporating the knowledge of three research areas; MW, MIL, and, for the first time, logotherapy. Ultimately, the paper proposes that clarifying the nature of personal meaning in MW invites an alternative yet complementary research agenda that broadens scholarly inquiry into the experience of meaningfulness and meaning finding in work and life. Specifically, responding to the calls raised in the MW, the paper contributes to expanding the theoretical and conceptual foundations of the field (Bailey et al, 2019a, p. 496; Bailey & al 2019b, p. 100; Both-Nwabuwe et al 2017, p. 12; Rosso & al 2010, p. 100): e.g. it offers new insights for the five paradoxes of meaningful work identified by Bailey et al (2019a) and for the puzzle of "the lack of meaningfulness in seemingly enriched work" presented by Lepisto and Pratt (2017, p. 116). The paper also integrates research on existential meaning, a call expressed in MIL (King and Hicks 2021, p. 565).

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16.25

## THE CHALLENGES OF THE COVID-19 CRISIS AND THE PILLARS OF MINDFUL LEADERSHIP

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### **Abstract**

In our global landscape of working life, countless occupations have been affected by the rising tide of COVID-19 (SARS-CoV-2)—so much, in fact, so that the consequences of this pandemic tsunami seem incalculable. Currently, governments throughout the world have issued restrictions that limit one's physical presence in the workplace. This, in turn, has made room for a more comprehensive digitalization of working life, which has raised questions about such matters as the social and emotional impact of lockdowns, home ergonomics, the balance between work and family/spare time, the use of interactive tools such as Teams and Zoom, etc. Another severe consequence of this pandemic is the huge number of forced employment terminations. Certain business sectors, such as the hotel and restaurant industry, are more affected than others. Even though many governments have attempted to offer financial support in these circumstances, countless companies have had no other choice but to shut their business down. In addition, physical and mental fatigue has increased considerably and there are many employees, especially among healthcare professionals, who resign because of too much pressure, fear of being infected, lack of recovery and a generalized decline in working conditions. This paper proposes that mindfulness can be an effective tool for leaders that are attempting to mitigate the consequences of COVID-19. Our suggestion is that mindfulness, as a crisis management strategy, will be beneficial for both leaders and employees in terms of enhancing their resilience, stress tolerance, and affect regulation as they navigate in an extremely difficult and demanding work environment. More specifically, mindfulness help leaders to reflect upon mental processes and regulate their emotions in an attempt to differentiate the beneficial from those that are harmful to the organization. Additionally, mindfulness should be regarded as a tool that enhances social relationships and cultivates empathy and compassion among employers and employees, thus helping to create a fair, secure and sustainable organizational climate.

# THE EFFECT OF COVID-19 PANDEMIC ON WORK AMONG COMPREHENSIVE SCHOOLTEACHERS: HOW TO SUPPORT EMPLOYEE WELL-BEING?

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## Abstract

The Covid-19 pandemic has caused prominent disruption to the work of numerous teachers. In Finland, the ways to organize schooling have varied during the pandemic. Teachers were restricted to work from home in spring 2020, and afterward, starting from autumn 2020, they were instructed to work in schools under tight safety regulations. The job demands such as heavy workload, rapid adoption of online teaching, and blurring boundaries between work and family domains have characterized teachers' working conditions under Covid-19 (Kaden, 2020; Milliken et al., 2020). In line with the Job Demands-Resources theory (JD-R), we assume that schools can provide compensation for the adverse effects of job demands caused by Covid-19 by providing organizational support practices for teachers. For instance, supporting teachers to cope in an altered work environment might prevent the harmful impact resulting from work-family conflict while providing valuable resources for carrying out teaching practices (Vaziri et al., 2020; Anderson et al., 2020).

In the present study, we investigated three dimensions of organizational practices: a) employer-driven practices (organizing and informing safe working practices related to Covid-19), b) school support (organizing work and providing guidance for carrying out teaching), and c) collegial support (sharing experiences of teaching with colleagues). Firstly, this study examines what job demands characterize teachers' working and teaching experiences under the Covid-19. Second, the aim is to examine whether the identified job demands are associated with burnout (emotional exhaustion, cynicism, and sense of inadequacy) and whether high-level organizational practices can buffer the potential negative connection. All teachers across comprehensive schools of Tampere city (N=1300) were invited to take part in the survey via common digital channel that is used in teachers' daily work (Wilma). A total of 361 survey responses were returned with a response rate of 28 %. We excluded 38 non-teachers from the analysis leading to a total of 323 respondents.

