

Working conditions and sustainable work

Psychosocial risks to workers' well-being: Lessons from the COVID-19 pandemic



Psychosocial risks to workers' well-being: Lessons from the COVID-19 pandemic



When citing this report, please use the following wording:

Eurofound (2023), *Psychosocial risks to workers' well-being: Lessons from the COVID-19 pandemic*, European Working Conditions Telephone Survey 2021 series, Publications Office of the European Union, Luxembourg.

Authors: Lise Szekér, Maria Gaudiino, Anja Van den Broeck, Karolien Lenaerts, Sem Vandekerckhove and Steven Vanmarcke (HIVA – KU Leuven); Oscar Vargas Llave, Viginta Ivaškaitė-Tamošiūnė and Sara Riso (Eurofound)

Research managers: Oscar Vargas Llave, Viginta Ivaškaitė-Tamošiūnė, Sara Riso and Agnès Parent-Thirion

Research project: Psychosocial risks – trends and policies addressing the risks (220103)

Luxembourg: Publications Office of the European Union, 2023

Print: ISBN 978-92-897-2370-1 doi:10.2806/132752 TJ-02-23-116-EN-C

PDF: ISBN 978-92-897-2371-8 doi:10.2806/350964 TJ-02-23-116-EN-N

This report and any associated materials are available online at <https://eurofound.link/ef23001>

© European Foundation for the Improvement of Living and Working Conditions, 2023

Reproduction is authorised provided the source is acknowledged.

For any use or reproduction of photos or other material that is not under the Eurofound copyright, permission must be sought directly from the copyright holders.

Cover image: © DC Studio

Any queries on copyright must be addressed in writing to: copyright@eurofound.europa.eu

Research carried out prior to the UK's withdrawal from the European Union on 31 January 2020, and published subsequently, may include data relating to the 28 EU Member States. Following this date, research only takes into account the 27 EU Member States (EU28 minus the UK), unless specified otherwise.

The European Foundation for the Improvement of Living and Working Conditions (Eurofound) is a tripartite European Union Agency established in 1975. Its role is to provide knowledge in the area of social, employment and work-related policies according to Regulation (EU) 2019/127.

European Foundation for the Improvement of Living and Working Conditions

Telephone: (+353 1) 204 31 00

Email: information@eurofound.europa.eu

Web: <https://www.eurofound.europa.eu>

Contents

	Executive summary	1
	Introduction	3
	Psychosocial workplace risks during the COVID-19 pandemic	3
	Healthy and safe working conditions: An EU policy priority	4
	Scope and structure of the report	5
1.	Mapping psychosocial risks at work	9
	Theoretical framework	9
	Job stressors	10
	Job resources	16
	Health and well-being outcomes	19
	Summary	24
2.	Working time and work intensity	25
	Profile of employees subject to high work intensity and unsocial working hours	26
	Effects on health and well-being	29
	Summary	33
3.	Job insecurity and financial worries	35
	Profile of employees subject to job insecurity and financial worries	36
	Effects on health and well-being	38
	Summary	42
4.	Violence and harassment at work	43
	Profile of employees subject to adverse social behaviour and discrimination	44
	Effects on health and well-being	46
	Summary	50
5.	Risks associated with telework	51
	Profile of employees who telework	52
	Effects of telework on health and well-being	54
	Summary	60
6.	Conclusions	63
	Risks associated with working time and work intensity	63
	Risks associated with job insecurity and financial worries	64
	Risks associated with violence and harassment and discrimination at work	65
	Risks associated with telework	65
	Final remarks	66
	References	67
	Annexes	73
	Annex 1: Construction of variables for resources, stressors, and health and well-being outcomes	73
	Annex 2: Additional information on statistical methods and analyses	78
	Annex 3: Multivariate logistic regression using telework categories	80

Abbreviations

ESENER	European Survey of Enterprises on New and Emerging Risks
EU-OSHA	European Agency for Safety and Health at Work
EWCS	European Working Conditions Survey
EWCTS	European Working Conditions Telephone Survey
ICT	information and communications technology
ILO	International Labour Organization
ISCO	International Standard Classification of Occupations
MSD	musculoskeletal disorder
NACE	Nomenclature of Economic Activities
WHO	World Health Organization
WHO-5	World Health Organization Well-Being Index

Executive summary

Introduction

Psychosocial risks are defined as social and organisational aspects of the design and management of work that could cause physical or psychological harm. Besides having an impact on workers, such risks also have important societal and economic implications, for example related to rising health and social expenditure and productivity losses. As absences from work because of mental ill-health are on the rise, EU policymakers and decision-makers are striving to better understand psychosocial risks in the workplace, what drives them and their impact.

This report examines the prevalence of some of the most important psychosocial workplace risks, or job stressors, experienced by employees: high work intensity, unsocial working hours, job insecurity, financial worries, and violence and harassment at work. It also looks at the availability of job resources that mitigate the negative effects of stressors, such as flexible working hours and training opportunities. The study is based on data from the European Working Conditions Telephone Survey (EWCTS) in 2021, reflecting the situation during the COVID-19 pandemic. Moreover, the report focuses on the risks associated with telework, which has expanded dramatically since the start of the pandemic.

Policy context

The Framework Directive for occupational safety and health imposes a legal obligation on employers to prevent, assess and combat safety and health risks – including psychosocial risks – in the workplace. Its implementation is uneven across Member States because psychosocial risks and the approach and scope of legal frameworks dealing with them differ by country. The EU social partners' framework agreements on tackling violence and harassment and stress at work played a role in developing related regulations in most Member States, but they may not be sufficient to fully address these risks. The EU Strategic Framework on Health and Safety at Work 2021–2027 states that changes in working conditions are required to tackle psychosocial risks.

After the pandemic, mental health became part of the political discussion at EU level. Consequently, a resolution of the European Parliament called on the EU institutions and Member States to recognise the high prevalence of work-related mental health problems and

to find ways to help prevent them. It also emphasised the need to eradicate violence, discrimination and harassment at work. The European Commission's communication on a comprehensive approach to mental health, from June 2023, proposes the possibility of an EU-level initiative on psychosocial risks in the medium term.

Key findings

- Changing European workplaces, characterised by rising digitalisation, are seeing increased prevalence of high work intensity (reported by 4 in 10 employees) and unsocial working hours, including working in one's free time (reported by a similar proportion). Working at high intensity was most common among managers, professionals, technicians, and clerical and support workers, particularly in the construction, financial services and health sectors. Unsocial working hours were most common among managers across sectors and low-skilled workers in the transport and storage sector. These job stressors have a negative impact on health and well-being and work-life balance.
- Some 14% of employees reported job insecurity, and 26% reported having financial worries. Job insecurity was most prevalent among employees who were young, had only a primary education, worked in elementary occupations or worked as plant and machine operators, craft workers or sales workers. Among employees with only a primary education, half said that they struggled to make ends meet, as did high shares of employees in elementary occupations and service and sales. Those experiencing these problems often lacked job resources, which made them feel unheard, unseen, unsupported and unable to improve their situation.
- Some 13% of employees reported having been exposed to adverse social behaviour (verbal abuse or threats, unwanted sexual attention, or bullying, harassment or violence), while 12% felt discriminated against at work. Employees in the health and public administration sectors and in low-skilled occupations were most likely to be subjected to these behaviours. Within those sectors and occupations, employees who frequently worked with third parties (such as clients and patients) were most affected. Adverse social behaviour and discrimination have a very negative and long-lasting impact on health and well-being.

- In general, employees who teleworked, whether some or all of the time, had more resources than those working only at their employer's premises. This is to some extent related to their job characteristics in terms of occupation and sector. However, many reported high work intensity and working in their free time.
- The prevalence of psychosocial risks differs across Member States, reflecting differences in both labour market structures and the effectiveness of policies aimed at combating such risks. The variation in prevalence is also very likely to be related to the different regulatory frameworks addressing psychosocial risks.
- From a sectoral perspective, highly skilled and medium-skilled workers in the health sector are most likely to experience adverse social behaviour, to work at high intensity and to work unsocial hours; therefore, a relatively high percentage of doctors, nurses and other health professionals are at risk of having their health damaged by work.
- In some cases, workers who experience one psychosocial risk are more likely to experience other work-related risks. This implies that a holistic approach to psychosocial risk prevention is required in policy and practice, considering the entire social environment and the workplace culture and putting in place the resources conducive to its improvement (such as social support and organisational participation). In other cases, for example when workers have job insecurity and financial worries, a macroeconomic and social perspective must also be considered.
- The uneven distribution of risks by sector and occupation requires specific actions and social dialogue at company and sectoral levels. For example, work intensity is more prevalent among managers and professionals across sectors, whereas job insecurity and financial difficulties are more prevalent among lower-skilled occupations, while adverse social behaviour and discrimination are prevalent among those frequently working with third parties.

Policy pointers

- The increased prevalence of some psychosocial risks in EU workplaces during the pandemic and their harm to workers' health require action from governments and the social partners to ensure that the occupational health and safety principles enshrined in the Framework Directive are implemented effectively regarding psychosocial risks.
- Policy should aim to reduce both the levels of psychosocial risks in workplaces across the EU and the variation in their prevalence across the Member States.
- With the expansion of telework, a high percentage of EU employees are experiencing work-life interference, high work intensity and unsocial working hours. Addressing the high prevalence of these risks in light of the potential further expansion of remote and flexible work requires specific attention, perhaps in different regulatory areas (such as occupational safety and health, working time, and the right to disconnect). In addition, the advantages of remote work may not be accessible to the whole workforce and, therefore, the right to a good work-life balance and access to flexible work and other psychosocial resources should be provided through other measures.

Introduction

Work-related psychosocial risks are one of the main challenges to the health and well-being of workers in the European Union today. These risks are ‘aspects of the design and management of work, and its social and organisational contexts, that have the potential for causing psychological or physical harm’ (Eurofound, 2022a). Psychosocial risks cause personal suffering and have a considerable impact on organisations. A joint study by Eurofound and the European Agency for Safety and Health at Work (EU-OSHA) (2014) found that 25% of workers experience work-related stress during all or most of their working time. A similar share of workers indicate that their work has a negative impact on their health. Work-related stress and psychosocial risks emerged as the second most frequently reported health issues in Europe in the 2019 wave of the European Survey of Enterprises on New and Emerging Risks (ESENER), after musculoskeletal disorders (MSDs), which themselves are affected by psychosocial risks (EU-OSHA, 2019; EU-OSHA, 2021a, 2021b). About 80% of enterprises indicated that work-related stress is of some concern or is a major concern (Eurofound, 2017a; EU-OSHA, 2019).

Mental health problems attributable to workplace psychosocial risks also have significant societal and economic implications, for example in terms of loss of productivity or absenteeism and presenteeism. For instance, in Germany, absences from work due to mental illness reached a record high in 2021, with an increase of 41% compared with 10 years previously (DAK-Gesundheit, 2021). On average, each case of stress-related ill-health leads to the loss of 30.9 working days (Mental Health Foundation, 2007). A reduction in physical and psychological health due to stress may also cause suboptimal performance, which may lead to accidents as well as to quality problems and reduced productivity, thereby augmenting operational risks (Nahrgang et al, 2011; EU-Compass for Action on Mental Health and Well-being, 2017). The total cost of mental health problems was estimated in 2014 to be more than 4% of gross domestic product across the 27 EU Member States and the United Kingdom (EU-OSHA, 2014). This amount increased during the COVID-19 pandemic, as governments freed up additional resources to strengthen the responses of healthcare systems (OECD and European Union, 2020).

The upward trend in mental ill-health warrants greater attention in policymaking in relation to the psychosocial aspects of health and safety at work. Data from the European Company Survey 2020 show that health and safety services were used to varying degrees as preventive measures in EU companies surveyed during

the COVID-19 pandemic, and only 35% provided their employees with training on the prevention of psychosocial risks (Eurofound, 2021a). The effective prevention and management of psychosocial risks is even more critical at a time when the workforce is recovering from the high pressure and fatigue experienced during the COVID-19 pandemic. This is, for example, the case for forms of employment characterised by flexible working times, high work intensity and – in some cases – a feeling of being constantly connected to work. Furthermore, risks such as job insecurity and financial insecurity, sometimes present even among those with a job (Eurostat, 2022), and the devastating impact on health and well-being of violence and harassment in the workplace during and following the COVID-19 pandemic also deserve attention in research and policymaking.

Psychosocial workplace risks during the COVID-19 pandemic

Some recent findings from the literature about the impact of the pandemic on psychosocial risks are worth highlighting.

During the COVID-19 pandemic, governments worldwide implemented strict public health measures to contain the spread of the virus. These changed, overnight, the way people lived and worked (Eurofound, 2022b). During this time, the prevalence of mental health issues substantially increased globally. According to the World Health Organization (WHO), there was a 25% increase in the prevalence of depression and anxiety in the first year of the pandemic (WHO, 2022). National cross-sectional studies, for example in France (Dares, 2021), Italy (Rossi et al, 2020) and the United Kingdom (Ferry et al, 2021), also point to a sharp decline in mental health during the pandemic. This increase in mental health issues was evident from the Flash Eurobarometer – OSH Pulse survey, conducted in April and May 2022: more than 4 out of 10 respondents across the EU agreed that they had experienced an increase in work-related stress as a result of the COVID-19 pandemic (EU-OSHA, 2022). The rise in stress was accompanied by high levels of psychosocial risks: about 4 in 10 respondents to the Flash Eurobarometer stated that they were exposed to severe time pressure or an overload of work, while about 26% reported that communication or cooperation within their organisation was poor, and 18% said that they lacked autonomy or lacked influence over the pace of their work or work processes (EU-OSHA, 2022).

The impact of the COVID-19 pandemic on working conditions has been studied extensively by Eurofound (see Eurofound, 2020a, 2020b, 2021b, 2021c, 2022b, 2022c, 2022d, 2022e) and EU-OSHA (see EU-OSHA, 2020, 2021c, 2022). A recent analysis of the data collected as part of the European Working Conditions Telephone Survey 2021 (EWCTS 2021) (Eurofound, 2022b) and multiple rounds of data collection between April 2020 and May 2022 through the *Living, working and COVID-19* e-survey (Eurofound, 2020b, 2021b, 2022c) indicated that workers in the EU27 experienced work differently during the pandemic depending on their own attributes and position in the workforce.

Furthermore, some of the challenges that were already present in the labour market as regards psychosocial risks intensified during the pandemic (Timming et al, 2021; WHO, 2022); the temporary and permanent lay-off of workers led to increased job and income insecurity, loneliness, social isolation, health and safety concerns, and financial troubles. The rise in psychosocial risks, however, was not met with additional mental health services provision (WHO, 2022). On the contrary, such provision was disrupted by lockdowns in many countries. Overall, the pandemic exacerbated the existing psychosocial risks in the changing world of work and raised new concerns regarding mental health (ILO, 2020; Martinez, 2020).

The pandemic affected different groups of workers to varying degrees. There is evidence of high levels of psychological distress among those permanently laid off, those who were sick or self-isolating, and those who had to reduce their working hours due to caring responsibilities. In terms of occupational groups, frontline workers, for example, fared poorly on several fronts (Eurofound, 2022b).

Furthermore, findings from the EWCTS 2021 show that over 40 million (2 out of 10) employees teleworked across the EU in 2021, confirming the doubling of the number of employees teleworking since 2019 (Eurofound, 2020a, 2022d). While there was a small decline in 2022, the upward trend in telework is set to resume, as the number of teleworkable jobs is increasing and more employees and employers prefer hybrid working. These new ways of working affect the overall organisation of work and working conditions, as well as the nature of the psychosocial risks experienced by employees.

In this context, according to ESENER findings, the share of companies in the EU discussing the potential impact of digitalisation on employees' health and safety is relatively small (24% in 2019). While this share is likely to have increased following the pandemic, digitalisation remains an issue to be addressed in most European workplaces.

Healthy and safe working conditions: An EU policy priority

Since the signing of the Treaty of Rome in 1957, which established the European Economic Community, the EU has been a frontrunner in setting high standards for workers' protection against health and safety risks at work. According to Article 153 of the Treaty on the Functioning of the European Union, the EU can adopt directives setting out minimum requirements and can support and complement the activities of the Member States that ensure healthy and safe working environments. Article 31(1) of the EU Charter of Fundamental Rights provides all workers with the right to fair and just working conditions that respect their health, safety and dignity. This principle is echoed in the European Pillar of Social Rights, particularly in Principle 10, on healthy, safe and well-adapted work environments, but also in other principles aimed at fostering fair working conditions, such as Principle 5, on secure and adaptable employment; Principle 6, on wages; and Principle 8, on social dialogue and the involvement of workers.

The Framework Directive for occupational safety and health (Council Directive 89/391/EEC) sets out general principles and obligations concerning the protection of workers' health and safety. The directive imposes a legal obligation on employers to protect workers in every aspect of their work by preventing, assessing and combating risks to their safety and health. The principles enshrined in the directive apply to all kinds of work-related risks, including those of a psychosocial nature.

The EU Strategic Framework on Health and Safety at Work 2021–2027 explicitly notes that changes in the work environment are required to tackle psychosocial (and ergonomic) risks affecting workers' mental health. Furthermore, to deliver on the principles of the Pillar, the EU has adopted an ambitious action plan. As part of this action plan, the European Commission is pursuing several measures, including following up on the implementation of the Working Time Directive and the Work–Life Balance Directive, updating the strategic framework to better combat traditional and new work-related risks in the context of digitalisation and the COVID-19 crisis, and monitoring the debate on the right to disconnect. Moreover, the Directive on Transparent and Predictable Working Conditions (Directive 2019/1152), the Directive on Adequate Minimum Wages (Directive 2022/2041) and the recently adopted Directive on Pay Transparency (Directive 2023/970) – which was approved by the European Parliament on 30 March 2023 – are direct follow-ups to the establishment of the Pillar.

The EU social partners are also actively contributing to the improvement of working and employment conditions, including in the areas of work-related stress and psychosocial risks. This is evidenced by the implementation of framework agreements on, for instance, telework (2002), work-related stress (2004), violence and harassment at work (2007), active ageing and an intergenerational approach (2017), digitalisation (2020), parental leave (1996; revised in 2009), part-time work (1997) and fixed-term contracts (1999) (implemented by Council Directive 1999/70/EC).¹

A new framework agreement on digitalisation in central government administrations (2022) has been adopted and the social partners have requested that it be implemented through EU law. All contain provisions that have, to differing extents, an impact on some psychosocial risks at work.

Furthermore, in the Strategic Framework on Health and Safety at Work, the Commission asks the EU social partners to act to update existing agreements related to psychosocial risks. This is in line with the conclusions of the International Labour Organization (ILO) that collective bargaining can contribute to safe and healthy workplaces and be an important source of resilience during economic and social crises such as the COVID-19 pandemic (ILO, 2022). Furthermore, the ILO, in 2021, published a new standard on psychological health and safety in the workplace, which provides guidance on the management of psychosocial risks within occupational health and safety management systems based on International Organization for Standardization standard 45001 (ISO, 2021). ILO Convention 190² and Recommendation 206³ introduced measures addressing the problem of workplace violence, which was exacerbated by the COVID-19 pandemic and particularly affected workers in frontline services (Dye et al, 2020; Serafin et al, 2022).

At EU level, a peer review hosted by Sweden in 2019 concluded that EU Member States have different legislative and enforcement approaches to addressing psychosocial risks at work, which is partly due to their different national cultures and practices: some have detailed binding legislation, and others have general legislation.⁴

The role of worker representatives in addressing psychosocial risks and work-related stress is not always clear, despite the fact that worker participation is a key component of effective occupational safety and health management systems. In addition, psychosocial risks are often not explicitly addressed in collective agreements, and workers may not be informed, consulted or even trained on these (EU-OSHA, 2019).

In 2022, the European Parliament called on the Commission to step up its efforts in its report on a new EU strategic framework on health and safety at work post 2020 (European Parliament, 2022). Among other things, the Parliament urged the Commission to propose ‘a directive on psychosocial risks and well-being at work aimed at the efficient prevention of psychosocial risks in the workplace ..., including risks caused by structural problems such as work organisation (i.e. poor management, poor work design or not properly matching workers’ knowledge and abilities with the assigned tasks)’. The Commission’s communication on a comprehensive approach to mental health, published in June 2023, proposes the possibility of implementing an EU-level flagship initiative on psychosocial risks in the medium term.

Scope and structure of the report

This report investigates working conditions in relation to psychosocial risks using data from the EWCTS 2021 by examining (a) the self-reported prevalence of work-related psychosocial risks in the EU, (b) the associations between psychosocial risks and outcomes, and (c) factors in the work environment that may moderate these outcomes. Box 1 includes a short description of the EWCTS 2021.

1 <https://www.etuc.org/en/social-partners-framework-agreements>

2 See full text at https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100_ILO_CODE:C190

3 See full text at https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100_ILO_CODE:R206

4 <https://ec.europa.eu/social/main.jsp?langId=en&catId=1070&newsId=9803>

Box 1: Survey information

Through the European Working Conditions Survey (EWCS), Eurofound collects data on working conditions across Europe using a highly robust survey methodology. However, due to the COVID-19 pandemic, the traditional face-to-face methodology normally used for the EWCS had to be dropped in favour of telephone interviewing, resulting in the fielding of an extraordinary edition, the EWCTS, in 2021.

It is possible to identify at-risk groups using the EWCTS 2021 data, as the data are comparable and reliable across Europe. Despite the unusual circumstances in which the EWCTS was implemented, the data collected cover 36 European countries, with a total sample of 71,758 employees and self-employed people, of whom 58,403 were workers from the EU Member States. The focus of this analysis is on employees (excluding the self-employed), resulting in a total sample size of 51,111 employees in the EU27 in the current analysis. In some cases, to illustrate the change in working conditions over time, data from the EWCS 2015 were used, although comparability in general is limited due to the different methods of data collection. Therefore, the findings from these comparisons should be interpreted with caution.

Detailed information on the survey is available on Eurofound's website (Eurofound, undated). EWCTS 2021 data have been freely available for non-commercial purposes since November 2022, through the UK Data Service (Eurofound, 2022f) (see Annex 1).

The report is structured as follows.

Chapter 1 examines the prevalence of psychosocial risks and their impact on the health and well-being of workers in the EU. This analysis provides a general overview of the most prevalent psychosocial risks in European workplaces, which are interpreted using a unified theoretical framework, primarily based on the job demands–resources model. This approach sets the stage for a more in-depth analysis of the most prevalent or detrimental psychosocial risks and those that increased during the pandemic.

Chapter 2 analyses working conditions related to working time and work intensity. Changes to the nature of work, partly driven by the ever-increasing use of digital technologies at work, significantly influence working time patterns. In addition, the COVID-19 pandemic disrupted working time arrangements in various ways; in 2021, around 1 in 10 employees worked 48 hours or more per week, and one in five employees worked at night. Such unsocial working hours may be associated with higher levels of psychosocial risks (such as high work intensity, work–life interference, high emotional demands and adverse social behaviour) and have negative implications for employees' health and well-being.

Chapter 3 addresses risks that are affected by broader labour market and economic developments: job insecurity and financial worries. Changes in the EU labour market have resulted in a transition from standard forms of employment (associated with

full-time, long-term and secure jobs with entitlement to benefits) to new and more flexible forms of employment. About 8% of employees became unemployed in the first months of the pandemic, and many workers experienced cuts in their working hours. These developments may have increased not only feelings of job insecurity but also financial worries and psychological distress, as about one in four employees struggled to make ends meet during the crisis. The link between job insecurity and financial insecurity and the impact of psychosocial risks is also assessed.

Chapter 4 shifts focus to adverse social behaviour and discrimination at work, both of which are associated with negative health and well-being outcomes, and the impact these have on employees. Some evidence indicates that the COVID-19 pandemic aggravated the prevalence and impact of these behaviours in the workplace, especially in frontline services.

Chapter 5 explores risks associated with telework. There was a sudden rise in teleworking during the pandemic, with the percentage of employees working at least occasionally from home rising dramatically in the year following the outbreak. The changing working arrangements in digitalised workplaces have an impact on the nature of the psychosocial risks faced by workers.

Chapter 6 presents the main conclusions on the effects of psychosocial risks on the health and well-being of employees in the EU and reflects on how working conditions could be improved.