A content analysis was conducted to an open-ended question that asked teachers to describe their experiences of working during the Covid-19. Results indicated that teachers identified increasing workload, spilling work to leisure time, being available outside working hours via digital channels, and feelings of loneliness as central job demands. Linear regression analysis was conducted to examine the relationship between identified job demands (ICT availability demands and work-family conflict), organizational practices, and burnout. The results indicated that both ICT availability demands, and work-family conflict had a significant positive connection to all three dimensions of burnout (exhaustion, cynicism, and sense of adequacy). From organizational practices, school support was associated with lower cynicism and a sense of inadequacy. Furthermore, the employer-driven practices (e.g., information of Covid-19 procedures) were associated with a lower sense of inadequacy. The moderation analysis indicated that collegial support significantly buffered the positive connection between work-family conflict and burnout (emotional exhaustion and sense of inadequacy). Unexpectedly, the collegial support exacerbated the negative effect of ICT availability demands on emotional exhaustion.

As a practical implication, this study suggests that creating varied organizational practices to support the well-being of teachers could be useful in a pandemic situation. School support focused on organizing work, and employer-driven practices aiming at safety work practices seem beneficial for preventing burnout. Although collegial support was not directly related to lower burnout, it was discovered to diminish the adverse effects of the work-family conflict that could ultimately lead to burnout. However, building shared practices to collegial support might be needed for preventing the teachers' experiences of having to be available through multiple digital channels.

## WORK STRESSORS AND LOW WORK ABILITY IN HEALTH AND SOCIAL CARE SERVICES

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### Abstract

Due to the ageing of Finnish population and retiring of Health and Social care services (HSS) workers there is an urgent need for increasing number of employees in elderly services. Current ways to improve work ability in HSS have not been effective enough: sickness absence rates are high, especially among the employees of elderly services (Karstad et al. (2018) Leinonen et al. 2018). To develop effective strategies to enhance work ability, more information is needed on the work stressors that lower the work ability.

In our study we analyze stressors that are associated with decreased work ability. Perceived work ability is an indicator of sickness absences as well as premature retirement (Ahlström et al. 2010; Jääskeläinen et al. 2016). First, we analyze the association between the accumulation of several work stressors (job strain, effort-reward imbalance (ERI) and organizational injustice) and perceived work ability (Juvani et al. 2018). Second, we analyze the association between client violence and ethical strain and work ability. To our knowledge this kind of analysis has not been done before. We already know from our data that the prevalence of client violence and ethical strain is twofold in elderly care compared to other HSS.

We use a cross-sectional survey of social and health care workers collected in 2020. It includes all employees working in nine Finnish HSS organizations between 27.10.–30.11.2020. Of the invited employees 24459 responded (response rate 67%) and 92% of them gave consent for research use. The employees were further classified to 1) general social and health care employees (general HSS) (N=18155) and 2) employees in elderly services (N=4347). Elderly services were further divided to home care (N=1 683), service housing (N=1 649), outpatient departments and institutional care (N=650) and support services (N=365). In the analyses we use self-reported measures of employees' well-being, including the perceived work ability. The lowest decile was chosen as low work ability.

In the elderly care, 13% of employees have low work ability whereas in the general HSS the proportion is lower, 10%. Nevertheless, elderly care is not a homogenous group. In the home care 14% and in the service housing 13% of the employees have low work ability. In the outpatient departments and institutional care (11%) the percentage is closer to general HSS. In support services there are less employees (8%) than in general HSS who have low work ability.

In our study we first analyzed whether accumulation of job strain, effort-reward imbalance (ERI) and organizational injustice is harmful for work ability. Based on cross-tabulations we observed that 5% of those who are not exposed any of the stressors have low work ability. Exposure to one stressor increase the proportion of low work ability between 9–12% and exposure for two stressors increases the proportion to 16–22%. Of those who are exposed to all stressors 25% report low work ability. Second we analyzed whether violence from clients and ethical strain is associated to low work ability. We observed that of the employees who are not exposed to any source of client violence 9% report low work ability and 8% of the employees who are not exposed to ethical strain report low work ability, respectively. Nevertheless, we found out that as the violence or ethical strain increases, work ability decreases. Of those who have exposed to four different sources of client violence (psychological violence, physical violence, throwing or breaking things, threatening with a weapon) 14% report low work ability. In terms of ethical strain, the proportion is even bigger. Of those who have had to work against values and norms OR own values 14% report low work ability and of those who have had to work against values and norms AND own values 21% report low work ability.

Compared to general HSS, the prevalence of violence from clients and ethical strain are higher in the eldercare, except the support services, where these are less prevalent or in the same level. Thus, these factors may partly explain the higher proportion of employees with low work ability in the elderly care. Therefore, more attention should be focused not only to accumulation of work stressors but also on the preventive actions related to the violence from clients and ethical strain.

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16.28

## DIGITAL TRANSFORMATION: WHAT ROLE DOES COMPUTER USE PLAY FOR THE HEALTH OF EMPLOYEES?

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### Abstract

Tremendous advances in information and communication technologies (ICT) in the last years led to technological change across almost all industries. Occupational tasks and requirements are changing, and a growing literature shows an association to likewise changing working conditions. One prominent thesis claims that occupational change driven by digital transformation creates an increasing number of occupations with low job demands and abolishes (physically) demanding tasks (Ahlers, 2016). In contrast, some studies claim that psychosocial work exposures are increasing in more digitized jobs. For instance, Chesley (2014) find that an increased ICT use is related to increased stress and leisure work. While the link between digital transformation and psychosocial work exposures is becoming better documented, the empirical evidence regarding physical work exposures remains sparse. Further, less is known about the resulting effects of a changed working environment on health.

This paper analyses the relationship between high computer use at work and health among German employees. Computers have become an essential part of daily working life for almost all occupations. However, even though it is impossible to imagine the current world of work without computers, the extent to which they are used still differs considerably not only between but also within occupations. Using pooled data of an employee survey, we estimate how high computer use relates to subjective health and the five most frequent work-related health complaints. We use linear probability models and extend the estimations by an aggregated instrumental variable approach to address endogeneity. For this, we calculate the share of workers using the computer at work frequently within an occupation as an instrument for individual high computer use. Our preliminary results suggest that high computer use at work is associated with better self-rated health and a lower prevalence of backpain and physical exhaustion but a higher prevalence of headaches. Workers in manufacturing occupations as well as medium-skilled employees mainly drive these results. After controlling for physical work exposures, the health promoting effect of computer use becomes much smaller suggesting that, in particular in manufacturing occupations, high computer use is associated with a less physically demanding work environment, which in turn relates to better (physical) health outcomes. The IV estimates largely confirm the results.

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## 'BURNOUT' AND 'NEW PUBLIC MANAGEMENT' – A LITERATURE REVIEW

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### **Abstract**

This presentation aims to discuss the relevance of the sociological approach to 'burnout' in public institutions, focusing on management models based on the principles of 'new public management'. Methodologically, it was carried out a literature review within the scopes of 'burnout' and 'new public management' considering the impact on the wellbeing and mental health of civil servants.

According to Online Etymology Dictionary (2021), the word 'burnout' has taken different meanings over time, applying to different domains. In 1837, it referred to extinction after total fuel consumption. In 1931, it referred to electrical circuits that cease to function due to overload. In 1972, it was used in slang, to refer to drug addicts. In 1975, it started to be commonly used as a mental exhaustion due to the continuous effort.

In his first study on 'burnout' (1974), Freudenberger describes a set of signs and symptoms by presenting a 'burnout' definition "to fail, wear out, or become exhausted by making excessive demands on energy, strength, or resources."

Simultaneously (1976), Maslach and her colleagues develop a study about the dynamics of 'burnout'. They studied how health care and service workers cope with interpersonal stress at work, using cognitive strategies such as 'detachment' from patients or clients.