Box 2: Methodological information

Several theoretical models provide insights into the relationship between psychosocial risks and health. These include stress models, such as the transactional model of stress and coping (Lazarus and Folkman, 1984) and the conservation of resources theory (Hobfoll, 1989); equity and justice theories, such as the effort–reward imbalance model (Siegrist, 1996) and the concept of organisational justice; and job characteristics models, such as the job demand–control model (Karasek, 1979), the job demand–control–support model (Karasek and Theorell, 1990) and the job demands–resources model (Bakker and Demerouti, 2007).

In the current report, a unified theoretical framework is used, mainly based on the job demands–resources model (Bakker and Demerouti, 2007). This model assumes that both job stressors and job resources are associated with health and well-being, whereby stressors are health-impairing and resources are motivational. In addition to this broad job design model, the report also considers, where relevant, other theoretical models when interpreting results. This approach allows the impact of rapidly changing working conditions on specific groups of workers and the association between working conditions and health outcomes to be assessed.

The indicators capturing psychosocial risks and the health and well-being outcomes, described in the theoretical framework provided in Chapter 1, are constructed based on the items available in the EWCTS 2021 (see Annex 1). These variables also allow the assessment of the associations between risks and outcomes using a cross-sectional logistic regression analysis controlling for gender, age and country (similar to the method used in Eurofound and EU-OSHA, 2014). However, as the method of data collection for the EWCS had to be adapted in 2021 from face-to-face to telephone interviewing, the original face-to-face questionnaire had to be shortened, and substantive cuts were made. In addition, parts of the questionnaire were modularised, meaning that for those parts each respondent was asked only a subset of the questions. As a result, not all variables were surveyed in the same modules, so advanced multivariate analysis cannot be used to understand the relationships between the variables.

Therefore, in Chapters 2 to 5, group comparisons are restricted to (a) comparing weighted mean scores and standard deviations of variables, informed by Cohen's *d* effect sizes (Cohen, 1988); (b) calculating and interpreting weighted correlations between outcome variables and stressors or resources, using the values reported in Gignac and Szodorai (2016) to interpret correlation effect sizes; and (c) controlling the weighted correlations calculated for the confounding effects of background variables (gender, age, sector, occupation and country) using cross-sectional regression analysis methods (more information on these analyses can be found in Annex 2). For Chapters 1 and 5, multivariate logistic regression analyses controlling for gender, age, sector, occupation and country were conducted (generating odds ratios) to study both the impact of stressors and resources on health and well-being outcomes and the usefulness of telework categories for predicting the presence or absence of stressors, resources and outcomes.

Finally, it is important to note that the fieldwork for the survey was carried out during a period when, in some countries, restrictions and other policies related to the COVID-19 pandemic were still in place, and this affects country comparisons.

1 Mapping psychosocial risks at work

This chapter sets the scene by introducing the theoretical framework for the report, discussing the prevalence of stressors and resources in the EU, and mapping health and well-being outcomes among employees in the EU.

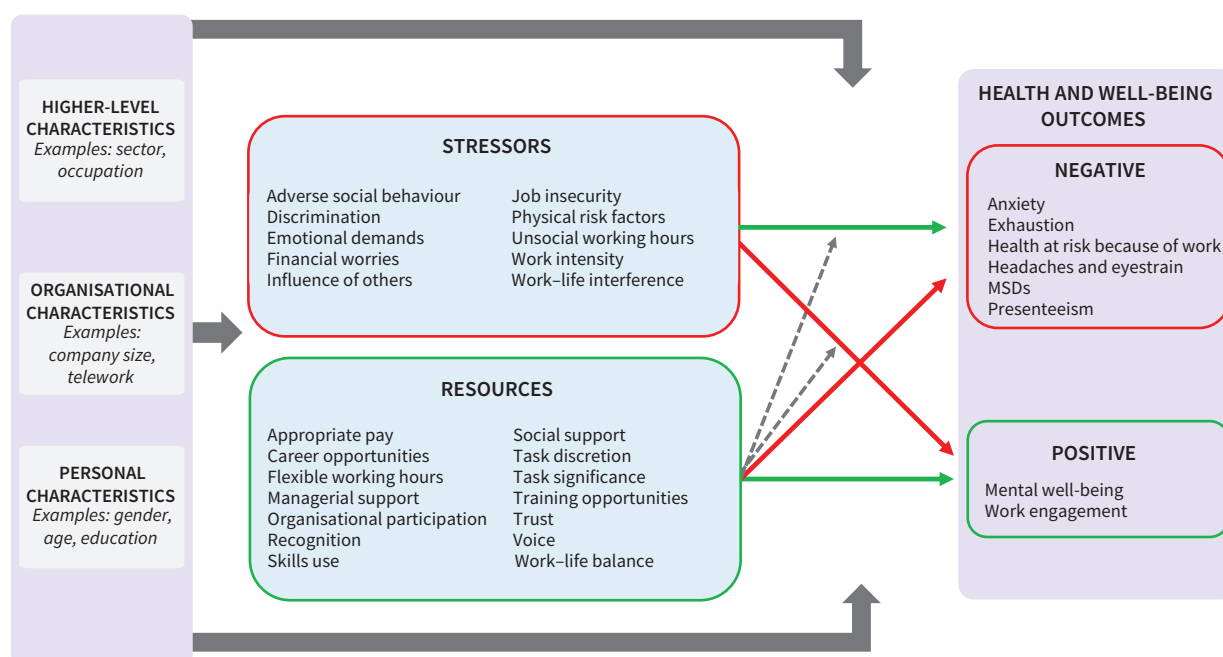
Theoretical framework

The theoretical framework, illustrated in Figure 1, assumes that jobs have different characteristics, and that these may influence employees' health and well-being differently (Bakker and Demerouti, 2017). These job characteristics refer to a wide range of factors: 'job' is a general term that captures the physical, psychological and social conditions of job activities (Bakker and Demerouti, 2007). Job characteristics therefore include aspects of employees' tasks (such as emotional demands and task significance), work relationships (such as trust and social support at work) and the organisation at large (such as organisational participation and career opportunities). A core feature of the framework is that the job characteristics can be meaningfully divided into two broad categories: job stressors and job resources

(Bakker and Demerouti, 2017). Before focusing on each of the separate job characteristics measured within the scope of the EWCTS 2021 (for an overview, see Figure 1 and Annex 1), both categories and their impacts must be defined in more detail (Bakker and Demerouti, 2007; Van den Broeck et al, 2010).

- Stressors** (or demands) are aspects of work that require sustained effort. They may therefore set in motion a **health-impairing or energy-depleting process** in which – over time – the results of this effort result in fatigue and come at a physical, psychological or social cost and undermine the health and well-being of workers. Thus, stressors may eventually give rise to negative consequences for the individual and their organisation. It should be noted that, among these stressors, there is a difference between aspects of work that are exclusively negative (financial worries, physically demanding work or discrimination in the workplace) and aspects that, while requiring extra energy, in some circumstances present opportunities for growth and development ('challenges' such as high work intensity and the influence of others on one's work).

Figure 1: Theoretical framework of the study, based mainly on the job demands–resources model



Notes: Solid red lines represent negative effects (decrease); solid green lines represent positive effects (increase); dashed grey lines represent moderating effects (buffer); thick grey arrows represent influences from other contextual or personal characteristics.

Source: Authors, based on the scientific literature

- Resources** are aspects of work (for example social support, working time flexibility and voice) that are intrinsically or extrinsically motivating and – through a **motivational process** – stimulate employees' personal growth and development and help them achieve their work goals. In addition, resources may indirectly mitigate the negative impact of stressors. They may thus benefit the individual worker and their organisation, boosting, for instance, work engagement. Furthermore, job resources have a buffering effect by helping to reduce the negative impact of job stressors on health and well-being outcomes.

Job stressors

Work-related stress resulting from stressors at work (psychosocial risks) is a growing concern for employees and employers in the EU, as it has been associated with a variety of negative health and well-being outcomes (Eurofound, 2010). Examples include cardiovascular diseases, MSDs and absenteeism. A systematic review of the literature from 2000 to 2020 found that psychosocial risks at work due to, for instance, high job strain (resulting from a working environment characterised by many stressors and few resources) were significantly

associated with cardiovascular diseases, depression, diabetes and physical inactivity (Niedhammer et al, 2021). This coincides with evidence suggesting that work-related psychosocial risks increase the chance of employees developing stress-related mental disorders, ranging from psychological distress and emotional exhaustion to burnout (van der Molen et al, 2020).

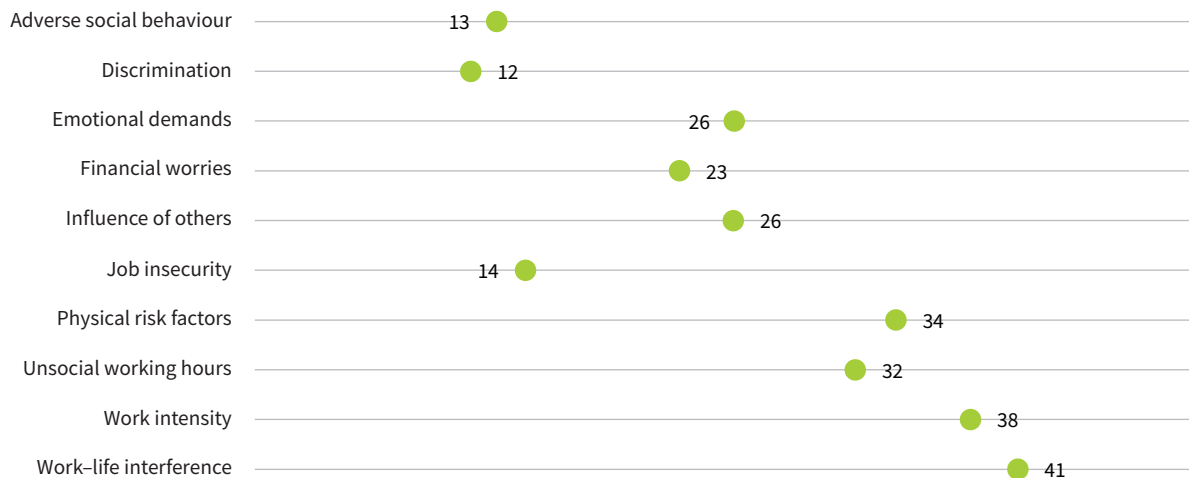
Evidence suggests that the COVID-19 pandemic significantly increased the rates of mental distress among employees in general, but especially among those experiencing a high level of job insecurity, those with a lower educational attainment and those with a lower income (OECD, 2021). According to the Flash Eurobarometer – OSH Pulse survey, commissioned by EU-OSHA and conducted in spring 2022, more than one-third of employees reported experiencing overall fatigue, and more than a quarter experienced symptoms related to depression, stress or anxiety due to or worsened by their work (EU-OSHA, 2022). This has led to a significant and unprecedented decrease in the mental health of populations, which has profound economic implications for society. It is therefore vital to understand which job characteristics act as stressors leading to ill-health (Table 1) and to establish the prevalence in the EU of those that are psychosocial risks.

Table 1: Overview of stressors measured by the EWCTS 2021

Stressor	Brief description	Group considered to experience the stressor
Adverse social behaviour	Verbal abuse or threats, unwanted sexual attention (experienced in the month before the survey); bullying, harassment or violence (experienced in the 12 months before the survey)	Employees confronted with at least one of these behaviours (answering 'yes' to at least one of the related questions)
Discrimination	Unfavourable or unfair treatment at work based on certain characteristics	Employees answering 'yes' to the related question
Emotional demands	Handling clients (patients, customers, etc.) and emotionally disturbing situations	Employees who are 'often' or 'always' confronted with emotional demands (clients or situations)
Financial worries	Ability of one's household to make ends meet	Employees who experience at least some difficulty in making ends meet
Influence of others	Impact of management, customers or suppliers on one's work	Employees who indicate that they were at least 'to some extent' influenced by others (management, customers or suppliers)
Job insecurity	Expectation of losing one's job in the six months after the survey	Employees who 'tend to agree' or 'strongly agree' with the statement
Physical risk factors*	Ambient, biochemical and posture-related risks	Employees confronted with at least one of these physical risk factors (answering 'yes' to at least one of the related questions)
Unsocial working hours	Working long hours, at night, at short notice or in one's free time	Employees answering 'often' or 'always' to at least one of the related questions, or 'sometimes' to at least two of the questions
Work intensity	Working at very high speed and to tight deadlines	Employees who in general say that they 'often' or 'always' have to work at high speed or to tight deadlines
Work-life interference	Worrying about work when not working, feeling too tired after work to do some household jobs or finding it difficult to concentrate on one's job because of family responsibilities	Employees who in general say that they 'often' or 'always' experience work-life interference

* Physical risk factors are not psychosocial risks but are included in this study for comparative reasons and because they can interact with psychosocial risks.

Note: For more detailed information on the items used and how the cut-off point is determined, see Annex 1.

Figure 2: Prevalence of job stressors, EU27, 2021 (% of employees)

Source: EWCTS 2021

Prevalence of stressors

The prevalence of stressors among employees in 2021 is depicted in Figure 2. It shows that, among the psychosocial risk factors or stressors considered, those related to the organisation of working time (work-life interference, work intensity and unsocial working hours) were among the most prevalent. These issues have increased in European workplaces in recent times. They are followed by risks related to social interaction with colleagues or in some cases with third parties (influence of others and emotional demands), which were a particular challenge for frontline workers during the pandemic. A substantial group of workers are affected by financial worries, which is a stressor that is related not only to the workplace but also to the societal and macroeconomic contexts. Adverse social behaviour and discrimination, as well as job insecurity, are less prevalent.

Working time and work intensity

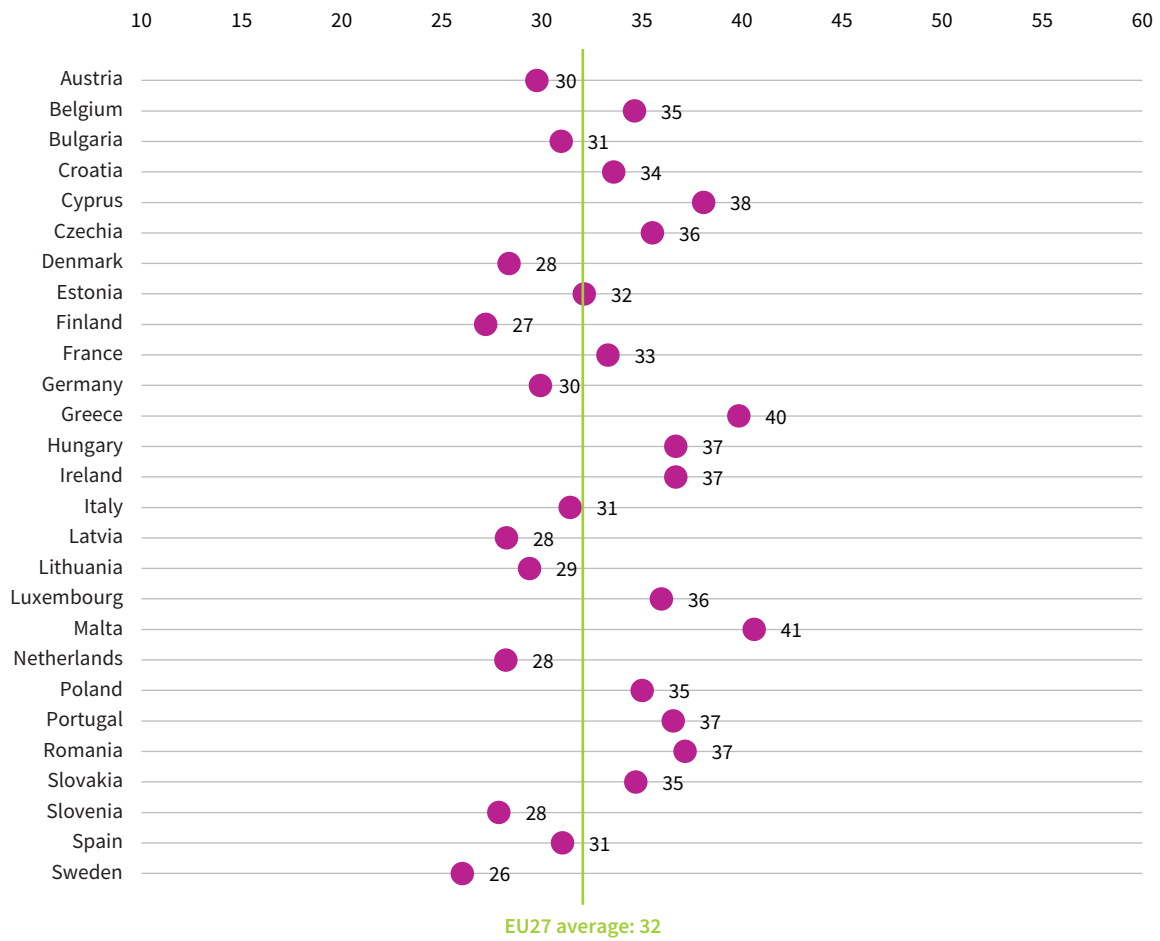
The term ‘unsocial working hours’ refers to hours worked as part of an atypical working schedule. More precisely, working unsocial hours involves ‘the extension of work hours through overtime, working at “unsocial” times beyond traditional societal standards such as the “9 to 5” norm, and varying time schedules over the week, the month or the year, that means “changing” working hours’ (Eurofound, 2008, p. 1).

In recent years, there has been an increase in the prevalence of employees working unsocial hours. This increase coincides with global changes in service industries, the higher competitiveness of markets and the introduction of new working arrangements, which have progressively increased the need for flexibility in working time in many companies. A great number of employees have jobs requiring them to work at night or during the weekends, or to change their working hours often. The COVID-19 pandemic worsened the situations in several sectors, for example in hospitals and health-related services, where employees experienced a sudden rise in working hours and the extension of their work shifts (Eurofound, 2022b; WHO, 2022).

The increase in the prevalence of employees working unsocial hours may be associated with higher levels of other psychosocial risks (such as high work intensity and work-life interference), and have negative implications for employees’ health and well-being.

The number of employees in the EU who reported working unsocial hours differs across the Member States (Figure 3): in Cyprus, Greece and Malta, about two out of five employees reported unsocial working hours, while the lowest prevalence figures were reported in Denmark, Finland, Latvia, the Netherlands, Slovenia and Sweden.

Figure 3: Prevalence of unsocial working hours, EU Member States, 2021 (% of employees)



Source: EWCTS 2021

High work intensity is a characteristic of jobs that involve a large workload, which can potentially increase the amount of stress experienced by employees (Burke et al, 2010). If a job requires workers to work at very high speeds or requires them to work to very tight deadlines, it becomes difficult for them to perform tasks in the most effective way without harming their health. A persistent high work intensity is hard to bear for any worker, but even more so for older workers (Eurofound, 2017b, 2022b).

The increase in work intensity in recent years may be partly related to the long-standing labour shortages in a number of sectors (such as health and social care) that have traditionally been undervalued and low paid (Eurofound, 2021d). The risks posed by such shortages to the viability of, for instance, high-quality care provision now and in the future were in particular highlighted in Germany and in the Nordic countries.

There, shortages of skilled staff have led to long waiting times for patients and high workloads for professionals in the sector. This has contributed to higher staff turnover rates and reduced the attractiveness of the sector even further (Eurofound, 2021d). High work intensity is also often reported as a psychosocial risk for well-educated employees, such as those in managerial positions or with high status in organisational structures. Nonetheless, if this workload is considered 'job strain', it will give rise to a number of negative health and well-being outcomes (Niedhammer et al, 2021).

Across the Member States, the highest percentages of employees working at high intensity were found in Cyprus, Finland, Greece and Malta and the lowest in Croatia, Lithuania and Slovakia (Figure 4).

Figure 4: Prevalence of work intensity, EU Member States, 2021 (% of employees)



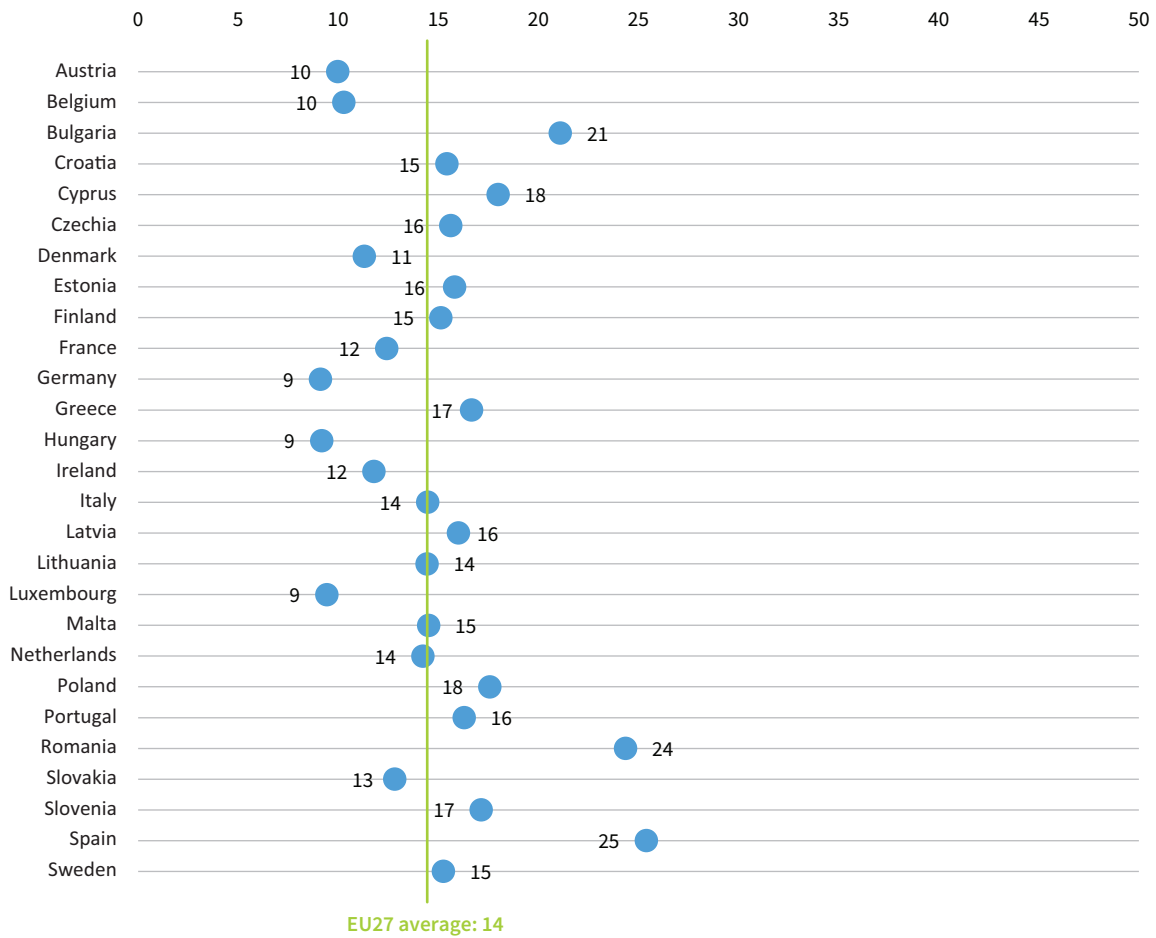
Source: EWCTS 2021

The multiple lockdowns and travel restrictions imposed during the COVID-19 pandemic helped to blur the line between working time, time needed to fulfil caring responsibilities and leisure time (Eurofound, 2022b). For many workers, this situation worsened their work–life balance and increased work–life conflicts, with the impact being greater for women, especially for mothers with children under the age of 12 (EIGE, 2021; Eurofound, 2022b). The term ‘work–life interference’ refers to the negative influence of work-related demands on a worker’s personal life (such as being too tired after work to do household tasks or worrying about work when they are not at work) or of the demands and responsibilities of personal life on an individual’s work (such as not being able to concentrate on work tasks because of personal issues). Hence, it is different from work–life balance, which reflects the worker’s ability to achieve an equilibrium between personal responsibilities and professional commitments.