Maslach et al., presents 'burnout' as a "prolonged response to chronic emotional and interpersonal stressors on the job, defined by the three dimensions of exhaustion, cynicism, and inefficacy" (2001). 'Exhaustion' is related to emotional and physical depleted resources feelings. 'Cynicism' refers to an excessive detached response to the job, and 'inefficacy' is related to a feeling of inadequacy and low competence and productivity at work (Maslach, C.; Leiter, 2016).

These studies were developed with health workers and service occupations and within an interpersonal framework. However, recent theories argue that the organizational environment context should be considered, along with individual and job characteristics (Idem, 2016).

In 2019, World Health Organization considered 'burnout' syndrome as an occupational phenomenon, conceptualized "as resulting from chronic workplace stress that has not been successfully managed" (World Health Organization, 2019).

Despite the existence of thousands of publications on the phenomenon (Schaufeli et al., 2009), there are few studies about the relation between 'new public management' principles and 'burnout', particularly within the sociological framework. Current studies are focused on particular professional groups, or other mental health phenomena, namely stress and bullying (Farr-Wharton et al., 2017; Grima et al., 2020; Pick & Teo, 2017; Plimmer et al., 2017).

As a result of organizational idiosyncrasies, public administration institutions tend to be peculiar contexts for 'burnout' experiences, especially due to administrative reforms based on 'new public management', which advocate the introduction of private management models (Hood & Peters, 2004; Pollitt, C.; Bouckaert, 2011).

Considering the institutional diversity context implementation of 'new public management', it is not possible to find a unique definition. Pollitt and Bouckaert defined it as "a general theory or doctrine that the public sector can be improved by the importation of business concepts, techniques, and values" (2011). Osborne and Gaebler (1992) present some principles of a government within the NPM framework, namely: responsible to steer the delivery of public services; "community-owned"; competitive; mission driven; and who see citizens as costumers.

Some years later, Osborne and Plastrik, (1999) converted these principles in a five C's plan, which includes 'Control', and 'Culture'. 'Control' strategy promotes the community, organizational and employee empowerment and 'Culture' intends to promote culture organizational change, particularly related to employee engagement.

Civil servants 'burnout' experience has an impact on the efficiency and quality of public services. Therefore, it is important to develop a sociological approach about the relation between this managerial reform, in particular its core values of 'flexibility', 'autonomy', 'performance' and 'engagement', and the prevalence of 'burnout'. This knowledge enables to prevent the suffering of civil servants and the dehumanization of public services.

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16.30

## PSYCHOLOGICAL CONTRACT DISRUPTIONS BY UNCIVIL BEHAVIOR

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### **Abstract**

Workplaces without shared organizational values or attentive leaders can become places where uncivil behavior flourishes and spreads causing negative outcomes, including taxing individuals' mental health and work withdrawal (Bunk & Magley 2013). Survey conducted by Cortina et al. (2001) found that up to 71% of the 1,162 employees in the U.S. Eighth Circuit federal court system reported that they experienced such kinds of behaviors within the five years' time. Common uncivil behaviors include ignoring coworkers, or making demeaning comments about coworkers or subordinates (Cortina et al. 2001).

The present research focuses the conceptualization and modeling of psychological contract (PC) dynamics in co-worker communication under the conditions of counterproductive or uncivil behavior acting as a PC disruption. It also studies differences of individual responses when having the exposure of the difficult person behavior.

Following qualitative methodology, a sample of 98 experienced working professionals responded to an open-ended questionnaire regarding the difficult person behavior in their place of work. The content analysis was employed.

According to this study, the negative disruptions can be poisoning to work communities and cause serious negative outcomes to the whole organization. Many respondents said that eventually the whole team was damaged in terms of work spirit and efficiency. The negative disruption gets people to be on guard when encountering a harmful person and that is not normal in workplaces with a positive atmosphere and supportive organizational culture. Employees should not have to operate in fight-or-flight mode, neither try to avoid or manipulate those harmful colleagues.