Job insecurity and financial worries

The term ‘job insecurity’ refers to a subjective feeling of uncertainty around one’s future work and is related to decreased well-being at work (Hu and Schaufeli, 2011). For example, the perception of the risk of losing one’s job due to downsizing is an important stressor that can have a negative impact on mental health, for example causing depression (Bakker and Demerouti, 2007; Aguiar-Quintana et al, 2021). The percentage of workers perceiving their job as insecure in the Member States ranged from 25% in Spain to 9% in Germany, Hungary and Luxembourg in 2021 (Figure 5). Research suggests that the number of unemployed people in a given period has a strong impact on the percentage of respondents who feel uncertain about whether they will keep their jobs in that period (De Witte, 2006). Indeed, Spain had the highest unemployment rate in the EU in 2021, while Germany and Hungary were among the Member States with the lowest unemployment rates.

Figure 5: Prevalence of job insecurity, EU Member States, 2021 (% of employees)



Source: EWCTS 2021

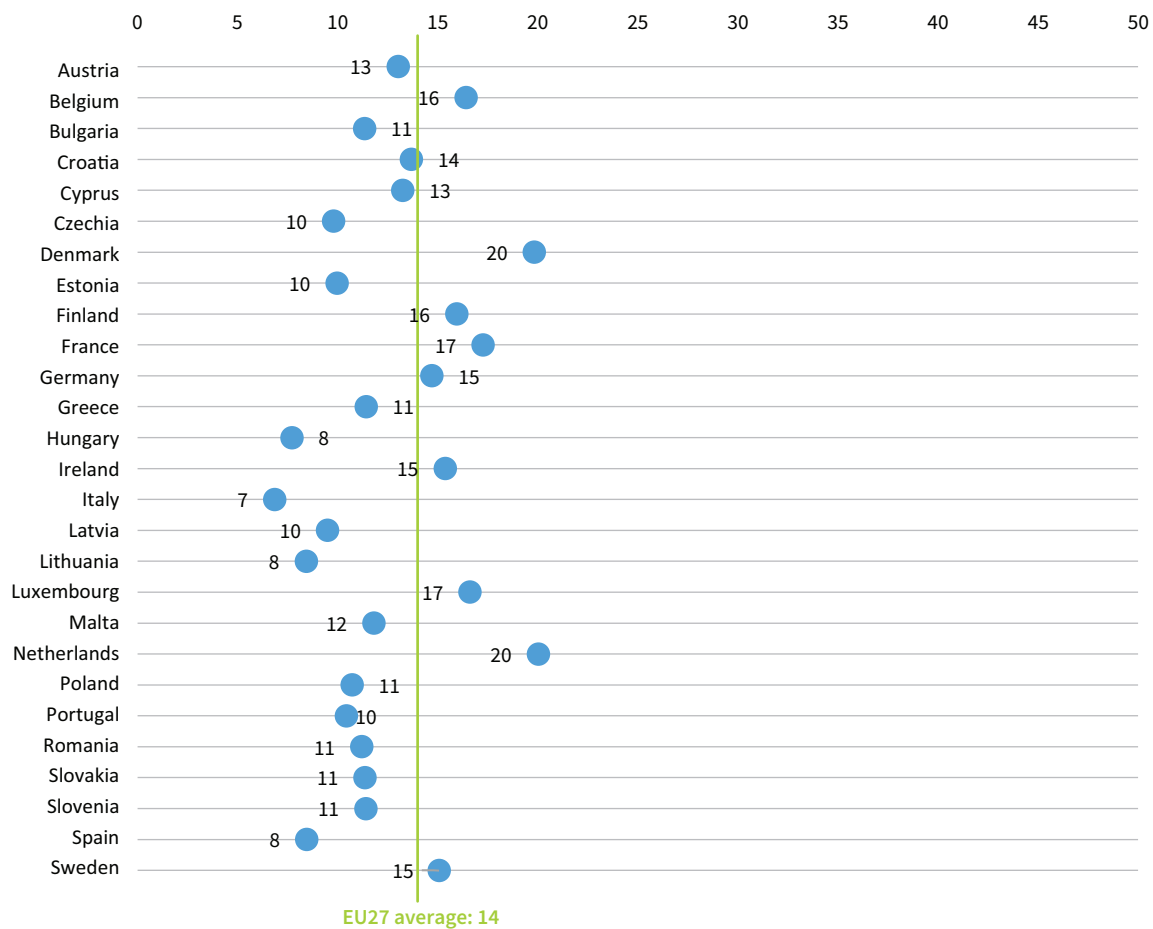
About 8% of employees became unemployed in the first months of the COVID-19 pandemic (Eurofound, 2020b). The pandemic thereby exacerbated pre-existing insecurity in some sectors (commercial, transport and construction) and worsened insecurity among certain categories of employees, especially younger and less-educated employees with temporary contracts. This indicates that feelings of job insecurity remained very prevalent among employees with a weaker position in the labour market, with less protection against redundancies and a higher risk of experiencing financial worries (which is similar to the findings of Keim et al, 2014).

In 2021, about one out of four employees in the EU reported having difficulty making ends meet (Figure 2). Greece had the highest percentage of employees (45%) experiencing financial worries, closely followed by Cyprus (43%) and Bulgaria (42%). Financial worries are considered detrimental to employees' health and well-being as employees worrying about their financial situation experience strain and emotional distress (Eurofound and EU-OSHA, 2014; Ryu and Fan, 2022).

Adverse social behaviour and discrimination

Although 13% of employees in the EU reported being subject to adverse social behaviour, this share varied greatly across Member States. About one in five employees in Denmark and the Netherlands reported being subject to adverse social behaviour, while in Hungary, Italy, Lithuania and Spain less than 10% of employees reported experiencing such behaviour in the workplace (Figure 6). It is important to note that these country differences may be partly related to the different levels of awareness of this kind of behaviour or cultural differences (such as victim-blaming culture), among other things (Noblet and Rodwell, 2010; Eurofound and EU-OSHA, 2014; Eurofound, 2020c, 2022e).

Figure 6: Prevalence of adverse social behaviour, EU Member States, 2021 (% of employees)



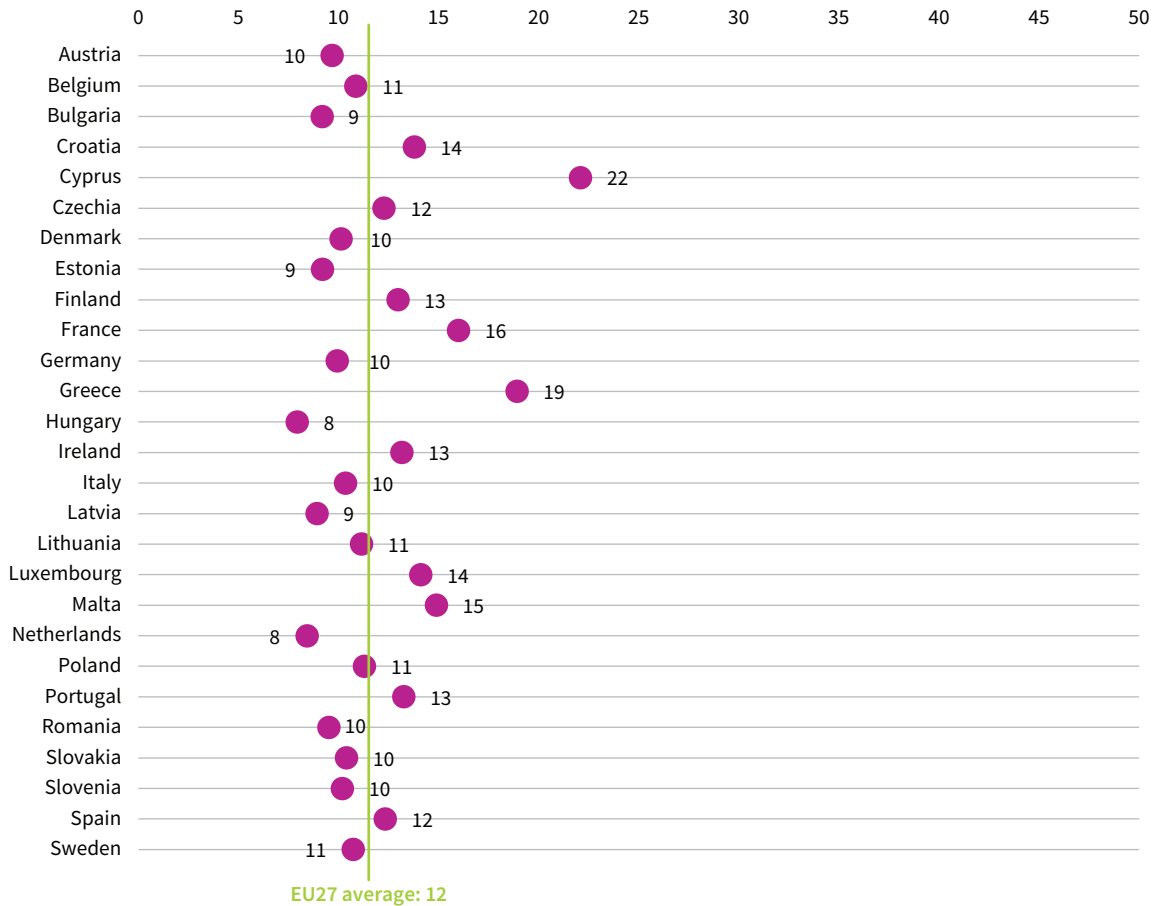
Source: EWCTS 2021

The fact remains that adverse social behaviour is a category of intimidating behaviours that may occur in the context of work relationships, such as verbal abuse or threats; bullying, harassment or violence; and unwanted sexual attention (Eurofound and EU-OSHA, 2014; Eurofound, 2022e). Overall, more women experienced adverse social behaviour (15%) than men (11%) in 2021.

Discrimination is another form of problematic behaviour and a stressor. It is defined as a circumstance in which 'a person is treated less favourably than another is, has [been] or would be treated in a comparable situation on the grounds of race or ethnicity, religion or belief, disability, age or sexual

orientation' (Eurofound, 2020c, p. 7). Discrimination is tackled by EU law through a specific set of policies. Importantly, these are based on Article 2 of the Treaty on European Union, which affirms that the principle of non-discrimination is a fundamental value of the EU. Nevertheless, the overall prevalence of employees experiencing discrimination was 12% in 2021 (Figure 2). The highest prevalence figures were reported in Cyprus and Greece, with about one out of five employees reporting discrimination at work, while discrimination is much less reported in, for instance, Hungary and the Netherlands (Figure 7). As was the case for adverse social behaviour, these country differences may be partly due to differences in awareness or cultural differences.

Figure 7: Prevalence of discrimination, EU Member States, 2021 (% of employees)



Source: EWCTS 2021

Job resources

Job resources include all the physical, psychological and social job characteristics that support workers' achievement of work goals; contribute to their personal growth, learning and development; and reduce the negative impact of stressors and challenges in the workplace (Bakker and Demerouti, 2007). Stable job resources (in combination with personal resources such as having a proactive personality and being resilient) help employees to regulate both short-term fatigue and long-term negative health outcomes. As these job resources promote positive health and well-being outcomes among employees, they also reduce staff

turnover and boost job performance (Chung and Angeline, 2010). The different resources captured in the EWCTS 2021 are listed in Table 2. Interestingly, in addition to the job resources typically investigated in previous surveys, the EWCTS 2021 includes new potential factors, such as task significance and trust in management and employees, which have gained importance in the new world of work and in the context of the COVID-19 pandemic.

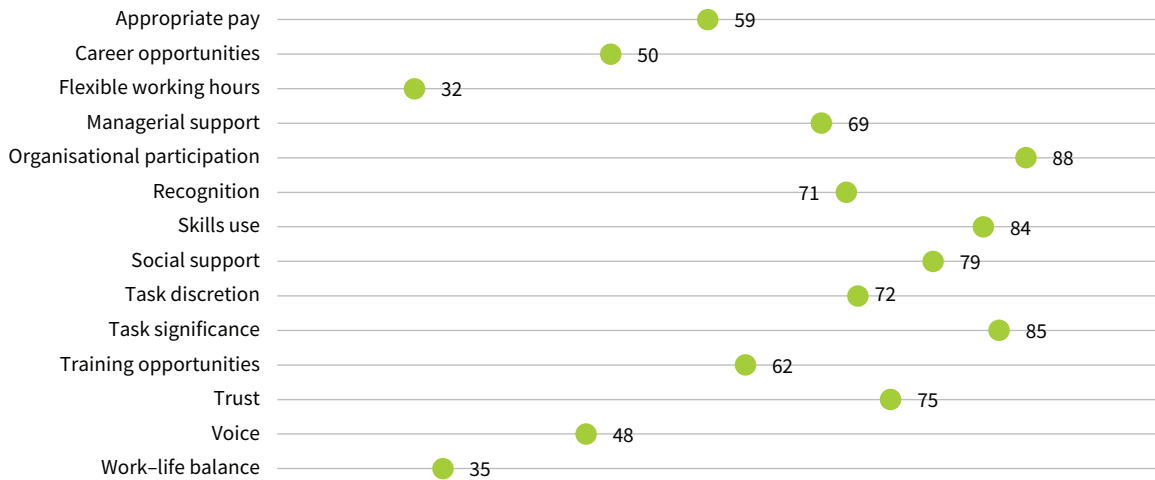
Table 2 gives a brief description of the resources analysed and how they are measured (further details can be found in Annex 1).

Table 2: Overview of resources measured by the EWCTS 2021

Resource	Brief description	Group considered to have a high level of the resource
Appropriate pay	Feeling paid appropriately considering one's efforts and achievements	Employees who 'tend to agree' or 'strongly agree' that they are paid appropriately
Career opportunities	Having good prospects for career advancement	Employees who 'tend to agree' or 'strongly agree' that they have good prospects for career advancement
Flexible working hours	Being able to take an hour or two off during working hours to deal with personal affairs	Employees who indicate that it is 'fairly easy' or 'very easy' for them to take an hour or two off to deal with personal matters
Managerial support	Having a manager who provides help and support	Employees who 'often' or 'always' feel helped and supported by their manager
Organisational participation	Having formal representation within one's organisation with regular meetings	Employees who indicate that at least one of the following methods of organisational participation exists (answering 'yes' to the relevant question) in their organisation: trade union or similar organisation, health and safety delegate or committee, regular meetings with employees
Recognition	Feeling that one's work is acknowledged	Employees who 'tend to agree' or 'strongly agree' that they receive the recognition they deserve for their work
Skills use	Having enough opportunities to use one's knowledge and skills	Employees who 'tend to agree' or 'strongly agree' they have enough opportunities to use their knowledge and skills
Social support	Receiving help and support from colleagues	Employees who 'often' or 'always' receive help and support from their colleagues
Task autonomy	Being able to choose or change one's own methods of work	Employees who are 'often' or 'always' able to choose or change their methods of work
Task significance	Having a job that gives one the feeling of doing 'a good job'	Employees who 'often' or 'always' have a feeling of work well done
Training opportunities	Receiving on-the-job training or training paid for or provided by one's employer	Employees who received at least one form of training (paid for by or provided by their employer or on-the-job training) in the previous 12 months
Trust	Having collaborative working relations with management and colleagues	Employees who 'tend to agree' or 'strongly agree' that management trusts employees, that employees trust management and that they cooperate well with colleagues
Voice	Being consulted about objectives and work organisation (including how to improve it)	Employees who are 'often' or 'always' consulted or involved in discussions about objectives and work organisation
Work-life balance	Degree of fit between working hours and family or social commitments	Employees who think that their working hours fit 'well' or 'very well' with their family or social commitments

Note: For more detailed information, see Annex 1.

Figure 8: Prevalence of job resources, EU27, 2021 (% of employees reporting high level)



Source: EWCTS 2021

Prevalence of resources

When employees indicated that their work environment gives them a high level of a certain resource, this resource is regarded as present (or available). The availability of resources in EU workplaces in 2021 is depicted in Figure 8.

Figure 8 shows that some resources are more prevalent than others in the EU workforce. For example, organisational participation, task significance and skills use are quite common for most workers, whereas flexible working hours and work-life balance are enjoyed by roughly one in three workers.

However, the picture is far more varied at Member State level (Figure 9), as the availability of resources may be influenced by the different legislative and enforcement approaches to addressing psychosocial risks at work, as well as different national cultures and practices, among other things (European Commission, 2020).

Task significance, which varies from 69% in Finland to 94% in Malta, is a crucial aspect of job design and is defined as ‘the degree to which the job has a substantial impact on the lives or work of other people, whether in the immediate organisation or in the external environment’ (Hackman and Oldham, 1976, p. 257). In well-designed jobs, work tasks are perceived as significant if employees believe that their work has a positive impact on others. When employees’ skills, values and purposes at work align, they perceive their jobs as meaningful or significant (Cartwright and Holmes, 2006). Task significance is related to motivation and work engagement, along with several other positive outcomes, such as better performance at work and low absenteeism (Rosso et al, 2010).

Recognition includes the appreciation or praise workers receive, often from their superiors, for their achievements at work (Furnham et al, 2021). It was experienced by 71% of EU employees on average, ranging from as low as 60% in Slovakia to as high as 83% in Romania. Recognition has a positive impact on work satisfaction and the meaning of work and is considered to be intrinsically motivating for employees in their work (Furnham et al, 2009, 2021; Seubert et al, 2021). Notably, according to one of the criteria of ‘decent work’, as specified by Eurofound and ILO (2019, p. 3), employees should have access to work that ‘offers the chance for recognition and to have one’s voice heard’. Having a **voice**, that is, being consulted about objectives and work organisation, is a reality for almost half of EU employees, ranging from 43% in Slovakia to 64% in Estonia.

The combination of these mental resources (such as recognition and task significance) and material resources (such as appropriate pay and career opportunities) can be regarded as occupational gains available at work. Every second employee in the EU was positive about their **career opportunities**. This share varied from 39% in Slovakia and 42% in Italy and Sweden to 67% in Romania and 65% in Malta. When it comes to reward, 59% of employees in the EU agreed that they were **paid appropriately** considering their efforts and achievements, with the share ranging from 44% in France and 45% in Portugal to 75% in Romania and 73% in Luxembourg. A mismatch between extrinsic effort, perceived intrinsic effort or commitment and the rewards received may lead to stress and adverse health outcomes (Siegrist, 1996; Stanhope and Weinstein, 2021). The effect of imbalances between effort and reward will be taken into account later when examining the relationship between stressors, resources, and health and well-being outcomes.

Figure 9: Prevalence of selected resources, EU Member States, 2021 (% of employees)

	Task significance	Recognition	Voice	Career opportunities	Appropriate pay	Managerial support
Austria	91	81	45	56	71	77
Belgium	83	71	47	52	66	69
Bulgaria	88	77	56	58	61	82
Croatia	87	64	52	52	59	76
Cyprus	86	69	52	50	58	76
Czechia	82	72	47	48	65	72
Denmark	85	79	54	58	65	79
Estonia	90	73	64	55	61	84
Finland	69	76	44	51	61	75
France	82	71	45	48	44	65
Germany	88	75	44	52	68	65
Greece	80	68	51	44	51	79
Hungary	83	67	56	53	50	84
Ireland	70	70	49	56	62	78
Italy	87	64	48	42	59	67
Latvia	80	78	49	56	60	80
Lithuania	81	71	49	44	61	79
Luxembourg	83	71	48	62	73	74
Malta	94	66	59	65	56	86
Netherlands	88	78	55	59	66	62
Poland	85	62	49	47	50	68
Portugal	86	76	49	47	45	71
Romania	91	83	54	67	75	75
Slovakia	81	60	43	39	52	68
Slovenia	89	64	57	57	58	80
Spain	85	68	50	47	53	73
Sweden	81	75	45	42	65	62
EU27	85	71	48	50	59	69

Source: EWCTS 2021

Another resource that proves to be important for the health and well-being of employees (as shown in Table 5, later in this chapter) is managerial support. Two in three employees in France and Sweden said that their managers always or often provide help and support, but this share was as high as 86% in Malta. Research shows that managerial support buffers the negative relationship between job demands and employees' work-related anxiety and depression. Working under a supportive manager can mitigate the negative impact of work demands, which is especially important in organisational settings where reducing or redesigning job demands is particularly difficult. In those settings, special training programmes for managers should be provided or hiring criteria introduced (Yunus et al, 2023).

Health and well-being outcomes

According to the WHO, health is 'a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity' (WHO, 2020, p. 1). It is multidimensional, and the health of the EU workforce can be assessed through a broad set of indicators included in the EWCTS 2021 (Table 3). A good understanding and knowledge of these health and well-being indicators remains vital to assess the quality of working conditions in the aftermath of the COVID-19 pandemic. Importantly, stressors at work can create or worsen negative health and well-being outcomes for employees (Eurofound, 2015a; EU-OSHA, 2022).

Table 3: Overview of health and well-being outcomes measured in the EWCTS 2021

Outcome	Brief description	Group considered to experience the outcome
Mental well-being	Feeling cheerful, calm, active, fresh and rested while perceiving life as filled with interesting things	Employees who answer positively ('all of the time' or 'most of the time') to most of the questions on the WHO-5 are considered to have good mental well-being.
Work engagement	Feeling full of energy (vigour), being enthusiast about one's job (dedication) or feeling like time flies when working (absorption)	Employees who say that they 'often' or 'always' feel engaged (full of energy, enthusiastic or feeling that time flies) are considered to have high work engagement.
Anxiety	Having experienced anxiety in the 12 months before the survey	Employees who say that they experienced anxiety in the 12 months before the survey are considered to have anxiety.
Exhaustion*	Feeling physically and mentally exhausted at the end of the working day	Employees who say that they 'often' or 'always' feel mentally or physically exhausted are considered to be suffering from exhaustion.
Headaches and eyestrain	Having experienced headaches or eyestrain in the 12 months before the survey	Employees who say that they experienced headaches or eyestrain in the 12 months before the survey are considered to be suffering from headaches or eyestrain.
Health at risk because of work	Feeling one's health is at risk because of work	Employees' health is considered to be at risk if they report that their health or safety is at risk because of work.
MSDs	Having experienced back pain, muscle pain in the shoulders, neck and/or upper limbs, and/or muscle pain in the lower limbs in the 12 months before the survey	Employees who answer 'yes' to at least one question concerning MSDs (backache, muscular pains in the upper limbs or muscular pains in the lower limbs) in the 12 months before the survey are considered to suffer from MSDs.
Presenteeism	Having worked when one was sick in the 12 months before the survey	Employees who say that they worked while sick in the 12 months before the survey are considered to have shown presenteeism.

* Exhaustion covers one dimension of the broader concept of burnout. The EWCTS 2021 allows the consideration only of exhaustion. Hence, it can be considered a proxy for burnout.

Note: For more detailed information, see Annex 1.

Table 3 shows the work-related health and well-being outcomes captured by the EWCTS 2021.

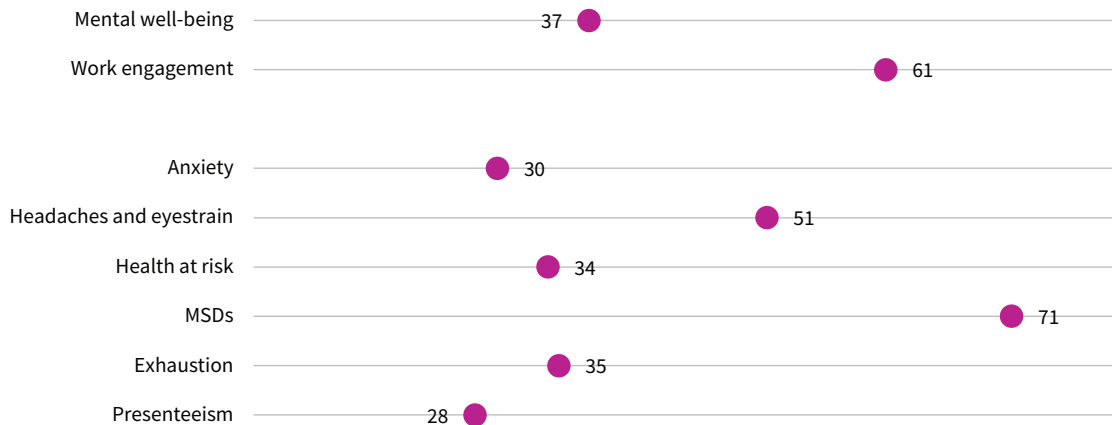
When employees indicated that they experienced or strongly endorsed an outcome, the outcome is regarded as present (see Annex 1 for more detailed information). For positive outcomes such as mental well-being and work engagement, higher prevalence is considered desirable, while for negative outcomes such as anxiety and presenteeism, higher prevalence is unsatisfactory.

Figure 10 shows the shares of people who reported positive and negative health and well-being outcomes in 2021. Studies indicate that negative outcomes have increased in populations in the last few years, confirming the impact of the COVID-19 pandemic on the already substantial health and socioeconomic

consequences of mental health conditions (WHO, 2021, 2022). In the analysis of the EWCTS 2021 data, mental well-being is assessed using the WHO's five-item well-being index (WHO-5), which is recognised as an important health indicator in research and policy debates (Topp et al, 2015; Graham et al, 2018).

MSDs are the most prevalent health problem in the EU workforce and are partly related to psychosocial risks (EU-OSHA, 2022). They are followed by headaches and eyestrain, which are very much related to office work and the frequent use of information and communications technology (ICT) tools. Around one in three employees reported problems related to anxiety and presenteeism.

Figure 10: Prevalence of health and well-being outcomes, EU27, 2021 (% of employees)

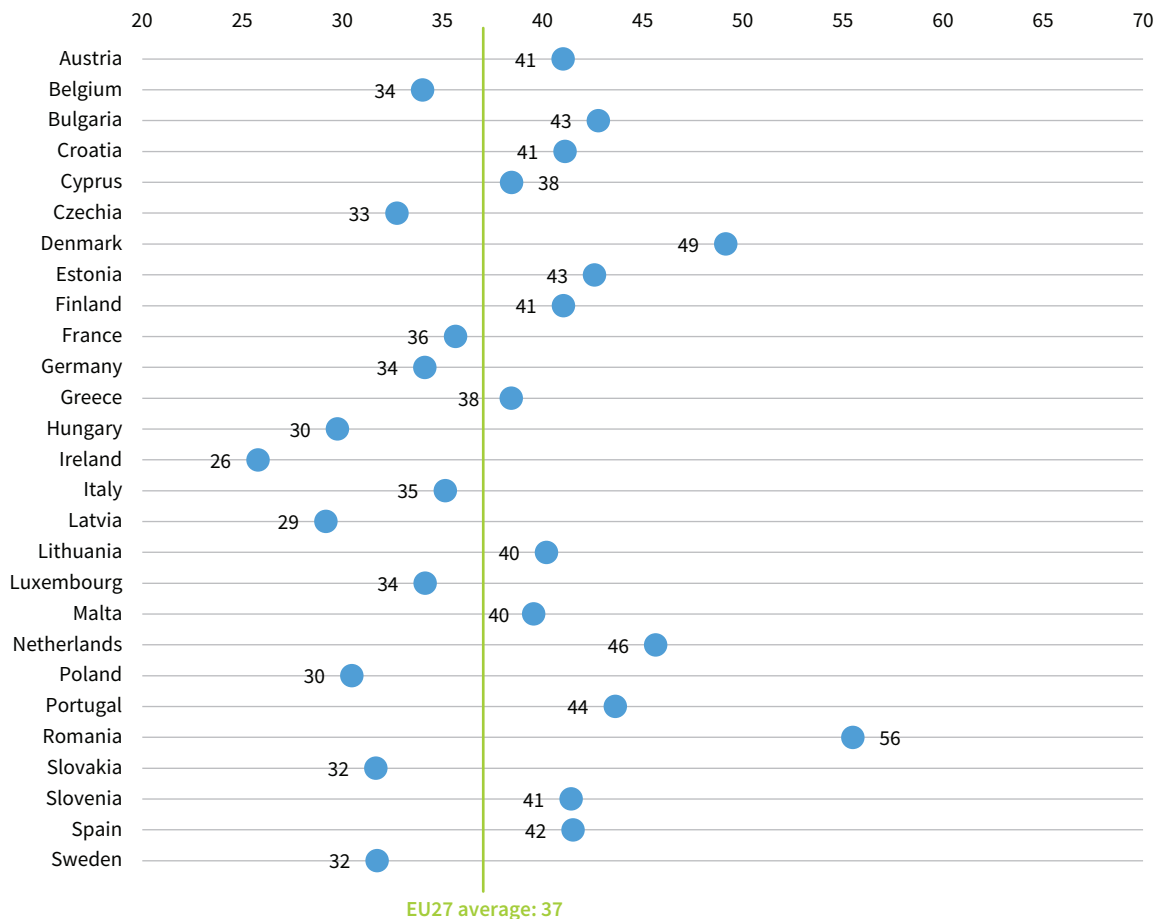


Source: EWCTS 2021

Mental ill-health is strongly affected by work-related psychosocial risks. Since 2015, the trend in the average share of employees in the EU with high mental well-being scores has been negative overall, dropping from 45% to 37%. In 2021, Romania and Denmark were the Member States with the highest share of employees

with high mental well-being scores (Figure 11). The lowest share was found in Ireland, followed by Latvia, Hungary and Poland. Overall, low levels of mental well-being are more common among women. Employees with the lowest mental well-being scores work in the health sector (including, in particular,

Figure 11: High mental well-being scores, EU Member States, 2021 (% of employees)



Source: EWCTS 2021

professionals, technicians and associate professionals, and clerical support workers).

Employees who indicated that their health or safety is at risk as a result of their work were especially likely to experience psychosocial risks and mental health issues during the COVID-19 pandemic (Eurofound, 2022b, 2022c). These included frontline workers (for instance, health and educational professionals and service and sales workers) and on-location production workers (for instance, those in elementary occupations, and operators and assemblers). Table 4 shows the EWCTS 2021 findings on perception of health being at risk because of work, broken down by sector and occupation.

Almost one out of two frontline workers considered their health to be at risk. These same employees, although showing high levels of work engagement, are at increased risk of experiencing anxiety (reported by 36% of all frontline workers in 2021), headaches or eyestrain (58%) and presenteeism (36%). These problems among frontline workers were exacerbated by the increased presence of psychosocial risks such as heavy workloads, unreliable access to personal protective equipment, direct contact with COVID-19 patients and workplace disruptions caused by the pandemic (De Kock et al, 2022). In recent years, the COVID-19 pandemic and changes in the health sector have put employees in the health sector more at risk of experiencing a negative impact of work on health

(Garrow, 2016; Rahnfeld et al, 2016; Kinman, 2019).

Another group of workers who were significantly affected by the pandemic are on-location production workers (Eurofound, 2022b), of whom more than 4 out of 10 considered their health to be at risk. This group largely comprises blue-collar skilled and unskilled workers and represents about one out of four workers in the EU workforce. About half of all on-location production workers surveyed in the EWCTS 2021 experienced high levels of physical risk factors (for example, carrying heavy loads and working in tiring positions) in their jobs. Some of these workers were also affected by psychosocial risks, for example long working hours, low autonomy, financial worries and job insecurity (Joensuu et al, 2010; Elser et al, 2019; Eyllon et al, 2020; Eurofound, 2022b; Hogg et al, 2022).

Effects of exposure to stressors and resources on outcomes

The relationships between various stressors (psychosocial risks) and the health and well-being outcomes described above were analysed using a logistic regression analysis. This analysis focused on identifying those stressors most detrimental to the health and well-being of employees (comparing those who reported specific stressors and those who did not), while controlling for gender, age, country, occupation and sector.

Table 4: Prevalence of employees' perception that their health is at risk because of work, by sector and occupation, EU27, 2021 (%)

Sector/occupation	Armed forces occupations	Managers	Professionals	Technicians and associate professionals	Clerical support workers	Service and sales workers	Skilled agricultural workers	Craft and related trades workers	Plant and machine operators	Elementary occupations
Agriculture							43			
Commerce and hospitality		25	23	27	22	32		39		32
Construction		23	20	24				46		
Education		32	37	18		27				
Financial services		24	19	17	23					
Health		31	51	53	24	51				33
Industry		25	21	28	20	32		41	36	38
Other services		18	19	21	22	37		40		38
Public administration	50	27	27	26	21	68				
Transport and storage		28	17	27	33				57	47

Notes: For each category, N ≥ 200, with the exception of skilled agricultural workers (N = 150). Details can be found in Annex 2. Source: EWCTS 2021

A similar exercise was carried out for the resources discussed, comparing the health and well-being outcomes for employees with access to a specific resource with those for employees who did not have such access, focusing on resources that were assumed to have a positive impact on health and well-being.

Overall, the analysis confirms the negative impact of the stressors and the positive impact of resources on health and well-being. The results of the analyses are shown in Table 5. The numbers in this table (odds ratios) compare the likelihood of employees with a particular job stressor or job resource experiencing an outcome with the likelihood that those employees who do not have that stressor or resource in their working

environment will experience the same outcome. If the number is greater than 1, employees with the stressor or resource are more likely to experience the outcome than those without; if the number is less than 1, employees with the stressor or resource are less likely to experience the outcome.

The analysis confirms that adverse social behaviour and discrimination, even though they are not the most prevalent psychosocial risks, are the stressors with the most detrimental effect on the health and well-being of workers. They affect various symptoms, including anxiety and exhaustion (as a proxy of burnout), and can be a driver of presenteeism.

Table 5: Effect of workplace stressors and resources on health and well-being outcomes, EU27, 2021

	Mental well-being	Work engagement	Anxiety	Exhaustion	Headaches and eyestrain	Health at risk	MSDs	Presenteeism
Stressors								
Adverse social behaviour	0.42	0.50	3.44	4.41	2.60	3.95	2.60	3.08
Discrimination	0.37	0.41	3.56	4.20	2.64	3.91	2.30	3.24
Emotional demands	0.58	0.82	2.40	3.49	1.80	3.28	2.02	2.11
Financial worries	0.50	n.a.	1.95	n.a.	1.69	1.91	2.31	1.68
Influence of others	0.85	0.96	n.a.	1.51	n.a.	1.42	n.a.	1.06
Job insecurity	0.67	0.65	2.18	1.96	1.52	1.74	1.63	1.54
Physical risk factors	0.77	0.90	1.50	2.43	1.22	3.55	2.49	1.88
Unsocial working hours	0.74	0.93	1.47	2.72	1.57	2.27	1.51	2.22
Work intensity	0.64	1.00	1.89	3.64	1.59	2.50	1.86	2.33
Work-life interference	0.34	0.59	n.a.	7.19	n.a.	3.04	n.a.	2.89
Resources								
Appropriate pay	2.37	2.24	0.51	0.33	0.64	0.44	0.51	0.48
Career opportunities	2.19	2.75	0.61	0.51	0.76	0.58	0.70	0.68
Flexibility of working hours	1.94	1.67	0.61	0.40	0.67	0.49	0.72	0.64
Managerial support	2.36	2.44	0.44	0.37	0.62	0.44	0.66	0.52
Organisational participation	1.29	1.58	n.a.	0.70	n.a.	0.76	n.a.	0.76
Recognition	2.92	3.57	0.45	0.29	0.62	0.39	0.54	0.46
Skills use	2.62	3.91	0.49	0.39	0.72	0.53	0.62	0.62
Social support	1.73	2.07	0.48	0.48	0.67	0.58	0.67	0.57
Task autonomy	1.28	1.73	0.84	0.61	0.87	0.71	0.90	0.90
Task significance	3.72	5.50	0.38	0.29	0.59	0.45	0.64	0.55
Training opportunities	1.23	1.29	0.92	0.77	1.09	0.92	0.87	0.92
Trust	1.57	1.70	n.a.	0.60	n.a.	0.68	n.a.	0.77
Voice	2.01	2.68	0.58	0.60	0.74	0.60	0.79	0.77
Work-life balance	2.67	2.08	0.49	0.32	0.57	0.41	0.56	0.54

Notes: Odds ratios from a logistic regression analysis. The control variables gender, age, sector, occupation and country were included in the model. n.a., not applicable because of survey modularity (stressors and resources and outcomes are in different modules in the EWCTS 2021 and are therefore attributed to different respondents).

Source: EWCTS 2021

Emotional demands, high work intensity and work–life interference have a significant effect on exhaustion. Unsocial working hours also have an effect on this outcome and on presenteeism.

The resources with the strongest positive impact on health and well-being are work–life balance and task

significance. Both contribute to improving well-being and engagement, and they seem to reduce the likelihood of workers experiencing a negative impact of work on their health. As can be seen in Table 5, specific resources have a stronger or weaker effect on specific health and well-being outcomes.

Summary

In this chapter, the prevalence of various job stressors and job resources and health and well-being outcomes, and the relationship between stressors and resources and outcomes, were shown. It was found that unsocial working hours and high work intensity were very prevalent in the EU workforce in 2021. These psychosocial risks are found to have a detrimental impact on health and well-being outcomes (for example, exhaustion and presenteeism). Some psychosocial risks are more prevalent among some employees than others (or affect frontline workers more than others). These risks have the strongest negative impact on health and mental well-being.

The pandemic and related changes to work organisation took their toll on mental well-being. In 2021, the average share of employees in the EU with a high mental well-being score dropped to 37%, down from 45% in 2015. Women tend to have lower mental well-being scores than men. The highest share of employees with the lowest mental well-being scores work in the health sector. In addition, almost half of frontline employees surveyed in 2021 felt that their health and safety were at risk because of work.

There is wide variation in the prevalence of stressors and resources in the workplace and in the health and well-being of employees across Member States, reflecting differences in economic structures, the culture of work and work-related policies, among other things.

2 Working time and work intensity

Working time and work intensity have been on the EU’s policy agenda for a long time, with the focus being mainly on protecting workers against unsocial and long working hours, for instance through the Working Time Directive (Directive 2003/88/EC). The concept of unsocial working hours is broad, covering different types of unsocial or atypical working time practices, such as working long hours, night work, working at short notice and working in one’s free time (Eurofound, 2022b). Table 6 shows the EWCTS 2021 questions used to measure unsocial working hours.

Work intensity concerns the task-related intensity of the work that has to be done. High work intensity involves regularly working at high speed or to tight deadlines. To measure high work intensity, respondents’ average score on these two indicators was used, ranging from 1, indicating that a person never works to tight deadlines or at a high speed, to 5, indicating that they always do so. Workers with an average score of 4 or 5 were considered to work at high intensity (see Annex 1 for more detail).⁵

Unsocial working hours have been proven to be clearly linked to workers’ health and well-being (Eurofound, 2022b). Night work has a negative impact on the health of workers, increasing their risks of cardiovascular problems, cancer, sleep problems, absenteeism, and so on, especially when it is done for consecutive nights and over a long period. Being asked to come to work at short notice has been linked with increased sleep problems, mental health problems and work–life interference (van de Ven et al, 2022; Apostel et al, 2023). Working long hours is associated with a higher risk of

cardiovascular diseases, depression and obesity, and exhaustion and work–life conflicts (Aguiar-Quintana et al, 2021; Niedhammer et al, 2021; EU-OSHA, 2023a). Especially when a job combines high work intensity with long hours, these negative effects on health become more prevalent (van de Ven et al, 2022). Unsocial, long working hours and a high work intensity may also have a negative impact on work–life balance (Eurofound and EU-OSHA, 2014).

Providing workers with autonomy and flexibility in their working time arrangements seems to have a positive impact on the well-being, health and work–life balance of those working unsocial hours (van de Ven et al, 2022; Apostel et al, 2023). Having a good fit between one’s working hours and private life, allowing for a good work–life balance, can contribute to employees’ motivation and their ability and preparedness to keep working (in that job) until their retirement age (Eurofound, 2022b). High work intensity, a heavy workload, high time pressure and work overload have been proven to be strongly related to stress and burnout (Eurofound and EU-OSHA, 2014; Giusti et al, 2020), as well as a wide range of physical health issues (diabetes, depression and cardiovascular diseases) (Niedhammer et al, 2021).

For over 20 years, EU policymakers and social partners have emphasised the importance of regulations on working hours and work intensity. The Working Time Directive of 1993 regulated aspects such as average weekly working time. This directive was revised and updated with the 2003 Working Time Directive, which limits average weekly working time to 48 hours,

Table 6: Questions used to measure unsocial working hours in the EWCTS 2021

Questions	Groups considered to have unsocial working hours
Working long hours: ‘How many hours do you usually work per week in your main paid job?’	Employees who work more than 48 hours per week are considered to work long hours.
Night work: ‘How often do you work at night, for at least two hours between 10.00 pm and 05.00 am?’	Employees who work at night sometimes or more frequently are considered to do night work.
Working at short notice: ‘How often have you been requested to come into work at short notice?’	Employees who have to come to work at short notice several times a month or more frequently are considered to have to come to work at short notice.
Working in free time: ‘How often have you worked during your free time to meet work demands?’	Employees who work during their free time several times a month or more frequently are considered to work in their free time.

Employees are considered to have unsocial working hours if they meet any of the criteria in the second column.

⁵ In contrast to other Eurofound reports (for example, Eurofound, 2022b), work intensity in this analysis does not include the emotionally demanding elements of work, which are captured by the stressor ‘emotional demands’.

establishes rules for minimum daily and weekly rest periods and annual leave, and mandates extra protection for night workers. More recently, the policy focus has turned to improving work–life balance and tackling work–life conflicts. This, among other developments, has led to legislation giving workers – specifically parents and carers – the right seek to adapt their working hours to their personal needs (Directive 2019/1158). It also underlies the call for a directive on the right to disconnect from work (European Parliament resolution of 21 January 2021 with recommendations to the Commission on the right to disconnect).

The general trend of increased digitalisation and new ways of working (such as platform work) have given rise to new challenges in terms of working time patterns and unsocial working hours. These developments have brought about a shift in work towards more project-based and on-demand work. Such work does not necessarily have to be done during regular working hours (Eurofound, 2015a, 2019a, 2020a). Furthermore, the COVID-19 pandemic disrupted working time arrangements in multiple ways. Due to lockdowns and quarantines, certain groups of workers suddenly had an increased need for flexibility in their working hours, to allow them to work from home while also taking care of children and other dependent family members. Telework became much more prevalent, and for some even the norm, during the pandemic. This gave employees the benefit of more flexible working hours, allowing them to balance private obligations with work tasks or to better match their working hours with their personal needs (Eurofound, 2022b). However, telework also increases the risk of blurring the line between work and private life. For other groups of workers during the pandemic, such as healthcare workers, work intensity

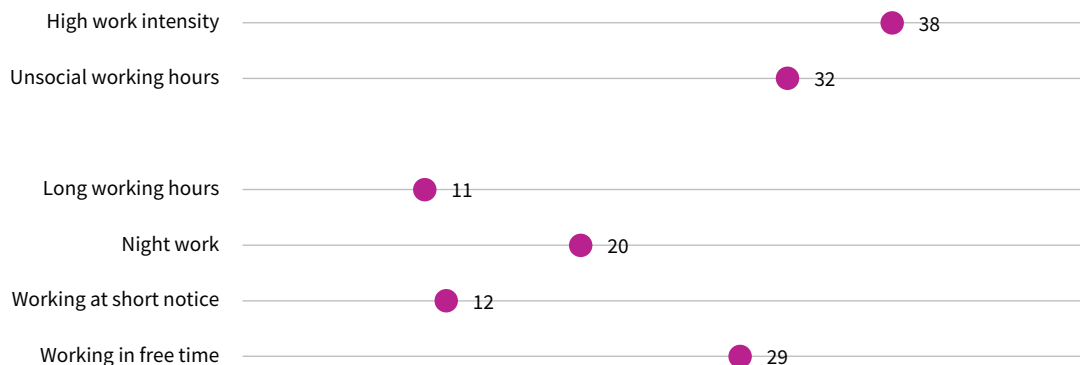
and the number of hours they worked increased, and shifts and work schedules changed to meet the demands of the increasing numbers of patients and to fill the gaps when colleagues fell sick (Grigorescu et al, 2022).

Profile of employees subject to high work intensity and unsocial working hours

Working at high intensity and working unsocial hours increased in the EU between 2015 and 2021 – Figure 12 shows the prevalence in 2021. The share of employees working at high intensity increased from 27% in 2015 to 38% in 2021. With regard to unsocial working hours, in 2015 one in four employees worked such hours, but this share rose to one in three in 2021. There are considerable differences in the prevalence and evolution of the different forms of working unsocial hours across time. The largest increase is seen in employees who worked in their free time to meet work demands, which was frequent for 29% of employees in 2021, compared with 17% in 2015. Night work was reported by 20% of employees in 2021, compared with 13% in 2015. It is very likely that these changes were related to the expansion of telework, changes in the organisation of working time driven by the pandemic and possibly the influence of increased demands in some sectors, such as health.

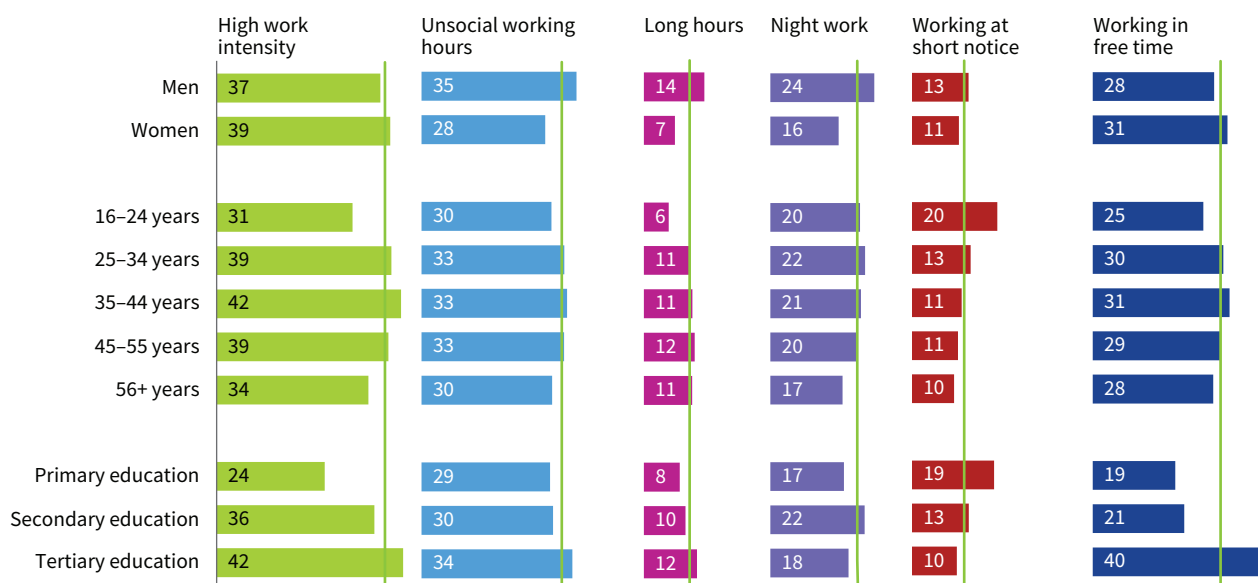
There are differences between employees in the extent to which they worked unsocial hours and at high intensity. This highlights the importance of identifying those groups more at risk of experiencing the negative health and well-being outcomes associated with these stressors.

Figure 12: Prevalence of high work intensity and unsocial working hours, EU27, 2021 (% of employees)



Source: EWCTS 2021

Figure 13: Prevalence of high work intensity and unsocial working hours, by gender, age and education, EU27, 2021 (% of employees)



Notes: Vertical green lines indicate the EU27 average.

Source: EWCTS 2021

As shown in Figure 13, slightly more women than men worked at high intensity. Work intensity was also more prevalent among workers aged between 25 and 55 years old than among the youngest and oldest age groups, and work intensity increased in prevalence with educational level. In contrast, more men reported working unsocial hours than women, although more women reported working in their free time. The youngest group of employees, aged between 16 and 24 years old, stands out as having the highest share who worked at short notice, although a smaller share of this group reported working long hours than older age groups. Furthermore, more employees with a tertiary education reported working long hours and during their free time than employees who had completed just primary or secondary education. This group was potentially more affected by the increase in telework due to COVID-19-related restrictions (see Chapter 6 for a more detailed description of the risks associated with telework). Night work was most prevalent among those with a secondary

education, while having to work at short notice was most common among workers with only a primary education.