Workplaces are becoming increasingly diverse, with the differences in views and approaches appreciated and fostered, and the difficulties encouraged to be mitigated by getting along for the overall benefit of organizational goals and success. The results of the present research may be employed by organizational leaders and HR in order to facilitate the processes of organizational supports of supervisors in mitigating negative PC disruptions that are caused by difficult person behavior, even if they are sometimes regarded as only minor accidents. As our research shows, even negative PC disruptions may be supported into the transition to revision phase with the positive connotation – handling a challenging situation well might reinforce an employee's PC rather than lead to exit.

It is the increased leadership challenge to learn separate the genuinely unacceptable disruptive behavior from the different communication styles of a diverse body of employees, each with their own backgrounds, views, work approaches. Appreciating and learning to lead the differences in people is essential for keeping a team together and everybody in it getting along.

Different strategies that people adapted in repairing PC following a negative disruption were identified. These included the call to supervisors for mediation, launching a straightforward opposition to contain difficult person behavior, using acquiescence and accommodation as tactics, responding with avoidance and/or praise.

In their practical implications, the results of the present research benefit organizational leaders and HR in facilitating the processes of organizational support of supervisors in mitigating negative PC disruptions that are caused by difficult person behavior.

The originality value of the research is demonstrated via this study being among the first ones that studies different individual responses when facing uncivil behavior and this study fulfils this gap. This study extends the psychological contract theory, showing how the uncivil behavior impacts on PC.

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16.31

# PRIMARY SCHOOL TEACHERS' JOB STRAIN AND SELF-RATED HEALTH DURING THE REFORM OF THE FINNISH NATIONAL CORE CURRICULUM FOR BASIC EDUCATION – THE ROLE OF SCHOOL NEIGHBORHOOD SOCIOECONOMIC STATUS

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## Abstract

### Background

A new Finnish national core curriculum for basic education became effective in August 2016. Concerns have been raised about how the new aims can be achieved considering limited resources and potentially increased educational needs. Particularly in schools located in socially disadvantaged areas, the conflict between the new aims and available resources may have affected teachers' wellbeing. We aimed to examine potential changes in primary school teachers' wellbeing during this reform and investigated whether these changes differed according to school neighborhood socioeconomic status.

### Methods

Data were drawn from the Finnish Public Sector Study. To assess the potential changes in teachers' wellbeing along with the new national core curriculum, which became effective from 2016 onwards, we used data on job strain and self-rated health of primary school teachers from three consecutive surveys before (from 2014, n=2768 to 2016, n=2059) and during (from 2016 to 2018, n=1940) the implementation of the curriculum. Job strain was based on job demand and job control, and those who had high strain and low control were regarded as having high job strain. Self-rated health was assessed with a single-item measure (very good, good, average, poor, very poor) further dichotomized and used as an indicator of suboptimal self-rated health (poor and very poor). School neighborhood socioeconomic status was determined using small-area level information on household income, educational attainment and unemployment rate, and was linked with individual data using GPS-coordinates. This score was categorized into quartiles of which the highest quartile corresponded to the most disadvantaged area. Log-binomial regression analysis with the generalized estimating equations (GEE) method was used to assess the changes in job strain and self-rated health over the three survey waves.

### Results

At baseline (in 2014, before the reform), 19% of the respondents reported to have high job strain. This proportion increased to 22% in 2016 and to 25% in 2018. Correspondingly the proportion of those having suboptimal self-rated health increased from 14% in 2014 to 17% in 2016 and to 19% in 2018. The changes in job strain and self-rated health were significant both before (2014-2016,  $p < 0.001$ ) and during (2016-2018,  $p < 0.05$ ) the implementation of the curriculum reform, and there was no significant difference in changes between these periods (confidence intervals of mean change estimates overlapped). Teachers working in schools located in the most disadvantaged areas were more likely to have higher job strain and suboptimal self-rated health in each survey waves ( $p < 0.001$  for job strain and  $p = 0.02$  for self-rated health). However, the changes across the survey waves did not differ according to school neighborhood socioeconomic status ( $p = 0.05$  for job strain and  $p = 0.54$  for self-rated health).

## Conclusions

An increase in job strain and suboptimal self-rated health was noticed among primary school teachers before and during the implementation of the new national core curriculum. There was no significant difference in change between these periods, and thus it is not likely that the increase was due to the reform as such. Lower level of wellbeing was noticed among teachers working in schools located in the most disadvantaged area, but no effect modification of the reform according to school area socioeconomic status was observed.

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16.32

# BORING, STRESSFUL OR REWARDING: IDENTIFYING STRAINING AND USEFUL MOMENTS IN REMOTE WORKING GROUP MEETINGS

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## Abstract

Remote working group meetings have become common during COVID -19 pandemic. Video conferencing has its' pros and cons. In virtual meetings non-verbal communication does not transmit completely. This makes it difficult for the participants to follow the reactions of others, to adapt one's responses to their conversational moves and to manage impressions that others will have of them. On the other hand, video as a medium promotes distance that may be beneficial when working with emotionally laden subjects. Yet, we lack detailed empirical information on the stressfulness of the remote working group meetings for the participants and on the optimal level of arousal for working jointly in virtual environments.

The study we present in this paper is part of a larger research project: "Reducing strain and increasing gain of remote work group meetings with physiological indicators". Consortium partners in this research project are University of Jyväskylä (Faculty of Education and Psychology) and University of Oulu (Faculty of Information Technology and Electrical Engineering/ Center for Machine Vision and Signal Analysis). The study is funded by The Finnish Work Environment Fund. The research project consists of two separate but interrelated studies. The aim of the study I is to investigate, what is an optimal state of physiological arousal for group discussions, and how it can be facilitated in interaction during group coaching sessions. The aim of the study II is to develop a procedure for measuring heart rate (and breathing) from face videos in a conversational setting during which participants may talk and express emotions.

The data consists of video recorded real work group coaching meetings and their written transcripts. The meetings were held in videoconference environment (Zoom). During the meetings each participant recorded their own face video with OBS studio plus virtual camera and their heart rate by using the Beurer finger pulse oximeter. After the meeting each participant sent recorded videos and pulse oximeter measures to the researchers and evaluated the meeting by answering to questionnaire concerning the stressfulness and usefulness of meeting.

In this paper, we focus on the study I. Qualitative analyses were used to locate and identify interesting episodes of the coaching meetings, such as episodes where there were significant emotional expression, like-mindedness / agreement, disagreement or friction, shared understanding or insight. Moreover, questionnaire data were used to locate important segments (useful and stressful moments). Finger pulse oximeter data were used to identify moments of the participants' high physiological activation. Psychophysiological findings were then integrated into conversational activities and session interactions.

In this paper, we provide initial findings of the study I. By integrating physiological data with qualitative analyses of session interactions, we will identify straining and useful moments in coaching meetings. The first qualitative findings of our study suggest that the organisation of conversations is different in virtual meetings than in face-to-face meetings. When we used the data from our previous studies concerning face-to-face interaction in group coaching meetings as reference material, we observed that conversation turns in virtual meetings are longer and less overlapping speech occurs in videoconferences than in face-to-face meetings. Also, without nonverbal cues it can be difficult to know to whom the talk is directed. This may

make it difficult for the participants to keep up optimal level of arousal during the meetings. Technical problems are quite common, and they disrupt the flow of conversation. When faced with technical problems, participants often start to talk about those problems and the topic of the conversation thus changes. The analysis of the questionnaire data showed that this caused frustration and feeling of stress in the participants. This can have negative effects in their level of arousal regarding working. Analysis of the questionnaire data showed also that inquiries where each participant in turn were asked to tell the consultant and other participants about their ideas and feelings were considered as stressful. In virtual environment one does not necessarily know in advance when one has a turn to speak, as one often does in face-to-face situations. Because of this, one may have to be prepared for one's turn and thus keep up vigilance for a long time and this can be felt as stressful. Based on these initial findings, we suggest that besides securing sufficient technical training and support for the participants to avoid and to overcome technical problems, it also could be beneficial to consider the quality of communication when trying to find ways to promote optimal arousal and to reduce strain in remote working group meetings.