Managers and professionals to a greater extent than other occupational groups reported working at high intensity. Across all sectors, at least half of managers reported high work intensity, with the largest shares in the construction, financial services and health sectors (Table 7). In addition, high shares of professionals, employees in armed forces occupations, and technicians and associate professionals in the construction and health sectors worked at high intensity. A considerable proportion of clerical support workers also reported high work intensity, for example in the financial services, other services, and transport and storage sectors. On the other hand, the shares of high-intensity workers were low among skilled agricultural workers, service and sales workers in the education and other services sectors, and elementary occupations in the other services sector.

Table 7: Prevalence of high work intensity, by sector and occupation, EU27, 2021 (% of employees)

Sector/occupation	Armed forces occupations	Managers	Professionals	Technicians and associate professionals	Clerical support workers	Service and sales workers	Skilled agricultural workers	Craft and related trades workers	Plant and machine operators	Elementary occupations
Agriculture							24			
Commerce and hospitality		50	48	41	40	37		39		37
Construction		64	44	45				39		
Education		53	32	17		21				
Financial services		60	48	40	43					
Health		57	46	46	36	34				30
Industry		53	46	39	39	30		37	31	35
Other services		52	44	42	43	22		39		23
Public administration	47	50	40	38	35	43				
Transport and storage		54	39	43	44				37	41

Notes: For each category, N ≥ 200, with the exception of skilled agricultural workers in agriculture (N = 150). Details can be found in Annex 2.
Source: EWCTS 2021

While high work intensity is more prevalent higher up the occupational hierarchy and among the higher-skilled, the picture for working unsocial hours is more mixed. Table 8 identifies groups of workers among

whom unsocial working hours were most prevalent in 2021. On the one hand, a high share of employees in managerial functions across all sectors reported working unsocial hours. Unsocial hours were also

Table 8: Prevalence of frequent unsocial working hours, by sector and occupation, EU27, 2021 (% of employees)

Sector/occupation	Armed forces occupations	Managers	Professionals	Technicians and associate professionals	Clerical support workers	Service and sales workers	Skilled agricultural workers	Craft and related trades workers	Plant and machine operators	Elementary occupations
Agriculture							27			
Commerce and hospitality		43	24	28	23	27		26		30
Construction		44	27	31				20		
Education		56	52	25		17				
Financial services		40	29	22	18					
Health		45	45	38	16	38				18
Industry		45	27	32	15	20		31	39	31
Other services		45	31	27	20	36				22
Public administration	50	46	23	25	16	56		28		
Transport and storage		47	27	35	25				58	52

Notes: For each category, N ≥ 200, with the exception of skilled agricultural workers in agriculture (N = 150). Details can be found in Annex 2.
Source: EWCTS 2021

prevalent among professionals in the education and health sectors and those in the armed forces. On the other hand, it was also a relevant issue for employees with fewer resources: more than half of plant and machine operators and assemblers and elementary workers in the transport and storage sector, as well as service and sales workers in public administration, worked unsocial hours. Not surprisingly, one sector in which a large percentage of workers in different occupational groups experienced both high work intensity and unsocial working hours during the COVID-19 pandemic is the health sector, which felt particularly high pressure and increased demands for services at that time.

Effects on health and well-being

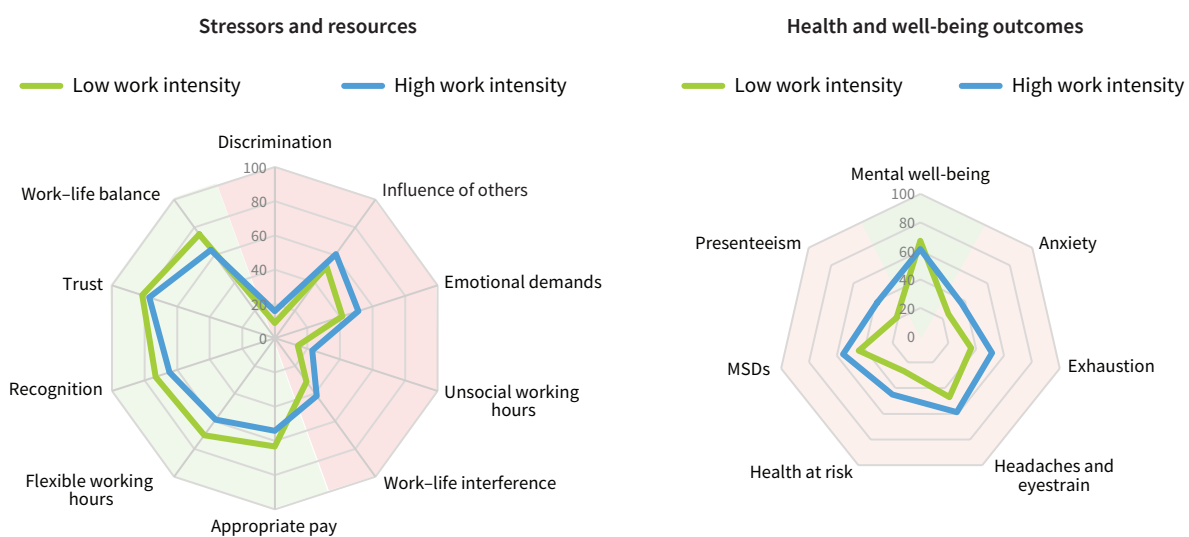
To assess the impact of high work intensity and unsocial working hours on other stressors and resources and health and well-being outcomes, a comparison was carried out of employees who reported these psychosocial risks with those who did not, using mean scores (Figure 14). The radar graphs in this section (and in the following chapters) show these mean scores only for the stressors and resources and the health and well-being outcomes for which there is a significant difference (based on Cohen's *d* effect sizes) between the group that was and the group that was not exposed to the psychosocial risk (for more details, see Annex 2).

High work intensity

Employees who worked at high intensity tended to experience higher levels of working time-related stressors, such as unsocial working hours and work-life interference, combined with working time-related resources such as ability to take an hour or two off during working time and work-life balance. Furthermore, on average, these employees were more likely to report high levels of emotional stressors (for example, discrimination, emotional demands and the influence of others), as well as lower levels of resources (for example, trust, recognition and appropriate pay). According to Stanhope and Weinstein (2021), this complicates the perceived effort-reward balance. The combination of more job stressors and fewer job resources results in an increased prevalence of psychosocial risks, which can put significant pressure on workers' health and well-being.

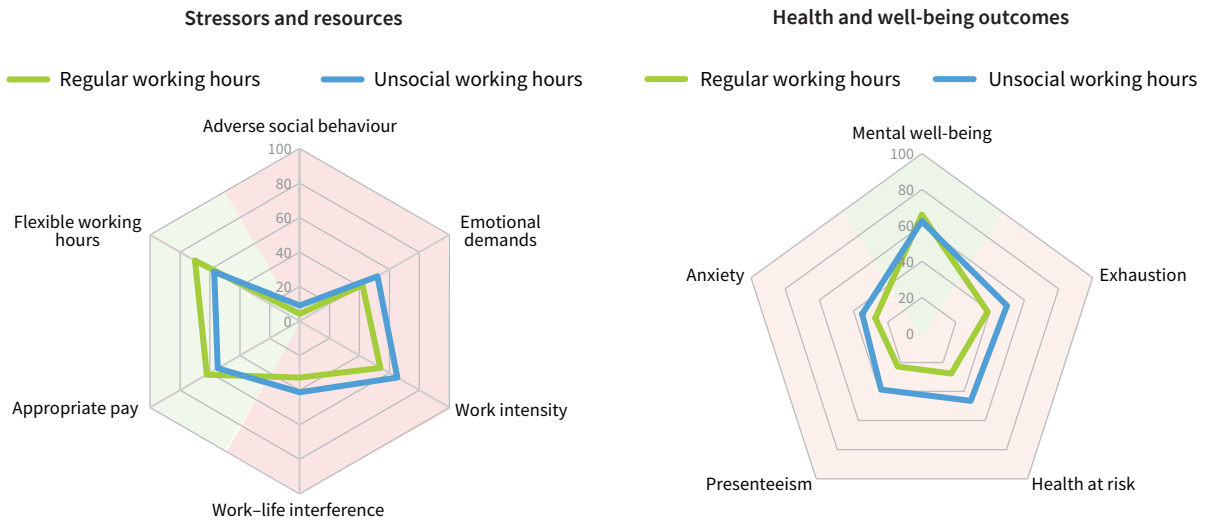
This is reflected in the health and well-being outcomes of employees with high work intensity, compared with those reporting lower levels of work intensity (Figure 14). Not unexpectedly, employees working at high intensity reported slightly poorer mental well-being than those working at a lower intensity. The negative impact of work intensity is more strongly seen in the health outcomes reported by these employees, with significantly higher levels of health problems (anxiety, headaches and eyestrain, and MSDs) and exhaustion. These workers also indicated more that they perceived their health to be at risk because of their work, while showing heightened levels of presenteeism at work.

Figure 14: Mean scores on stressors and resources and health and well-being outcomes, by degree of work intensity, EU27, 2021



Notes: Only variables that differ significantly, based on a Cohen's *d* effect size > |0.20|, are included. Details can be found in Annex 2.
Source: EWCTS 2021

Figure 15: Mean scores on stressors and resources and health and well-being outcomes, by regularity of working hours, EU27, 2021



Notes: Only variables that differ significantly, based on a Cohen's d effect size of $> |0.20|$, are included. Details can be found in Annex 2.
Source: Authors' calculations, based on EWCTS 2021

Unsocial working hours

Employees frequently working unsocial hours also encountered greater psychosocial risk (Figure 15). In particular, emotional demands, work intensity and work-life interference were higher for employees with unsocial working hours than for those with regular working hours. This finding is in line with previous studies among workers with unsocial working time arrangements (van de Ven et al, 2022; Apostel et al, 2023). At the same time, these workers had somewhat fewer resources at work. In particular, their scores were lower on feeling paid appropriately for their work and on flexibility of working hours (Figure 14). For other resources, the differences between employees working unsocial hours and those working regular hours are rather small and insignificant.

Health problems were more common among employees who worked unsocial hours than among those who did not – this is in line with previous research (Aguilar-Quintana et al, 2021; Niedhammer et al, 2021; Apostel et al, 2023). Those working unsocial hours had higher levels of anxiety and exhaustion and indicated more often that their health was at risk because of their work. They also reported higher levels of presenteeism. In terms of mental well-being (measured through the WHO-5), the difference between employees based on their working hours is small, although significant, with those working unsocial hours reporting a slightly lower level of mental well-being (Figure 15).

Linking psychosocial risks with health and well-being

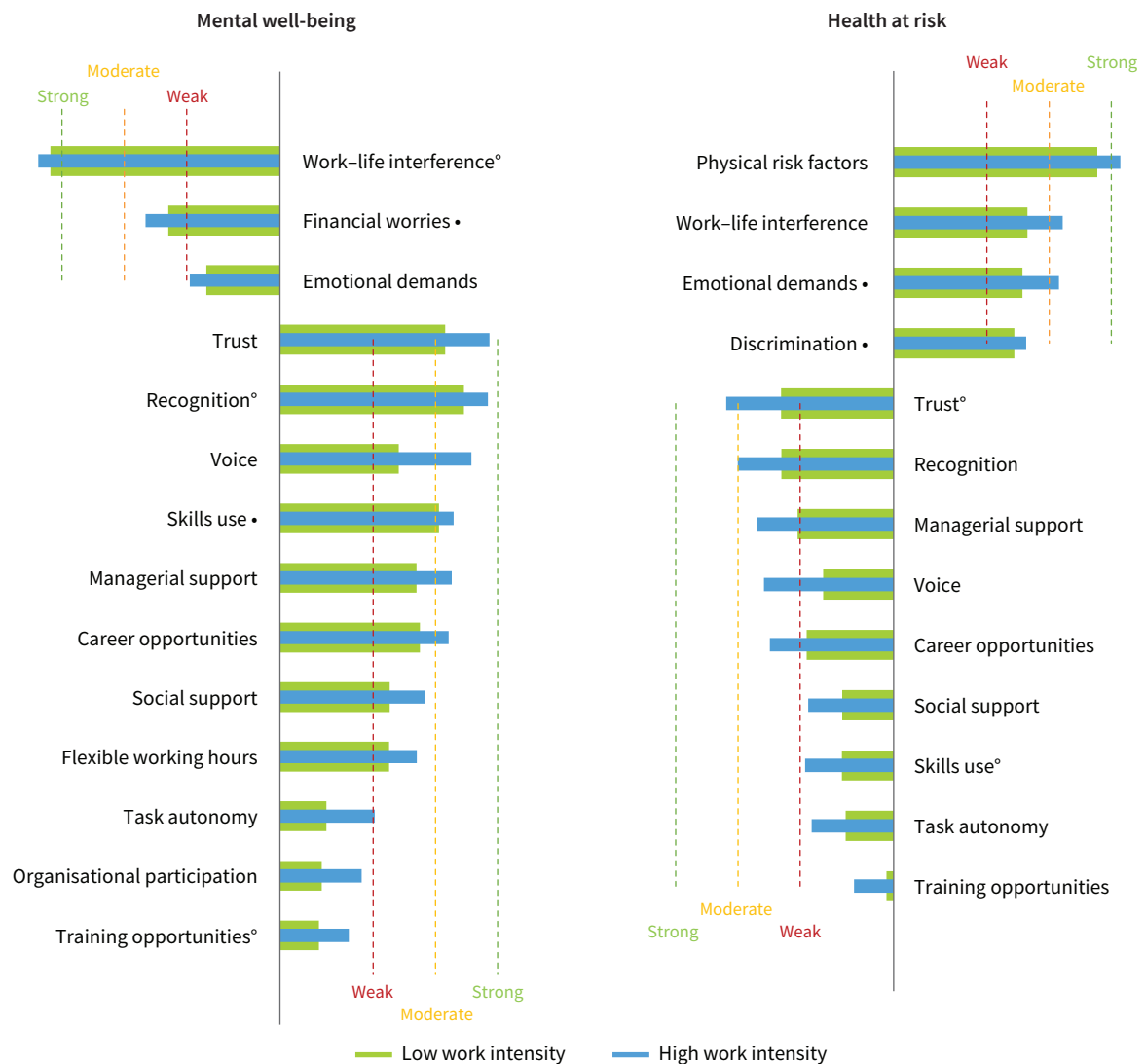
The analysis next focused on explaining how high work intensity and unsocial working hours worsen health and well-being, particularly when combined with other stressors, and how, more positively, some resources may cushion the negative effects.

High work intensity

Figure 16 shows the correlations between these stressors and resources and two health and well-being outcomes – mental well-being and health at risk – for both employees who work at high intensity and those who do not, but only for those cases where the difference between these two groups was proven to be significant (see Annex 2 for more details). Work intensity influences the extent to which other coinciding job stressors or resources contribute to the mental well-being and health of employees. For example, work-life interference has a strong negative relationship with mental well-being for all employees, but its impact is even more pronounced for those working at high intensity.

For employees working at high intensity, resources generally have a stronger positive contribution to their mental well-being than for those working at low intensity. In particular, resources related to perceived fairness (trust and recognition), support, voice, career opportunities and skills use considerably contribute to the mental well-being of employees working at high intensity. On the other hand, stressors such as work-life interference and, to a lesser extent, financial worries and emotional demands have an even stronger negative impact on the mental well-being of workers when they work at high intensity.

Figure 16: Relationship between health outcomes and stressors and resources, by degree of work intensity



Notes: Bars indicate correlation coefficients; red lines indicate $r > |0.15|$, yellow lines indicate $r > |0.25|$ and green lines indicate $r > |0.35|$. Correlations are included if the interaction effect in the regression analysis controlling for gender, age, occupation, sector and country was significant ($p < 0.01$, $^{\circ} p < 0.05$, $\bullet p < 0.1$) (see Annex 2).

Source: Authors' calculations, based on EWCTS 2021

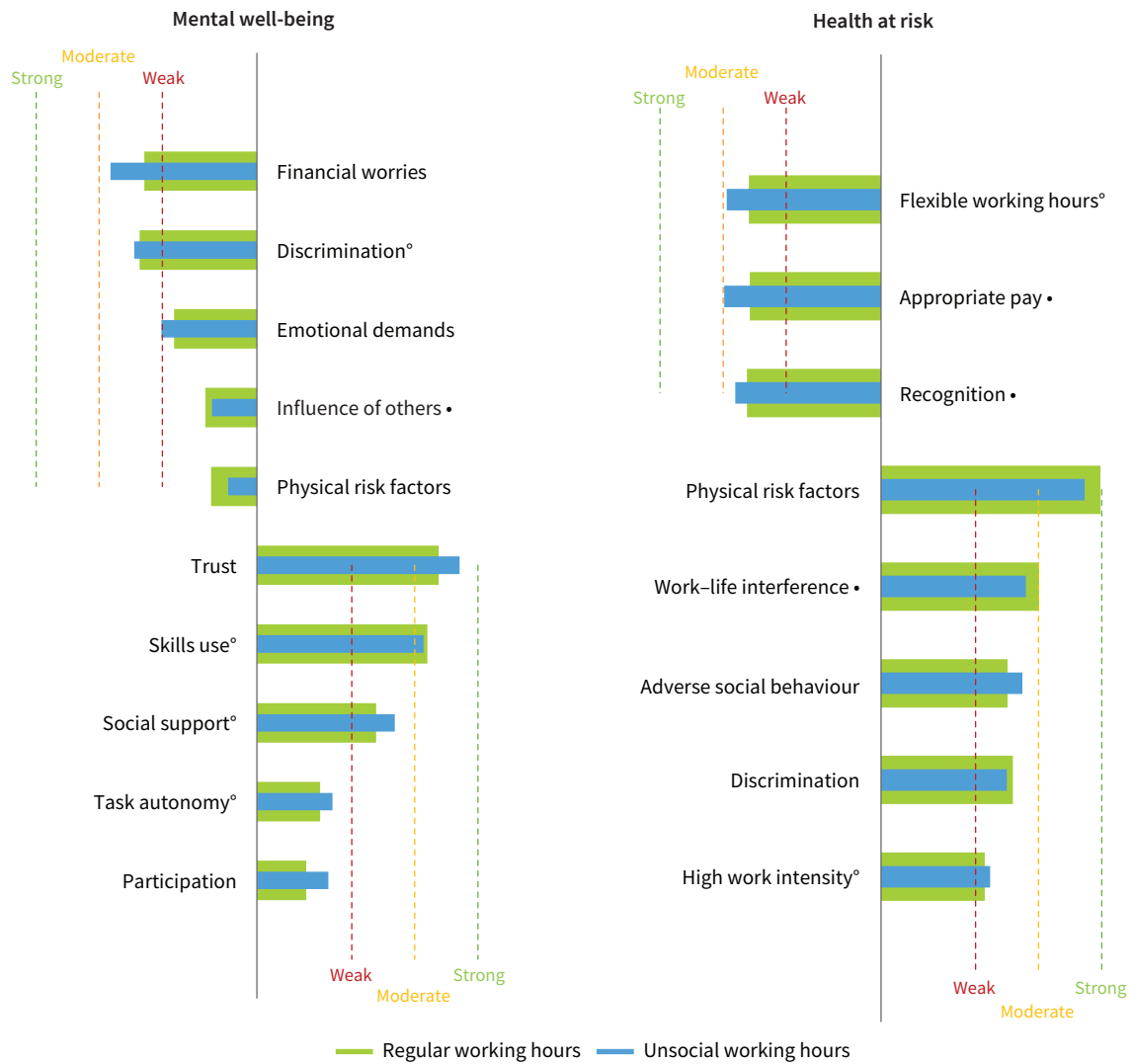
With regard to workers' perception that their health is at risk because of work, physical risk factors clearly have the strongest negative impact. In addition, stressors such as work-life interference, emotional demands and discrimination contribute to workers feeling that their health is at risk, and this effect is stronger for workers who work at high intensity. Moreover, a large number of resources can mitigate the negative impact of job stressors on perceiving one's health to be at risk, especially when workers are working at high intensity. In particular, resources such as trust, recognition, managerial support, voice and career opportunities reduce the impact of work on employees' health perception, especially for those working at high intensity (Figure 16).

Unsocial working hours

For employees with unsocial working hours, the relationships are more diverse. In particular, financial worries (and to a lesser extent emotional demands) have a greater negative impact on the mental well-being of employees who worked unsocial hours than those who did not. However, resources such as trust and social support from colleagues have a stronger positive impact on the mental well-being of those working unsocial hours (Figure 17).

With regard to workers' perception that their health is at risk because of work, employees working unsocial hours experience a smaller (but still considerable) additional negative impact of physical risk factors, work-life interference and discrimination on their health than

Figure 17: Relationship between health outcomes and stressors and resources, by regularity of working hours



Notes: Bars indicate correlation coefficients; red lines indicate $r > |0.15|$, yellow lines indicate $r > |0.25|$ and green lines indicate $r > |0.35|$. Correlations are included if the interaction effect in the regression analysis controlling for gender, age, occupation, sector and country was significant ($p < 0.01$, ° $p < 0.05$, • $p < 0.1$) (see Annex 2).
Source: Authors' calculations, based on EWCTS 2021

those with regular work schedules. In addition, employees working unsocial hours experience a stronger protective effect of job resources such as

flexible working hours, appropriate pay and recognition on the negative impact of their work on their health (Figure 17).

Summary

The focus of this chapter was work intensity and different kinds of unsocial working time arrangements. Workers have been subject to these risks for decades, and they have been a focus of policies at EU level aiming to protect employees from working time practices that threaten their health and well-being. However, due to disruptions caused by the COVID-19 pandemic and the general trend of increased digitalisation, the share of employees reporting that they work at high intensity increased from 27% in 2015 to nearly 40% in 2021. Similarly, one in four employees frequently worked unsocial hours in 2015, but this share rose to one in three in 2021.

High work intensity is somewhat more prevalent among women, workers between 25 and 55 years of age, and employees with a tertiary education. In terms of occupation and sector, it is most often reported by managers (at least half of them reported doing so) and professionals, especially in the construction, financial services and health sectors.

With regard to unsocial working hours, the group of workers at risk is more diverse and is related to different types of unsocial working time arrangements. Unsocial working hours are reported more by men than by women (except for working in one's free time) and by employees with a tertiary education (especially long hours and working in one's free time). As with work intensity, a high share of employees in managerial functions across all sectors and professionals in the education and health sectors reported working unsocial hours. More than half of plant and machine operators and assemblers and elementary workers in the transport and storage sector, as well as service and sales workers in public administration, were working unsocial hours.

The findings from the EWCTS 2021 confirm the negative impact of a high work intensity and unsocial working hours on the health and well-being of employees. Both employees working at high intensity and employees working unsocial hours reported poorer mental well-being as well as more health issues. Employees in jobs that expose them to these psychosocial risks tended to report high emotional demands and work-life interference, which put additional pressure on their health and well-being. In addition, employees working at high intensity or working unsocial hours also reported lower levels of resources such as work-life balance, trust, recognition and flexible working hours, which seem to be especially important in buffering the negative impact of psychosocial risks at work on health and well-being.

3 Job insecurity and financial worries

During the COVID-19 pandemic, people were required to maintain a physical distance from others and to stay at home. This led many companies to reduce working hours or temporarily close, laying off their employees. In the first months of the crisis, many workers' hours were reduced, and 8% of employees became unemployed (Eurofound, 2020b). This had implications for employees' feelings of job security and the degree to which they worried about their financial situation (Timming et al, 2021).

The European Commission promptly reacted to the unprecedented impact of the pandemic on financial worries by putting in place flexible state aid rules, allowing Member States to provide direct support for hard-hit businesses, particularly small firms. In May 2020, the Commission proposed the NextGenerationEU economic recovery plan, outlining investments to be made in the recovery and resilience of the EU Member States. Secure and adaptable employment and fair pay that provides a decent standard of living and a minimum income for those lacking sufficient resources at different stages of life are at the core of the European Pillar of Social Rights, manifesting in some of its 20 principles. The Directive on Adequate Minimum Wages in the European Union (Directive 2022/2041) and the Pay Transparency Directive (Directive 2023/970) are the two directives that directly focus on fair pay without discrimination. However, a wage itself, especially the minimum wage, may not suffice for a household with several dependants; therefore, strong social protection systems play an important role. The Council recommendation on adequate minimum income ensuring active inclusion therefore recommends improving the adequacy of income support, including the coverage and take-up of minimum income, and access to inclusive labour markets and essential services, and in this way improving safety nets at different levels (European Commission, 2022).

The term 'job insecurity' refers to the perceived threat to the continuity of one's job. It is measured by asking employees how likely they think they are to lose their jobs in the foreseeable future (in the EWCTS 2021, employees were asked about the next six months). Employees who 'tend to agree' or 'strongly agree' with this statement are considered to have high job insecurity. Job insecurity has a cognitive component, that is, the perceived possibility of losing one's job, and an affective component, that is, the emotional reaction to the potential loss (Jiang and Lavaysse, 2018). It is assessed as a subjective feeling and may exist

independently from one's objective state, for example, regardless of whether the end date of one's contract is known or the organisation is subject to layoffs (De Witte and Näswall, 2003).

Job insecurity is a significant stressor in the workplace. Meta-analytic evidence shows that job insecurity is linked to employees' health and well-being (Jiang and Lavaysse, 2018). Employees who worry about the continuation of their jobs report burnout, strain and depression to a greater extent. At the same time, the research shows that social support from co-workers improves well-being outcomes and buffers the negative effects of job insecurity (Kopp et al, 2008; Turner and Brown, 2010; Lim and Lee, 2011).

Financial worries are measured by asking respondents to what extent they have difficulty making ends meet with their total household income. Employees who experienced at least some difficulty making ends meet are considered to have financial worries. On the one hand, the ability to make ends meet objectively depends on household characteristics (such as the number of household members and whether they have an income, are economically inactive or have special needs). On the other hand, as with job insecurity, financial worries can also be understood from a subjective point of view as independent of people's actual income, as people may have unique needs and aspirations (Gao et al, 2022). During the pandemic, the prevalence of financial worries rose (Newby et al, 2020), becoming a significant stressor (Meuris and Leana, 2018). Financial worries persistently affect people's lives. Worrying about making ends meet is detrimental to people's psychological well-being and causes anxiety and distress at work. It is also related to physical ill-health, including a reduced immune response, heart disease and increased risk of death (Eurofound and EU-OSHA, 2014; Ryu and Fan, 2022). Financial worries also affect people's behaviour, leading to lower performance at work and poorer parenting (Gao et al, 2022). Struggling to make ends meet pushes people into the scarcity trap. Scarcity automatically focuses people's attention on their lack of resources or unfulfilled needs, leading to reduced cognitive capacity and emotional suppression, as they focus on the immediate fulfilment of those needs rather than on long-term objectives and goals.

According to a forthcoming report from EU-OSHA, *Psychosocial risk exposure and mental health outcomes of European workers with low socioeconomic status*, workers with low socioeconomic status, who are more

likely to report job insecurity and financial difficulties, are often more exposed to psychosocial risks than other groups. This implies a need to specifically include these workers in occupational health and safety strategies and actions, including those aimed at improving the working environment and tackling psychosocial risks, across all industry sectors.

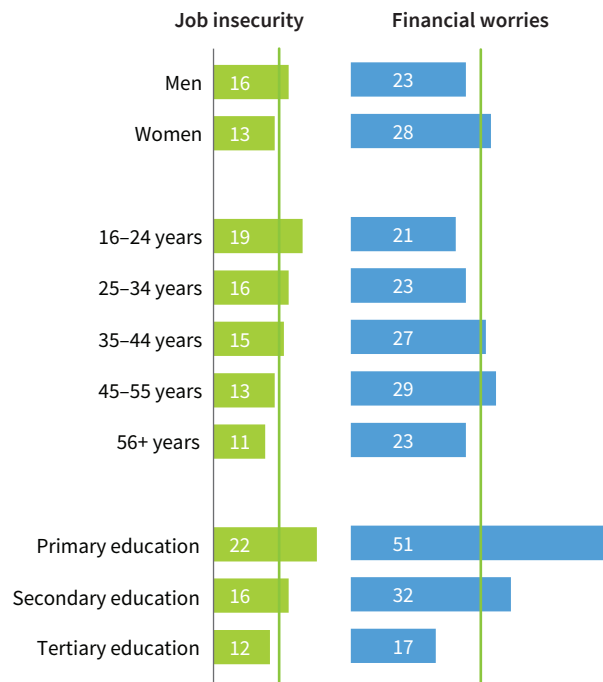
Profile of employees subject to job insecurity and financial worries

The EWCTS 2021 data indicate that about 14% of employees in the EU felt that their job was insecure at the time of the survey. However, not all groups of employees are affected by job insecurity, financial worries and the associated negative health and well-being outcomes to the same extent. Differences are evident in terms of gender, age and level of education, as Figure 18 illustrates.

These results indicate that a higher percentage of men (16%) than of women (13%) felt insecure about their job in 2021. Job insecurity seems to have been lower among older workers: the youngest workers (16–24 years old) were the most insecure, followed by employees aged 25–34 and 35–44 years old and then the older groups, those aged 45–55 years and 56 years or over. The fact that young workers in particular felt insecure about their job could be linked to the fact that a large share of them are employed as student workers or in low-skilled precarious jobs that were hit hard by the COVID-19 crisis (Eurofound, 2021e). Furthermore, job insecurity also co-varies with education: 22% of employees with a primary education experienced job insecurity, compared with 16% of those with a secondary education and 12% of those with a tertiary education. This is in line with other research findings showing that employees in lower socioeconomic positions (that is, less-educated workers) are at a higher risk of being exposed to job insecurity (Landsbergis et al, 2014; Eurofound, 2018, 2021e).

Regarding financial worries, overall the data from the EWCTS 2021 show that over one in four (26%) workers had difficulty making ends meet. Figure 18 indicates that more women (28%) than men (23%) had difficulty making ends meet. Half of employees educated to primary level only experienced financial worries, compared with one in three of those educated to secondary level and 17% of employees with a tertiary education. In addition, more employees aged between 35 and 55 years reported financial worries than younger employees or employees aged 56 or over. This could be

Figure 18: Prevalence of job insecurity and financial worries by gender, age and education, EU27, 2021 (% of employees)



Note: Vertical green lines indicate the EU27 average.
Source: EWCTS 2021

linked to the observation that people between 35 and 55 years old are likely to be combining work with caring for children or older family members, which for many involves working fewer hours and generating less income at a time when household expenses are escalating. Previous research suggests that those who cared for family members indeed experienced increased financial worries during the pandemic (Beach et al, 2021).

Looking at occupations and sectors, the results reveal that employees in elementary occupations, particularly in the commerce and hospitality sector, were most likely to report feeling that their job is insecure (Table 9). Plant and machine operators (working in industry or transport and storage) and craft and related trades workers were also at high risk of job insecurity, as were service and sales workers, although this is highly dependent on the sector in which they worked. Across occupations, job insecurity was somewhat less common among healthcare workers (except those in elementary occupations), who were seen as essential workers during the COVID-19 crisis, which is very likely to be due to the high demand for these workers at that time.

Table 9: Prevalence of job insecurity, by sector and occupation, EU27, 2021 (% of employees)

Sector/occupation	Armed forces occupations	Managers	Professionals	Technicians and associate professionals	Clerical support workers	Service and sales workers	Skilled agricultural workers	Craft and related trades workers	Plant and machine operators	Elementary occupations
Agriculture							9			
Commerce and hospitality		14	10	16	13	21		13		31
Construction		11	9	13				19		
Education		6	12	10		18				
Financial services		7	11	9	10					
Health		5	9	10	11	14				16
Industry		11	11	13	10	9		17	19	22
Other services		12	11	13	14	25		18		19
Public administration	4	11	6	5	9	10				
Transport and storage		14	8	14	15				20	18

Notes: For each category, N ≥ 200, with the exception of skilled agricultural workers in agriculture (N = 150). Details can be found in Annex 2.
Source: EWCTS 2021

Similarly, a relatively high proportion of workers in elementary occupations, plant and machine operators, and craft and related trades workers reported having financial worries, irrespective of the sector in which they worked (Table 10). While on average one in five workers

reported experiencing financial hardship, the share was much higher for employees in elementary occupations in the other services (48%), health (40%), and commerce and hospitality (39%) sectors. Service and sales workers, particularly in other services, health,

Table 10: Prevalence of financial worries, by sector and occupation, EU27, 2021 (% of employees)

Sector/occupation	Armed forces occupations	Managers	Professionals	Technicians and associate professionals	Clerical support workers	Service and sales workers	Skilled agricultural workers	Craft and related trades workers	Plant and machine operators	Elementary occupations
Agriculture							37			
Commerce and hospitality		14	12	21	24	37		31		39
Construction		8	13	20				33		
Education		10	18	25		35				
Financial services		6	9	12	22					
Health		11	17	26	24	37				40
Industry		11	6	16	23	23		33	29	36
Other services		6	11	16	24	44		30		48
Public administration	12	8	12	16	28	20				
Transport and storage		22	17	19	26				33	35

Notes: For each category, N ≥ 200, with the exception of skilled agricultural workers in agriculture (N = 150). Details can be found in Annex 2.
Source: EWCTS 2021

education, and commerce and hospitality, were also affected by financial worries during the COVID-19 pandemic, as many premises were closed to limit the spread of the virus.

Effects on health and well-being

To assess the impact of job insecurity and financial worries on other job stressors and resources and on health and well-being outcomes, a comparison was carried out between employees who reported these psychosocial risks with those who did not, using mean scores. The radar graphs below show the mean scores only for the stressors and resources and health and well-being outcomes for which there is a significant difference (based on Cohen's *d* effect sizes) between the group that was and the group that was not exposed to the psychosocial risk in question (for more details, see Annex 2).

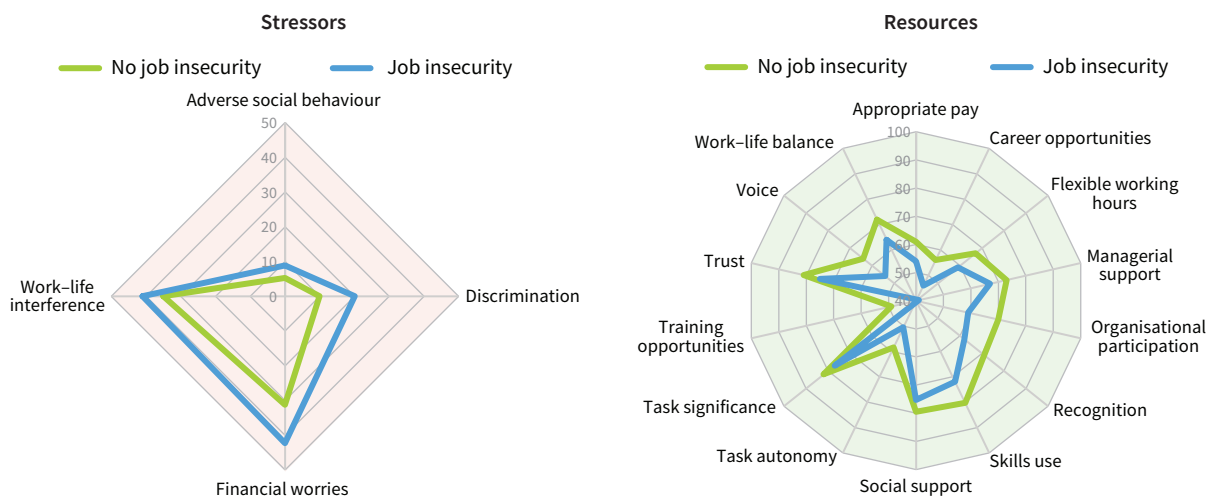
Job insecurity

As Figure 19 shows, those who felt insecure about their job reported more worry about their financial situation. Job insecurity also heightened the chance of workers experiencing adverse social behaviour and discrimination at work. Workers who reported job

insecurity in addition reported more work-life interference, which indicates that the work-related thoughts and feelings of these workers spilled over into their home situation and hindered them from fulfilling their duties at home, while family issues prevented them from concentrating at work.

These employees also reported having lower levels of many job resources. First, job-insecure employees had less task autonomy, less voice and less participation. They therefore seemed to feel that they had little power to influence decision-making at various levels of their organisations. Second, they felt rather lonely and 'unseen' in their situation, as they reported receiving less social support from colleagues and managers and less trust and recognition than more secure employees. Third, they had fewer career or training opportunities than job-secure employees. This may have hampered their employability and chances of securing another job if they had been made redundant (Koen et al, 2013; Glerum and Judge, 2021). Finally, job-insecure workers were less likely to report receiving appropriate pay for the work they do, having the flexibility to take an hour or two off during working hours, and work-life balance. According to the effort-reward imbalance theory, the rewards were far lower than the efforts they put into their work.

Figure 19: Mean scores for stressors and resources, by experience of job insecurity, EU27, 2021



Notes: Only variables that differ significantly, based on a Cohen's *d* effect size > |0.20|, are included. Details can be found in Annex 2.
Source: EWCTS 2021

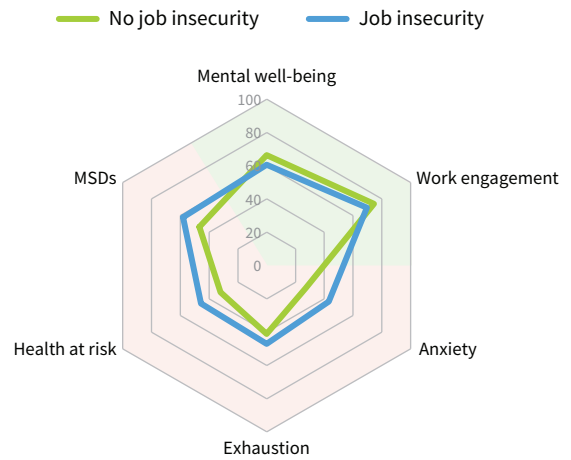
These differences between employees who reported job insecurity and those who did not in terms of stressors and resources probably result in differences in employees' health and well-being. Figure 20 shows that job-insecure employees scored lower on mental well-being and work engagement than other employees. Most notably, they also scored considerably higher on exhaustion, MSDs, anxiety and the feeling that their health is at risk because of their work.

Financial worries

Comparing employees with and without financial worries, the results show that difficulty making ends meet is associated with the presence of other stressors and, particularly, fewer resources (Figure 21). The situation of employees with financial worries is therefore similar to that of those feeling insecure about their job.

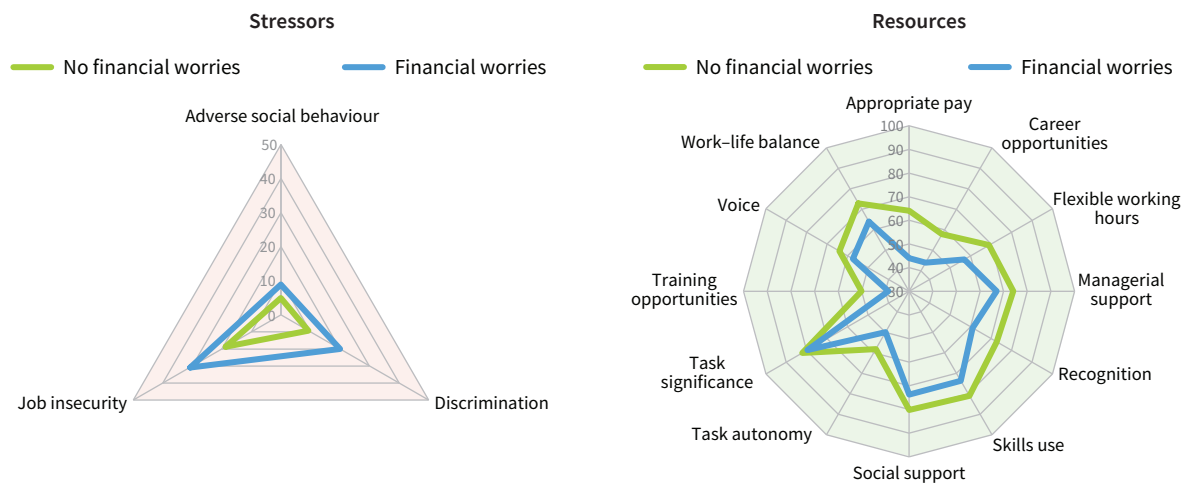
As postulated in the theoretical framework outlined in Chapter 1, experiencing more stressors and fewer resources probably leads workers to have poorer well-being and health. Figure 22 indeed indicates that workers with financial worries were more likely than those without such worries to have poor mental well-being, MSDs and anxiety, and to feel that their health is at risk because of work.

Figure 20: Mean scores for health and well-being outcomes, by experience of job insecurity, EU27, 2021



Note: Only variables that differ significantly, based on a Cohen's d effect size > |0.20|, are included (see Annex 2).
Source: EWCTS 2021

Figure 21: Mean scores for stressors and resources, by experience of financial worries, EU27, 2021



Notes: Only variables that differ significantly, based on a Cohen's d effect size > |0.20|, are included. Details can be found in Annex 2.
Source: EWCTS 2021

Figure 22: Mean scores for health and well-being outcomes, by experience of financial worries, EU27



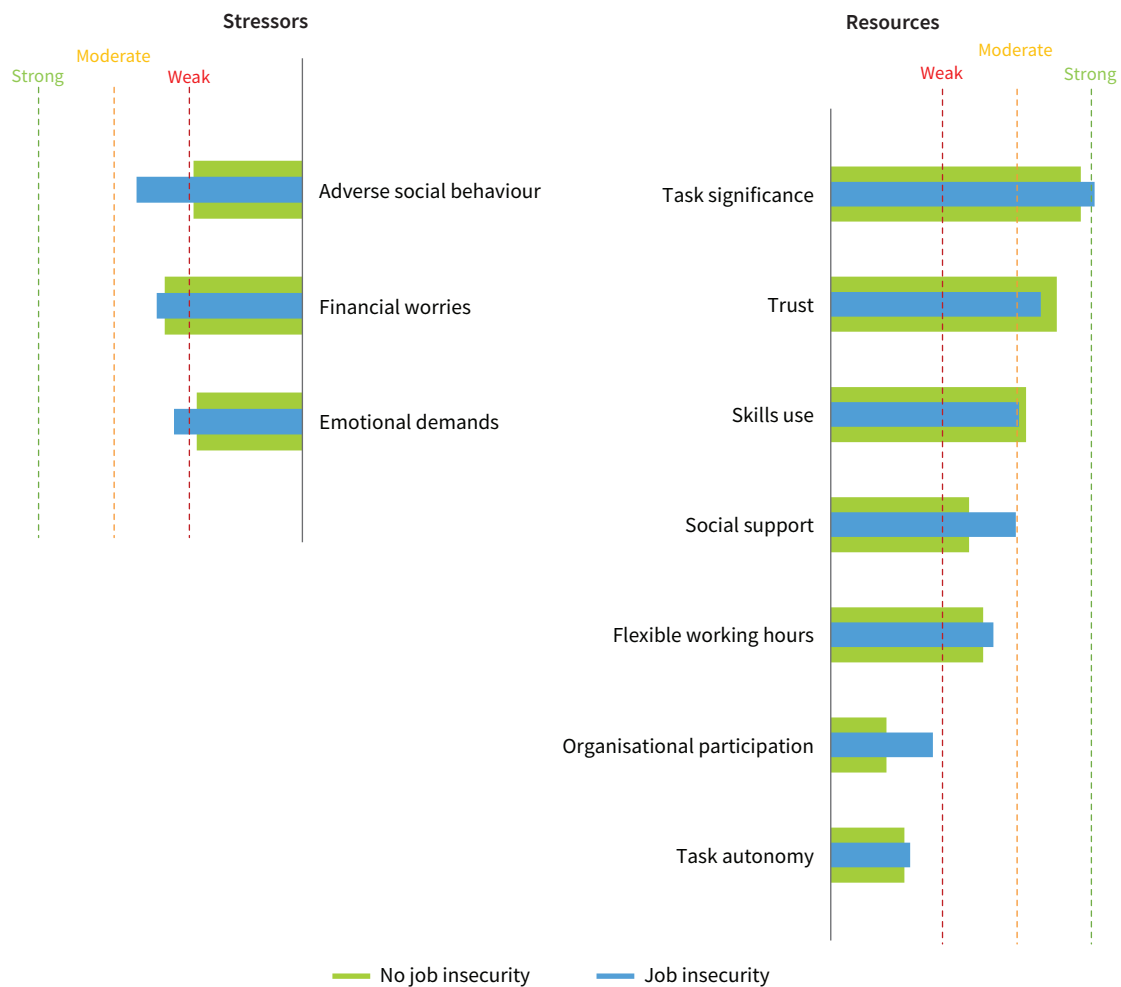
Note: Only variables that differ significantly, based on a Cohen's d effect size > |0.20|, are included (see Annex 2).
Source: EWCTS 2021

Linking psychosocial risks with health and well-being

Mental well-being

Several stressors and resources predict significant differences in mental well-being between employees who reported job insecurity and those who did not, when gender, age, sector, occupation and country are controlled for (Annex 2). The results indicate that adverse social behaviour, financial worries and emotional demands are more detrimental to the mental well-being of job-insecure workers than to that of workers who do not feel insecure about their job (Figure 23).

Figure 23: Relationship between mental well-being and stressors and resources, by experience of job insecurity



Notes: Bars indicate correlation coefficients; red lines indicate $r > |0.15|$, yellow lines indicate $r > |0.25|$ and green lines indicate $r > |0.35|$. Correlations are included if the interaction effect in the regression analysis controlling for gender, age, occupation, sector and country was significant ($p < 0.01$, $^{\circ} p < 0.05$, $\bullet p < 0.1$) (see Annex 2).
Source: Authors' calculations, based on EWCTS 2021

Resources are predictors of mental well-being. This suggests that resources should be a focal point of efforts to improve the working conditions of employees, especially when they feel job insecurity. Most notably, when comparing the importance of resources in predicting mental well-being, it is clear that social support from colleagues and organisational participation are more important for sustaining mental health for job-insecure than for job-secure workers.

With regard to financial worries, few differences were found in the degree to which stressors and resources predict mental well-being. After controlling for background variables, only two characteristics predicted mental well-being for workers who had difficulty making ends meet compared with those who did not. Physical risk factors was one; these were found to be more detrimental for mental health when workers have financial worries. Task significance was the other, and this was found to have less potential to support the mental health of workers with these worries.

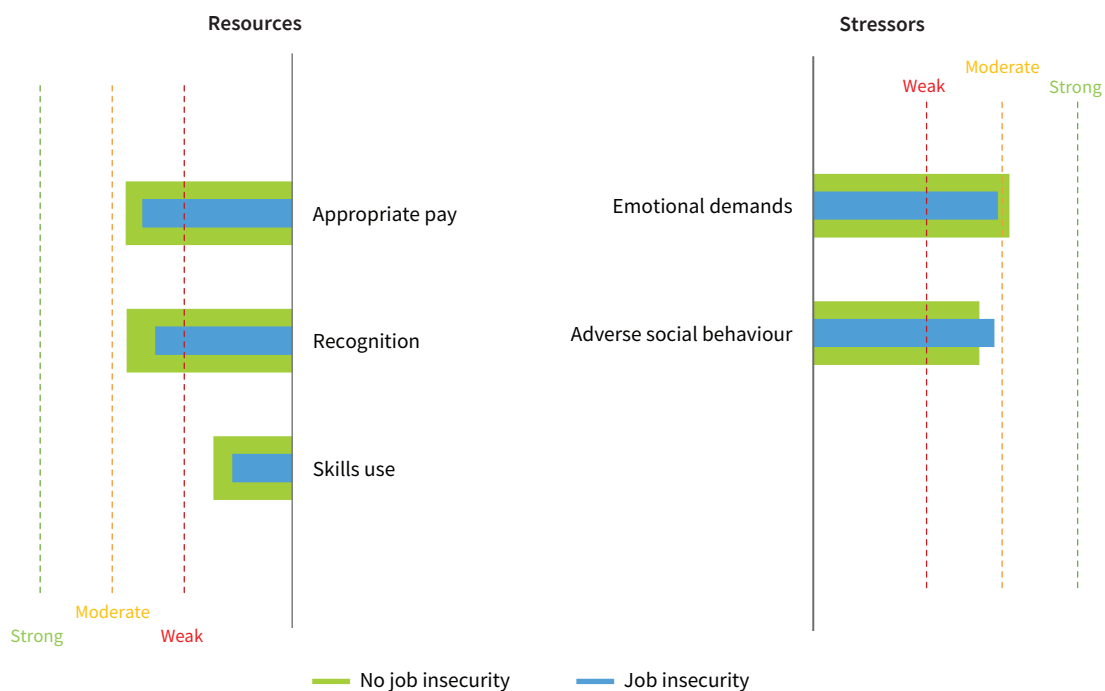
Health at risk because of work

Comparing employees who reported job insecurity with those who did not, some differences are evident in the degree to which stressors and resources are predictive of ill-health, as measured by employees’ perception

that their health is at risk due to their work. The results for the stressors and resources that have a significant effect on ill-health, after controlling for gender, age, occupation, sector and country, are presented in Figure 24. They show that experiencing adverse social behaviour is more strongly related to perceiving that one’s health is at risk for job-insecure than for job-secure workers. When looking at the impact of resources on employees’ perception that their health is at risk, all differences between job-insecure and job-secure workers indicate that the resources – specifically skills use, recognition and appropriate pay – are less able to reduce the perception of health being at risk for job-insecure workers than for job-secure workers.