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16.33

## THE RELATIONSHIP BETWEEN PERCEIVED STRESS AND TECHNOSTRESS DURING COVID-19 IN HIGHER EDUCATION ONLINE WORKING

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### Abstract

This presentation reports findings from a survey study on technostress during the COVID-19 pandemic in a Finnish institution of higher education (n = 242). The aim of this study was to explore the prevalence and distribution of technostress and overall stress among university professionals due to the pandemic. The objective was also to assess the relationship between the use of remote negotiation tools and use of technology overall. The data was collected with an online survey tool on February 2021 from 410 staff members. The survey consisted of items on perceived stress (Cohen et al. 1994), perceived technostress (Salanova et al. 2013) and technostressors (Ragu-Nathan et al. 2008). The instruments were part of the survey, which included questions on use of digital technology, application software and remote negotiation tools. Survey also included an open-ended question on experienced technostress.

Descriptive statistics were used to study the prevalence and distributions of technostress and stress. T-test were used to study the statistical difference between the sub-groups. Linear regression analysis was used to ascertain the relationship between variables. SPSS-26.0 and Excel were used in statistical analysis.

The research questions were the following:

1. How are different occupational groups responding to the change to more digitally mediated work in terms of technostress?
2. What is the relationship of technostress, demographics and contextual factors to the different levels of stress?

The mean age of the studied population was 50.3 years (SD 10.2) ranging from 24 – 71. The participants had work experience on average 13.6 years (SD 10.5) ranging from 1-46. The average PSS-4 score was among the whole population 5.09 (SD 3.13, Range 0-14). Men reported the average PSS-4 score 5.28 (SD 3.09, Range 0-14), whereas women reported 4.87 (SD 3.16, Range 0-12) respectively. About 48% of men reported a higher PSS-4 score than 5, and the corresponding figure regarding women was 40%. The difference in PSS-4 scores between men and women was statistically non-significant (P=0.33). The average PSS-4 score among teachers was 5.84 (SD 3.21), and among officers 4.31 (SD 2.81). About 53% of teachers reported a higher PSS-4 score than 5, whereas the corresponding figure regarding officers was 35%. According to t-test the difference in the PSS-4 scores between teachers and officers was statistically significant (t(241)=3.94, P<0.001).

Respondents assessed how many hours they used remote negotiation tools in a week before Covid-19 and currently. The average hours of use were before Covid-19 on average 4.94 hours (SD 6.10) and currently 15.00 hours (SD 9.75). There was an increasing trend among both teachers and officers. The average use of remote negotiation tools increased among teachers from 6.06 (SD 6.96) hours to 18.19 (SD 9.65), and among officers from 3.68 (SD 4.72) to 11.42 (SD 8.68) hours. The increase in both

groups was statistically significant. Also, the difference of using remote negotiation tools between teachers and officers was statistically significant before Covid-19 and recently.

The relationship of age, gender, technostressors, perceived technostress, increase in online conferencing and teacher occupation to levels of PSS-4 were studied with a linear regression analysis. The model indicated ( $R^2 = .43$ ) that technostressors were the most significant predictor of PSS-4 stress ( $\beta = .45$ ), followed by age ( $\beta = -.24$ ) and perceived technostress ( $\beta = .23$ ). It would seem that higher levels of technostressors and perceived technostress increase general experiences of occupational stress while older workers experience significantly less stress. These relationships were statistically significant ( $P < .001$ ).

The teachers reported difficulties in adapting their interaction methods in teaching to online settings especially if it was not in lecture formats. Then again, many enjoyed the freedoms and flexibility teleworking from home. Rather than implying personal stress teachers expressed worry on behalf of their students capabilities to cope; "Presence, interaction, sociality, which are important for teaching and, above all, learning, are latent features of learning that are lost. The actions of this Corona period have already clearly shown that young people have increased mental health problems, dropped out of school and problems with life management." The online conferencing can be accepted as an unavoidable necessity in teaching but inability to avoid aforementioned outcomes of limited interaction is providing a negative feedback loop for teachers evaluation of their occupational success.

We used a cross-sectional study design, which assessed the current stage of technostress and overall stress. However, we were not able to define the baseline of perceived stress before Covid-19, neither assess the impact of other variables than use of technology and online tools on perceived stress. The PSS-4 scores among the participants were quite comparable to earlier studies (Lesage et al. 2012, Vallejo et al. 2018). However, the PSS-4 scores and results should be compared and interpreted with caution, because the participants in the studies are not comparable and there are many uncontrollable variables, which may affect perceived stress.

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16.34

## HAPPY HOME OF ICE - EXPLORATION OF WORK-LIFE BALANCE OF REMOTE WORKERS UNDER COVID-19

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### **Abstract**

#### *Background and research purpose*

As a result of the COVID-19 pandemic, many of us are working from home. While remote working in earlier literature has been considered a benefit limited to few, it is now widely adopted as a mandatory form of work, likely to permanently affect the way we work in the future.

Literature to date is inconclusive on the risks and effects of remote working. While some studies indicate notable benefits (improved work-life balance and effectiveness), others warn for the latent risks connected to remote working (blurred boundaries, continuously switched-on). Literature to date regards remote working as a voluntary or partial arrangement, whereas new research is needed to build understanding of how work-life balance can be supported in the full-time and long term context of remote working. This study builds on the three dimensional balance construct by Casper et al (2017), proposing that employees evaluate the combination of their work and nonwork roles based on an affective factor (emotions), effectiveness factor (success) and involvement factor (engagement). Balance is achieved when individuals feel that these factors commensurate with the value they attach to the role. In this context, other empirical studies to apply the model in remote working have not been found, and this is the first study with such focus. This study also extends the literature on remote working in the context of COVID-19 and mandatory remote working.

The purpose of this study is to firstly describe specific features in remote working impacting the balance construct, secondly to explore how the work-nonwork balance is altered in remote working, and finally to understand the outcome of these changes.

## *Content analysis*

The analysis is based on 75 semi-structured interviews with home working employees (average age 41,7, 52% women, 28% represented supervisors) from 6 large-size corporations with operations in Finland.

## *Findings*

Working extensively and prolonged from home affects the employees possibilities to adapt time spent on work and leisure. Remote workers describe a good work-nonwork balance as experience of having sufficient resources and energy to manage both work and home related duties and responsibilities. The specific features of remote working described as promoters for the balance experience were found to be flexible work arrangements in terms of time and place, decreased commuting between home and office, less frequent travelling due to COVID-19 restrictions, increased autonomy and trust from employer as well as altered work-life policies that encouraged combine work and spare time activities during working hours.

On the basis of these features, the balance construct was affected in all of the three levels, the affective, effectiveness and involvement levels. The influence over the affective factors were described as increased happiness, as remote working gave them more in charge of their lives, in both domains. Some even felt happier in their marriages, and many expressed Additional positive affects toward their employer for showing trust and because of the new work-life policies supporting the reconciliation of work and nonwork demands.

The effectiveness factors were equally impacted in both the work and the home domain. Flexible work arrangement, in terms of place and time, allowed employees to work where and when it best suited them. For example, many felt they could work more effectively from home, since they could focus on work without interruptions. Others described they could attend home chores during the days and work when they felt most productive, e.g. early mornings. The primary change was connected to the employee's ability to impact own effectiveness by planning the day based on individual and family needs. Being able to effectively combine work and nonwork, the employees enjoyed improvements in both domains.

The Involvement factors were described as control over one's schedules and time allocation, which improved given the greater autonomy in working. A tangible example of it is the time recovered from commuting, which the employees could use for activities they valued, for some it had increased the working hours, and for others it meant additional time for rest and leisure. Working without spatial bounds also provided opportunities to be more present at home and for the family.

The remote workers described beneficial outcomes connected to their improved balance experience.

They reported positive impacts such as decreased stress levels, increased energy level at afterwork hours and improved life satisfaction. However, the work-nonwork balance was influenced by the way the individual chose and was able to manage the balance. The remote workers described the importance of self-established routines, control over workload and working hours and prevention of work intrusions into one's leisure. Similarly, they reported the significance of the employee's support, in permitting boundless working, showing trust, managing workload and having sufficient work-life culture and practices in place.

Based on the result we recommend employers to establish culture that emphasizes trust and employee autonomy, and supports flexible work arrangements (with work-life programs and benefits) and measures employee work-life balance as a key indicator of well-being.

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