Regarding differences in the impact of stressors and resources on the perception of health being at risk for those who had financial worries and those who did not, only two differences were found. In terms of resources, task significance is less able to reduce the perception of health being at risk for employees with financial worries than for those without. In terms of stressors, poor work-life balance is more strongly related to the perception of health being at risk for employees with worries about their financial situation than for those without such worries.

Figure 24: Relationship between health at risk because of work and stressors and resources, by experience of job insecurity



Notes: Bars indicate correlation coefficients; red lines indicate $r > |0.15|$, yellow lines indicate $r > |0.25|$ and green lines indicate $r > |0.35|$. Correlations are included if the interaction effect in the regression analysis controlling for gender, age, occupation, sector and country was significant ($p < 0.01$, * $p < 0.05$, • $p < 0.1$) (see Annex 2).
Source: Authors’ calculations, based on EWCTS 2021

Summary

This chapter focused on employees who experienced job insecurity and financial worries. In 2021, 14% of employees in the EU on average reported experiencing job insecurity, and 26% experienced financial worries. More men than women experienced job insecurity (16% and 13%, respectively), while the opposite was true for financial worries (28% of women and 23% of men had difficulty making ends meet). Job insecurity was most prevalent among the youngest age group (16–24 years), while financial worries were reported more by 35–55-year-old employees than younger or older age groups.

Job insecurity often goes hand in hand with financial worries. A greater proportion of workers in low-skilled jobs (for example, workers in elementary occupations, plant and machine operators, craft and related trades workers, and service and sales workers) experienced job insecurity and financial worries than employees in other occupational groups. Workers who experienced job insecurity and financial worries also experienced other stressors (particularly adverse social behaviour and discrimination) to a greater degree and – most notably – had fewer resources than those who were job secure or did not have financial worries.

Moreover, not all resources contribute to improving the well-being of employees experiencing different stressors. For example, social support from colleagues and organisational participation were found to be important resources sustaining good mental health for employees who reported job insecurity and not for those who were financially strained. The inability of some employees to benefit from some resources makes it hard for them to overcome their situation, and suggests that other resources, not necessarily related to the workplace, are needed to improve their employment and economic situations (that is, resources related to macroeconomic and social policy).

Finally, the EWCTS 2021 data confirm that the combination of a high level of stressors and a low level of resources for employees experiencing job insecurity and financial worries is related to low mental well-being and high levels of ill-health, in terms of MSDs, anxiety and perception of one's health being at risk.

4 Violence and harassment at work

The importance of relationships between colleagues and the high degree of interdependence in the work environment can become a source of stress for employees when violent or threatening behaviours are present in their workplace (Choi et al, 2018). The EWCTS 2021 examines two types of such problematic behaviour: adverse social behaviour and discrimination.

Adverse social behaviour is an umbrella term for a variety of abusive behaviours experienced by employees in their relationships at work. In the EWCTS 2021, adverse social behaviour was examined by asking people whether, during work, they had been subject to verbal abuse or threats or unwanted sexual attention in the month before the survey, and whether they had been subject to any bullying, harassment or violence in the 12 months before the survey (Eurofound, 2022e) (Table 11). The questions do not specify the source of adverse social behaviour, but in principle it can come from co-workers, managers or third parties (customers, clients, passengers, patients, pupils and so on).⁶

Discrimination is a specific form of abusive behaviour in which a person is treated less favourably than another is treated, has been treated or would be treated in a comparable situation on the grounds of certain personal characteristics, such as ethnicity, race, age, religion or beliefs, disability and sexual orientation (Eurofound, 2020c).

Adverse social behaviour and discrimination can have a significant impact on individuals and organisations, as these types of misconduct seriously threaten employees' health and well-being at work. The EU and many European social partners are strongly committed to tackling the issue, as illustrated by the Framework Agreement on Harassment and Violence at Work, signed in 2007. With this agreement, the European cross-sectoral social partners firmly 'condemn work related violence in all its forms, and recognise that violence can have an adverse effect on the workplace of each worker' (EU-OSHA, 2017). Furthermore, the principle of non-discrimination is one of the fundamental values of the EU, according to Article 2 of the Treaty on European Union (Eurofound, 2020c).

Importantly, adverse social behaviour has been found to be one of the most impactful psychosocial risks in terms of its negative effect on employees' health and well-being (Eurofound and EU-OSHA, 2014). Previous research using EWCS 2010 data showed that adverse social behaviour is strongly associated with stress at work, sleeping problems and an overall negative impact on health. Discrimination was also reported to reduce employees' sleep quality. Beyond the individual sphere, adverse social behaviour and discrimination are also costly for organisations, as they can worsen employees' attitudes towards their company, increase employee turnover and reduce positive behaviours such as organisational citizenship (Jones et al, 2016; Yao et al, 2022).

Table 11: Questions used to measure exposure to adverse social behaviour and discrimination in the EWCTS 2021

Questions	Groups considered to have been exposed to the stressor
Adverse social behaviour	
<p>Over the last month, during the course of your work, have you been subjected to any of the following?</p> <ul style="list-style-type: none"> ○ Verbal abuse or threats (yes/no) ○ Unwanted sexual attention (yes/no) <p>Over the past 12 months, during the course of your work have you been subjected to any of the following?</p> <ul style="list-style-type: none"> ○ Bullying, harassment, violence (yes/no) 	Employees exposed to at least one of these behaviours (answering 'yes' to at least one of these questions) are considered to have been exposed to adverse social behaviour.
Discrimination	
Over the past 12 months, have you been discriminated at work? By this, I mean been treated less favourably or unfairly because of who you are or because you have certain characteristics (yes/no)	Employees who answered 'yes' to this question are considered to have been exposed to discrimination.

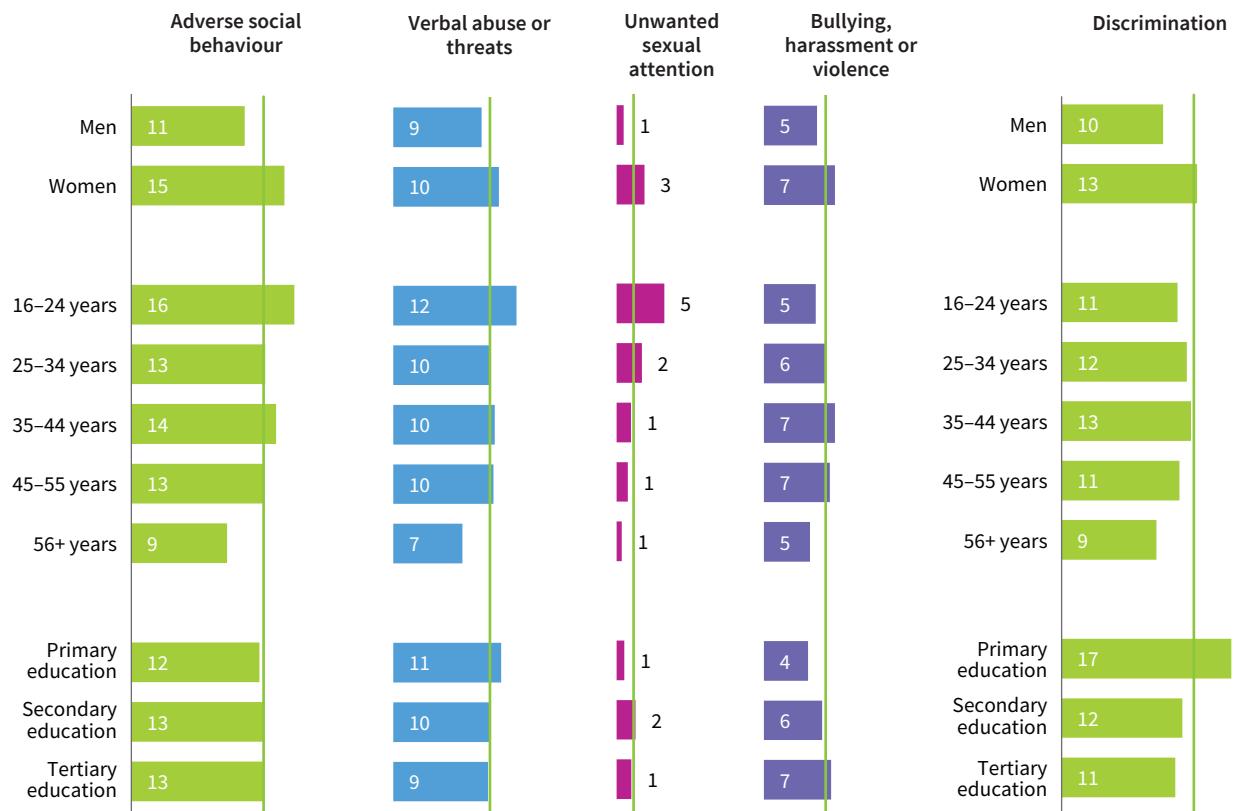
⁶ However, a separate EWCTS 2021 question asking how often workers' main job includes dealing directly with people at their workplace who are not employees may provide insight into the prevalence of third-party violence at work.

Moreover, it is important to examine adverse social behaviour and discrimination in the context of the COVID-19 pandemic, as the social environment at work was dramatically affected when the most severe measures were implemented to contain the spread of the virus, such as forced remote working (Eurofound, 2022b). While some employees had to work remotely, others continued working at their employer's premises. The latter was true for many essential workers, from healthcare workers to supermarket cashiers, who were reportedly exposed to increased levels of adverse social behaviour from third parties (including while ensuring that patients or clients followed specific protocols, for example using facemasks, keeping physical distance and instructing patients to follow a specific treatment).

Profile of employees subject to adverse social behaviour and discrimination

In 2021, around 13% of the employees surveyed in the EU reported that they had encountered at least one type of adverse social behaviour at work (Figure 25). Verbal abuse and threats were the most prevalent forms of adverse social behaviour, followed by bullying, harassment or violence and receiving unwanted sexual attention. More women (15%) than men (11%) reported at least one form of adverse social behaviour. In addition, more women than men reported being subject to each type of adverse social behaviour.

Figure 25: Prevalence of adverse social behaviour and discrimination, by gender, age and education, EU27, 2021 (% of employees)



Source: EWCTS 2021

Among age groups, the highest share of employees – around 16% – reporting being subject to at least one form of adverse social behaviour was in the youngest age group (16–24 years), and the lowest prevalence was among those aged 56 years or older, at 9%. Other age groups were in between: 13% of employees aged 25–34 years and 45–55 years and 14% of those aged 35–44 years. Verbal abuse or threats and unwanted sexual attention were reported most by the youngest group, and the percentage of workers reporting these behaviours declined with age. However, among employees exposed to bullying, harassment or violence, these age differences are less apparent. These adverse social behaviours were reported most by employees aged between 35 and 55.

Almost 12% of employees reported that they had been treated less favourably or unfairly because of who they are or because they have certain personal characteristics. Discrimination was more common among women than men: 13% of women reported having been discriminated against at work, compared with 10% of men. Across age groups, the oldest age group was least likely to report experiencing discrimination (around 9% of workers in this group experienced it). More employees with a primary education reported discrimination (17%) than those with a secondary (12%) or a tertiary education (11%) (Figure 25).

Not surprisingly, a significant proportion (almost 22%) of employees working in frontline positions – that is, those whose jobs involve direct contact with some type

of client (patients, students, suppliers, customers and so on) – have experienced adverse social behaviour at work. By sharp contrast, only 8% of employees working from home reported experiencing adverse social behaviour. Therefore, working with third parties more than doubles the likelihood that an individual is exposed to any type of adverse social behaviour (Eurofound, 2022e).

The sectors with the highest prevalence of employees reporting having experienced at least one form of adverse social behaviour are health (22%), public administration (17%), and transport and storage (15%). These are among the sectors with the highest shares of employees who always or often deal with clients in their work (79% in education, 75% in health, and 57% in transport and storage). By contrast, less than 7% of workers in agriculture and less than 8% of employees in construction reported experiencing adverse social behaviour.

In more detail, in the health sector, the prevalence of adverse social behaviour was highest among technicians and associate professionals (especially associate professionals, as shown by Eurofound (2023)), professionals, and service and sales workers (from 23% to 26%) (Table 12). Service and sales workers are the occupational group with the highest risk across all sectors, with the highest percentage experiencing adverse social behaviour in the public administration sector (29%). A relatively high share of managers in the education sector also reported being exposed to any form of adverse social behaviour (23%).

Table 12: Prevalence of adverse social behaviour, by sector and occupation, EU27, 2021 (% of employees)

Sector/occupation	Armed forces occupations	Managers	Professionals	Technicians and associate professionals	Clerical support workers	Service and sales workers	Skilled agricultural workers	Craft and related trades workers	Plant and machine operators	Elementary occupations
Agriculture							11			
Commerce and hospitality		10	7	9	8	18		9		12
Construction		7	8	6				9		
Education		23	14	10		13				
Financial services		9	12	11	13					
Health		15	25	26	11	23				14
Industry		7	8	8	10	17		7	12	10
Other services		7	6	11	11	15		22		10
Public administration	8	17	13	18	10	29				
Transport and storage		11	6	11	13				17	14

Notes: For each category, N ≥ 200, with the exception of skilled agricultural workers in agriculture (N = 150). Details can be found in Annex 2.
Source: EWCTS 2021

The results for discrimination are similar to those for adverse social behaviour. Almost 15% of frontline workers reported that they had been discriminated against at work, whereas only 8% of home office workers reported experiencing discrimination. Differences were also found across sectors, with the largest percentage of employees experiencing discrimination being in the health sector (almost 15%), followed by employees in the transport and storage (13%) and public administration (12%) sectors.

Concerning specific occupations, employees in mid-low hierarchical positions appear to have been more at risk of experiencing discrimination: the occupations with the highest percentages of employees experiencing discrimination across all sectors were service and sales workers (more than 14%), workers in elementary occupations (almost 14%), and plant and machine operators (13%). More specifically, workers at the greatest risk of experiencing discrimination were those in elementary occupations in the transport and storage sector (19%) and technicians and associate professionals in the health sector (17%) (Table 13). Data from the EWCS 2015 showed that workers from the health and transport sectors tended to score poorly on a social environment index, which included the measurement of adverse social behaviour (Eurofound, 2017a).

Effects on health and well-being

Being exposed to adverse social behaviour or discrimination has a clear negative impact on workers' health and well-being, as it creates a tense work environment and harms their self-esteem (Jones et al, 2016; Yi and Kim, 2020). Consistent with existing research, the analysis of the EWCTS 2021 confirms that employees who experienced adverse social behaviour or discrimination in the workplace were also more likely to experience higher levels of other stressors and a lower availability of resources than those who did not experience adverse social behaviour or discrimination.

To assess the impact of adverse social behaviour and discrimination on other job stressors and resources and on health and well-being outcomes, a comparison was carried out between employees who reported these psychosocial risks and those who did not, using mean scores. The radar graphs below show these mean scores only for the health and well-being outcomes, stressors and resources for which there is a significant difference (based on Cohen's *d* effect sizes) between the group that is and the group that is not exposed to the psychosocial risk in question (for more details, see Annex 2).

Table 13: Prevalence of discrimination, by sector and occupation, EU27, 2021 (% of employees)

Sector/occupation	Armed forces occupations	Managers	Professionals	Technicians and associate professionals	Clerical support workers	Service and sales workers	Skilled agricultural workers	Craft and related trades workers	Plant and machine operators	Elementary occupations
Agriculture							7			
Commerce and hospitality		11	6	10	9	15		8		14
Construction		7	8	10				12		
Education		7	11	13		10				
Financial services		10	7	8	8					
Health		11	14	17	11	15				11
Industry		9	10	9	11	7		12	14	11
Other services		7	8	11	9	15		10		14
Public administration	6	9	10	12	10	16				
Transport and storage		9	8	11	16				11	19

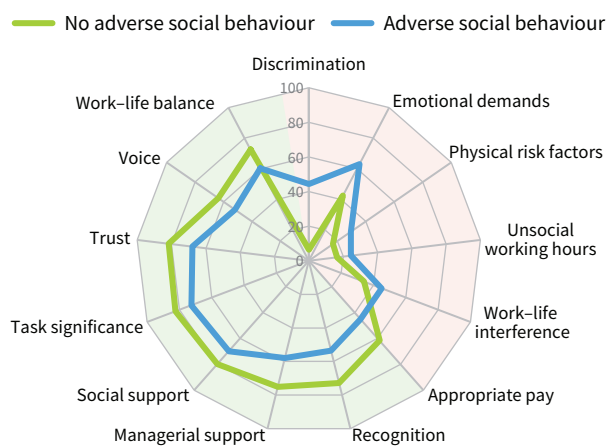
Notes: For each category, N ≥ 200, with the exception of skilled agricultural workers in agriculture (N = 150). Details can be found in Annex 2.
Source: EWCTS 2021

Stressors

Employees who experienced at least one type of adverse social behaviour in the 12 months before the survey reported higher levels of several other stressors than employees who did not experience adverse social behaviour. Although any causal relationship between the different indicators cannot be inferred, experiencing adverse social behaviour is strongly associated with discrimination, emotional demands, physical risk factors, unsocial working hours and work–life interference (Figure 26).

Similar results are found for discrimination (Figure 27). Employees who experienced discrimination at work in the 12 months prior to the survey also reported experiencing higher levels of adverse social behaviour, financial worries, emotional demands, physical risk factors and work–life interference than those who did not report experiencing discrimination at work. More specifically, discrimination had the greatest effect on emotional demands and work–life interference.

Figure 26: Mean scores of employees on stressors and resources, by experience of adverse social behaviour, EU27



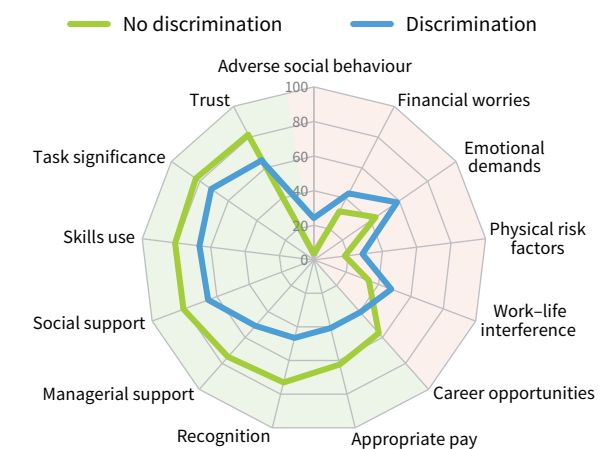
Note: Only variables that differ significantly, based on a Cohen’s d effect size > |0.40|, are included (see Annex 2).
Source: EWCTS 2021

Resources

Employees who experienced adverse social behaviour or discrimination generally tended to report less availability of many job resources. More specifically, employees who reported adverse social behaviour also reported lower levels of perceived appropriate pay, recognition, support from colleagues and managers, task significance, trust, voice and work–life balance (Figure 26).

As for discrimination, managerial support, recognition and appropriate pay are the resources for which the largest differences were observed between people who experienced discrimination at work and those who did not (Figure 27). The pattern of results for discrimination differ from those for adverse social behaviour in relation to career opportunities and skills use. For these resources, the gap between employees exposed versus those not exposed to discrimination is more pronounced than for adverse social behaviour. By contrast, the effects

Figure 27: Mean scores of employees on stressors and resources, by experience of discrimination, EU27, 2021



Note: Only variables that differ significantly, based on a Cohen’s d effect size > |0.40|, are included (see Annex 2).
Source: EWCTS 2021

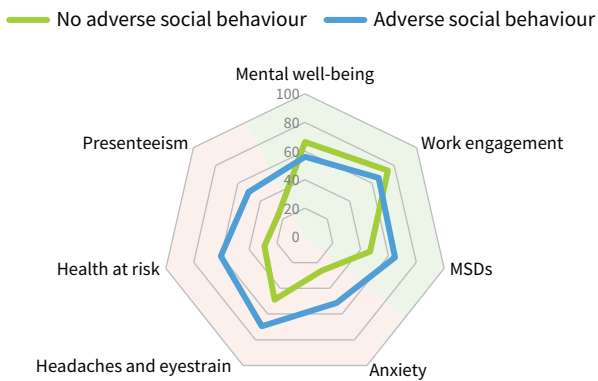
of voice and work–life balance are more pronounced for employees exposed to adverse social behaviour than for those experiencing discrimination at work.

Health and well-being

Findings from the EWCTS 2021 on the relationship between exposure to adverse social behaviour and employees’ health and well-being and the relationship between exposure to discrimination and employees’ health and well-being overlap to a considerable degree. Overall, experiencing either psychosocial risk is linked to negative health and well-being outcomes. Figure 28 exemplifies this, showing that health and well-being outcomes are significantly different between those who were subject to adverse social behaviour and those who were not.

In terms of significant differences in health complaints, employees who reported experiencing adverse social behaviour or discrimination also reported higher levels of MSDs, anxiety, headaches and eyestrain, perception of their health being at risk because of work and presenteeism than employees who did not report either risk. The most pronounced differences were found for levels of anxiety and perception of one's health being at risk because of work. Being subject to others'

Figure 28: Mean scores of employees on health and well-being outcomes, by experience of adverse social behaviour, EU27, 2021



Note: Only variables that differ significantly, based on a Cohen's d effect size > |0.20|, are included (see Annex 2).

Source: EWCTS 2021

misconduct at work may increase the likelihood of employees perceiving their health to be at risk, as their work environment is not perceived as safe and respectful (Jones et al, 2016; Sherf et al, 2021).

The opposite pattern is found for positive health and well-being outcomes. Employees who reported experiencing adverse social behaviour or discrimination also reported lower levels of mental well-being and work engagement than employees who had not experienced these risk factors.

The similarities between adverse social behaviour and discrimination in their association with job stressors, job resources, and health and well-being outcomes show that adverse social behaviour and discrimination are interrelated phenomena. The findings suggest that the threats to health and well-being are strongest when employees who experience adverse social behaviour or discrimination or both at work feel lack of recognition or not valued, with limited opportunities for personal development at work and little trust or perceived support from managers. Other circumstances, such as working with third parties, increase the likelihood of workers experiencing adverse social behaviour (Eurofound, 2015a).

Linking psychosocial risks with health and well-being

Employees who experienced adverse social behaviour or discrimination at work were compared with those who did not, to assess whether being subject to such workplace misconduct has an impact on the associations between stressors, resources, and health and well-being outcomes. Some specific outcomes were taken into account and are examined below in more detail. Only the resources and stressors for which significant effects were found are included (see Annex 2).

Engagement at work

Among employees confronted with adverse social behaviour or discrimination at work, work engagement is reduced somewhat when they also experience job insecurity.

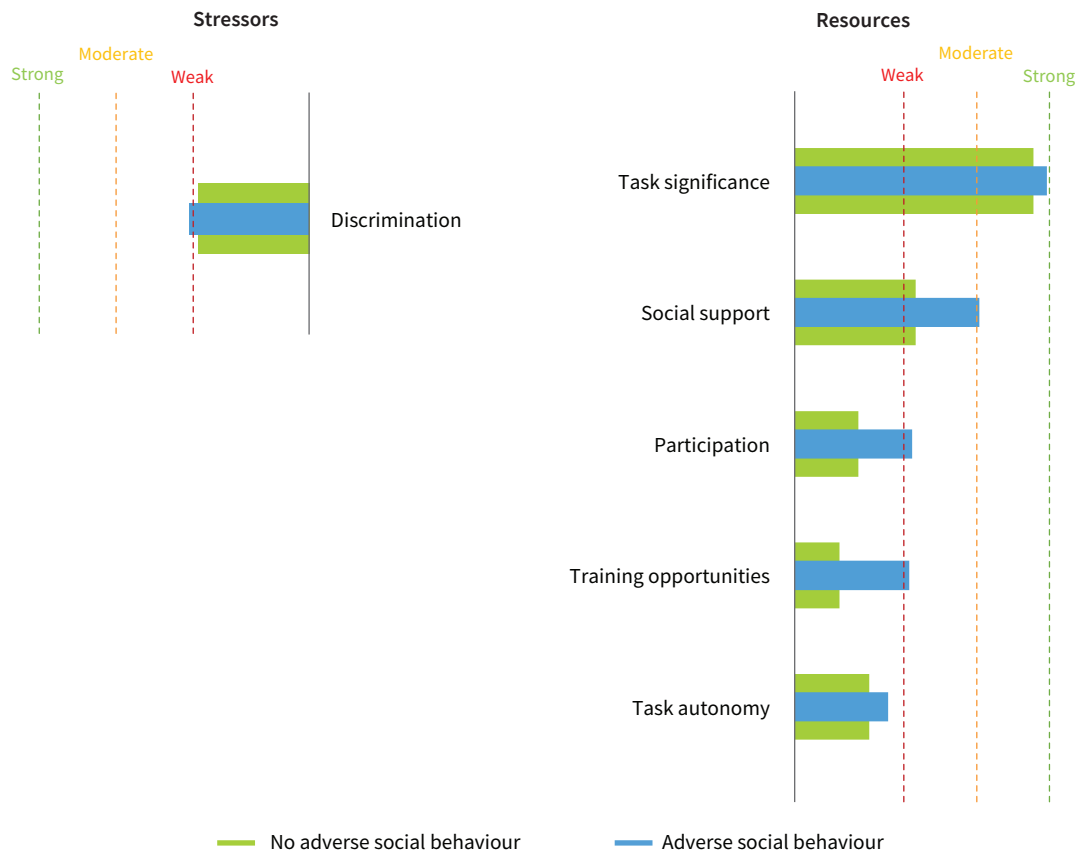
Among employees in general, when resources are taken into account, work engagement is higher when they have more social support and voice. Interestingly, for those who have experienced adverse social behaviour or discrimination, the association between work engagement and social support is even stronger, while, for those experiencing no adverse social behaviour or discrimination, voice is the main resource associated with work engagement. According to the job demand-control-support model (Karasek and Theorell, 1990), this probably occurs because employees who are the target of others' misconduct benefit from social support, as it allows them to gather or restore some psychological resources (Hu et al, 2011). By contrast, it is easier for those who are not the target of misconduct to intervene and speak up in their organisations, which in turn may increase their engagement at work, through motivational processes (Bakker and Demerouti, 2007).

Mental well-being

Regarding mental well-being, discrimination is the only stressor with a significant interaction with adverse social behaviour, indicating that employees who experience both adverse social behaviour and discrimination are more at risk of having lower mental well-being than employees who only experience discrimination (Figure 29). Furthermore, for those who faced discrimination at work, being exposed to adverse social behaviour and unsocial working hours further worsened their mental well-being, but the impact was less than for employees who did not face any discrimination (Figure 30).

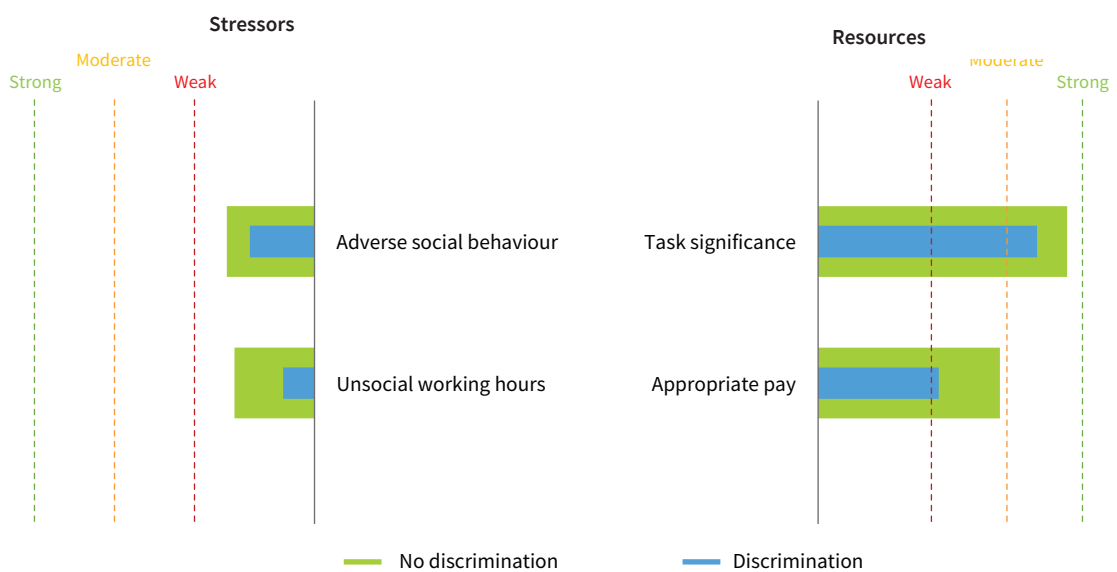
With regard to the association between resources and mental well-being, the well-being of employees who experienced adverse social behaviour was positively associated with high levels of task significance, social support, participation, training opportunities and task

Figure 29: Relationship between mental well-being and stressors and resources, by experience of adverse social behaviour



Notes: Bars indicate correlation coefficients; red lines indicate $r > |0.15|$, yellow lines indicate $r > |0.25|$ and green lines indicate $r > |0.35|$. Correlations are included if the interaction effect in the regression analysis controlling for gender, age, occupation, sector and country was significant ($p < 0.01$, * $p < 0.05$, • $p < 0.1$) (see Annex 2).
Source: Authors' calculations, based on EWCTS 2021

Figure 30: Relationship between mental well-being and stressors and resources, by experience of discrimination



Notes: Bars indicate correlation coefficients; red lines indicate $r > |0.15|$, yellow lines indicate $r > |0.25|$ and green lines indicate $r > |0.35|$. Correlations are included if the interaction effect in the regression analysis controlling for gender, age, occupation, sector and country was significant ($p < 0.01$, * $p < 0.05$, • $p < 0.1$) (see Annex 2).
Source: Authors' calculations, based on EWCTS 2021

autonomy, and the effect was stronger than for those who did not experience adverse social behaviour (Figure 29). The availability of these resources may therefore contribute to mitigating the negative effects of psychosocial risks when subject to adverse social behaviour. As for the employees who faced discrimination, task significance and appropriate pay in particular were positively correlated with their mental well-being, but the effect is less pronounced than for those who did not face discrimination at work (Figure 30).

These results indicate that being subject to others' misconduct at work tends to aggravate stress in the workplace, affecting employees' well-being. This may be related to the activation or worsening belief among workers that they are in an insecure or unsafe environment (Yi and Kim, 2020). These results also suggest that the positive impact of protective factors at work, such as social support and opportunities to participate in organisational decision-making and opportunities for development, can help protect workers from the negative impact of adverse social behaviour. Finally, as expected, based on the concepts of organisational justice and effort–reward balance (Siegrist, 1996; Fox et al, 2001), seeing value in one's job and feeling correctly rewarded for one's efforts at work are particularly important in buffering the detrimental effect of discrimination on employees' well-being.

Health at risk because of work

Overall, the findings confirm that the co-occurrence of adverse social behaviour and discrimination strengthens the negative impact of stressors on employees' health and well-being outcomes. Other stressors, such as physical risk factors and unsocial working hours, seem to interact strongly with discrimination, aggravating its already harmful impact on health and well-being. Furthermore, the analysis also shows that work–life balance is important for employees who experience either risk factor. This is probably linked to the observation that a better balance between both sides of an individual's life reduces potential strain and increases their perception of having control over their work, which contributes to increasing their satisfaction and quality of life (Greenhaus et al, 2003). As a result, work–life balance is clearly a resource that reduces workers' perception that their health is at risk because of work. Nevertheless, this effect is more general and was also found for employees who did not experience others' misconduct at work. Training opportunities may play the same protective role for employees who report discrimination.

Summary

This chapter focused on the impact of violence and harassment on employees in EU workplaces. The findings confirm that being exposed to adverse social behaviour or discrimination has a detrimental impact on employees' health and well-being.

Specific groups of workers may be especially at risk of experiencing these risk factors. More women than men reported adverse social behaviour and discrimination. Looking at sectors, employees in health, public administration, and transport and storage were more exposed than workers in other sectors. In terms of occupational group, service and sales workers, technicians and associate professionals, and professionals had the highest shares of workers reporting exposure to adverse social behaviour and discrimination. These employees are highly involved in frontline activities, which usually require intense and prolonged contact with clients; thus, these employees are more likely to experience adverse social behaviours from others (mainly verbal abuse).

Furthermore, the findings showed that adverse social behaviour and discrimination, especially when co-occurring, increased workers' exposure to most other psychosocial risks and the negative impact of those risks on their health. Three stressors – emotional demands, work–life interference and physical risk factors – often co-occur for employees who experience adverse social behaviour or discrimination at work. Financial worries are more present among employees who experience discrimination than those who do not, while unsocial working hours are more present among those experiencing adverse social behaviour.

The findings show that some job resources can (partly) mitigate the negative impact of adverse social behaviour and discrimination on employees' health and well-being. Strengthening the social environment in the workplace through increasing the availability of resources such as social support (especially from managers), organisational participation and training opportunities can buffer the negative impact of stressors or even prevent their occurrence.

5 Risks associated with telework

The fourth industrial revolution spurred the widespread use of ICT and the digitalisation of work and work environments (Bailey and Kurland, 2002). The EWCTS shows that in 2021 almost 7 out of 10 employees were using a computer, laptop, tablet or smartphone ‘often’ or ‘always’ in their job. The number of employees working outside their employer’s premises has increased over the last decade, and rocketed as a result of the COVID-19 pandemic (Beckel and Fisher, 2022). While in 2019 about 11% of employees were working ‘sometimes’ or ‘usually’ from home, this share increased abruptly after the COVID-19 outbreak, reaching 19% in 2020 (Eurofound, 2022d). In 2021, about 23% of all employees indicated that they teleworked partially or full time, and in 2022, in the absence of COVID-19-related restrictions, 20% of employees were

still teleworking usually or occasionally. This indicates that telework has become a permanent feature of working life for one in five workers in the EU.

Box 3 shows the grouping of employees according to the frequency with which they telework, based on EWCTS 2021 data.

Owing to continuous technological development, a further increase is predicted in the amount of people teleworking in the coming years (Eurofound, 2022d, 2022g). As the shift to teleworking arrangements strongly affects working conditions, it has become important to assess the psychosocial risks associated with telework and to appropriately address them with regulations and company-level policies.

Box 3: Defining types of teleworkers

Using the EWCTS 2021, groups of workers can be distinguished based on the extent to which they (can) telework. In this study, the same method of classification is used as in previous Eurofound studies (Eurofound, 2022b, 2022d), shown in Table 14.

Table 14: Telework categories based on the EWCTS 2021, EU27

Telework category	% of EU workers	Conditions for inclusion in the category
Employer’s premises, non-teleworkable job	37	Employees always working at their employer’s premises in non-teleworkable jobs
Employer’s premises, teleworkable job	25	Employees always working at their employer’s premises in jobs with some degree of teleworkability
Occasional telework	14	Employees rarely or sometimes working from home
Hybrid work (partial telework)	15	Employees often working from home (including hybrid workers)
Full-time telework	8	Employees always working from home

Notes: Only employees who telework to any extent or work at their employer’s premises are included (N = 47,211).

Source: Eurofound, 2022d, p. 23

Before the pandemic, legislative awareness of telework was already increasing. This started with the implementation of the EU-level social partners' 2002 Framework Agreement on Telework, which resulted in national-level regulations in all EU Member States except Cyprus and Ireland. During the COVID-19 pandemic, this framework agreement was supplemented at EU level by new framework agreements on digitalisation (2020) and digitalisation in central government administrations (2022).

Furthermore, the European Parliament adopted a resolution on the right to disconnect (2021), and the Council of the European Union published Council conclusions on telework (2021). The EU-level social partners are now negotiating a review and update of the 2002 Framework Agreement on Telework, with a view to creating a legally binding agreement in the form of an EU directive.

This is especially important because the Member States also started to adopt new telework regulations or to debate how to address the challenges posed by telework after the onset of the COVID-19 pandemic (for an overview, see Eurofound, 2022h). National regulations on telework currently vary significantly, as they are connected to industrial relations systems and workplace practices and culture, with some central and eastern European countries having very few regulations focused on the psychosocial risks associated with telework (ETUI, 2022a). This framework of regulations is important, as there is no 'one size fits all' approach to regulating telework, given that Member States' sectors and companies require different combinations of regulations and practices and have different work cultures (Eurofound, 2022d).

Profile of employees who telework

Previous Eurofound research on telework drawing on EU Labour Force Survey and EWCTS data found that telework is more common among employees who have a tertiary education or work in larger companies (Eurofound, 2022d). Teleworkers are seldom younger than 25 years old (implying that the youngest employees generally work at their employer's premises). Telework was found to be to some extent more prevalent among women than men. In 2021, the number of employees who were teleworking was highest in the financial, public service and education sectors, and there was wide variation among Member States. A high percentage of employees work at least occasionally from home in Finland, Luxembourg, the Netherlands and Sweden; in contrast, the percentage is low in Bulgaria and Romania (Eurofound, 2022d).

There are also marked differences in teleworking arrangements between employees working in different sectors and occupations (Table 15). The prevalence of full-time telework is high among white-collar workers in the financial and other services sectors, particularly among professionals. In all sectors except education and health, the occupational category with the highest share of workers working from home full time is professionals.

The picture is somewhat different for hybrid work (partial telework) and occasional telework. These arrangements, as is shown in Table 14, are more prevalent than full-time telework. They were most prevalent among managers and professionals across all sectors, except health, where professionals mainly worked from their employer's premises (in hospitals, for instance). Hybrid and occasional telework were also prevalent among technicians and associate professionals and clerical workers. In terms of sector, education, public administration and financial services have the highest prevalence of employees occasionally or partially working remotely.

Table 15: Percentage of employees in different telework categories, by sector and occupation, EU27, 2021 (%)

Sector/occupation	Armed forces occupations	Managers	Professionals	Technicians and associate professionals	Clerical support workers	Service and sales workers	Skilled agricultural workers	Craft and related trades workers	Plant and machine operators	Elementary occupations
Full-time telework										
Agriculture							0			
Commerce and hospitality		12	20	9	9	1		1		0
Construction		6	8	8				0		
Education		10	10	17		3				
Financial services		25	35	21	17					
Health		8	3	2	5	1				0
Industry		12	19	8	13	5		1	0	0
Other services		22	31	20	23	5		3		1
Public administration	2	12	15	13	7	1				
Transport and storage		9	22	14	9				1	3
Hybrid work and occasional telework										
Agriculture							8			
Commerce and hospitality		52	54	38	33	7		7		3
Construction		61	62	44				3		
Education		80	71	58		14				
Financial services		62	53	61	49					
Health		53	28	17	40	8				2
Industry		63	62	41	41	22		7	5	4
Other services		70	55	48	48	8		22		4
Public administration	19	67	61	51	56	14				
Transport and storage		49	61	48	26				2	1
Employer's premises										
Agriculture							92			
Commerce and hospitality		36	26	53	58	92		92		97
Construction		32	30	48				97		
Education		10	20	25		83				
Financial services		13	12	18	34					
Health		39	69	81	55	91				97
Industry		25	19	51	46	73		92	95	96
Other services		9	14	32	29	87		76		96
Public administration	79	21	25	36	37	85				
Transport and storage		41	18	37	65				98	96

Notes: For each category, N ≥ 200, with the exception of skilled agricultural workers in agriculture (N = 150). Details can be found in Annex 2.
Source: EWCTS 2021

Effects of telework on health and well-being

Teleworking has a number of positive effects, for example increasing work autonomy, eliminating commuting thereby increasing time for other activities, reducing stress arising from commuting and improving employees' ability to achieve a work-life balance (EU-OSHA, 2021c; Antunes et al, 2022; Eurofound, 2022d). Negative aspects of telework include a lack of contact between colleagues if employees work from home frequently, a less clear separation between work and private life (because both take place at home) and the possibility that the physical work environment at home is unsuitable. There is also evidence suggesting that workplace ICT practices such as telework promote rapid responses from workers (or a 'norm of responsiveness'), which fuels the idea that workers are constantly connected and can trigger feelings of communication overload and stress among them (Mendonça et al, 2022). Many of those who shifted from their employer's premises to teleworking during the COVID-19 pandemic have also seen an increase in working hours. Working from home before and during the pandemic made it more likely that employees would work more than 40 hours a week and resulted in some working in their free time (Eurofound, 2022d). This trend is expected to have continued in post-pandemic workplaces.

Empirical findings on the positive and negative impacts of telework, based on an analysis of EWCTS 2021 data, are presented below. The findings are the result of multivariate logistic regression analyses controlling

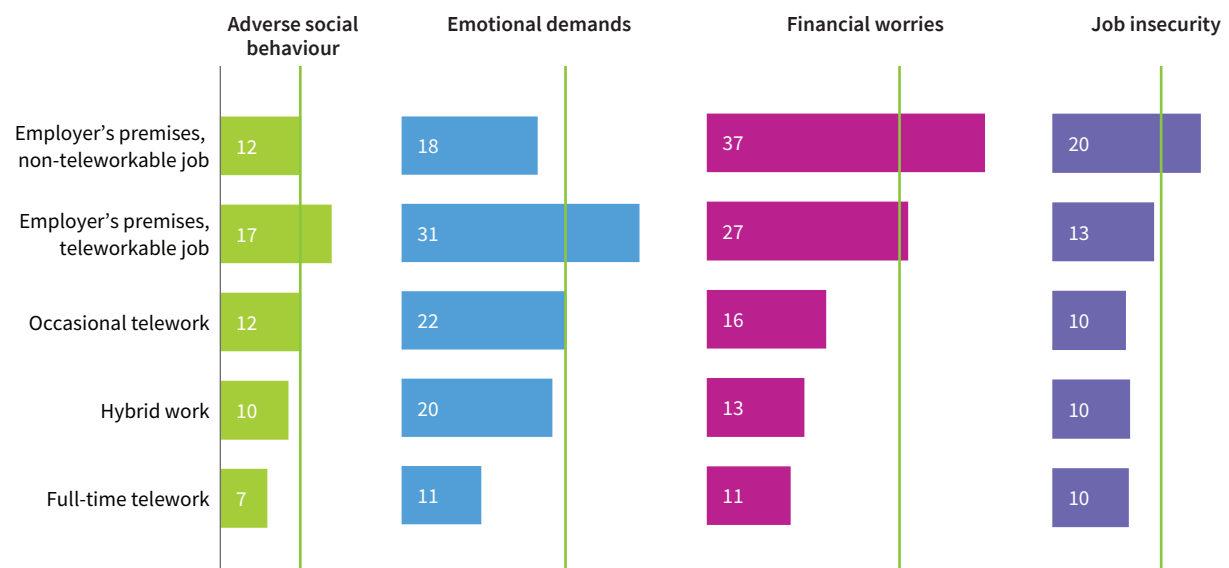
for gender, age, sector, occupation and country (see Annex 3), combined with effect size analyses (producing Cohen's *d* effect sizes) (Cohen, 1988). The charts show the prevalence of stressors, resources and health outcomes for different categories of telework as percentages. These percentages allow stressors and resources in the telework categories to be compared straightforwardly.

Workers who telework: Stressors and resources

With some exceptions, mainly related to working time and employees' experiences of specific well-being factors, the findings indicate that employees who teleworked full time were less likely to experience stressors than employees working full time at their employer's premises in teleworkable jobs with respect to adverse social behaviour (7% versus 17% of employees at risk), job insecurity (10% versus 13%), financial worries (11% versus 27%) and emotional demands (11% versus 31%) (Figure 31). The results for employees in the hybrid and occasional telework categories are generally in between those for full-time teleworkers and those working full time from their employer's premises.

The lower prevalence of psychosocial risks among teleworkers is very likely to be at least partly related to the nature of the occupations in which employees can telework. In general, these occupations are less exposed to some job stressors. However, it is also possible that those able to telework were less likely to report stressors such as job insecurity because their jobs were less affected by COVID-19-related restrictions.

Figure 31: Prevalence of job stressors, by telework category, EU27, 2021 (% of employees)



Notes: Only variables that differ significantly, based on between-group Cohen's *d* effect sizes > |0.20|, are included (see Annex 2). Vertical green lines indicate the EU27 average.

Source: EWCS 2021

Moreover, because of the limited face-to-face contact of those working remotely with other team members, managers and, especially, third parties, they were much less likely to be exposed to adverse social behaviour. For example, in public administration, service and sales workers and technicians and associated professionals were more likely to report experiencing adverse social behaviour and emotional demands if they worked only at their employer's premises than if they teleworked.

Similar observations can be made for most resources, which seem to be more available to those who teleworked (Figure 32).

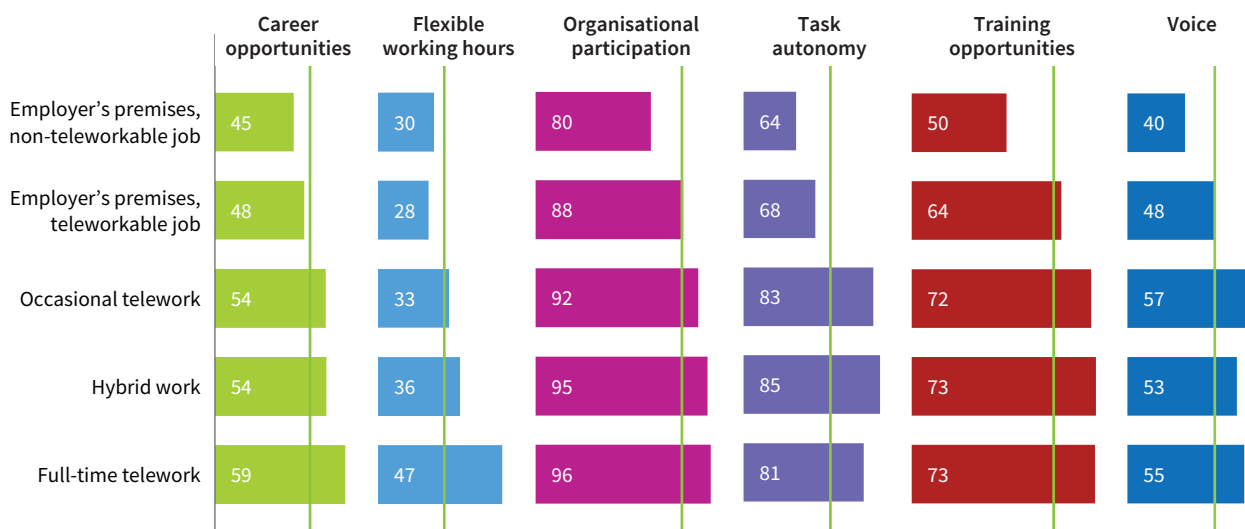
The findings indicate that employees who can telework generally seem to have better working conditions in relation to emotional demands, adverse social behaviour, job insecurity and financial worries, and this is possibly related to the fact that they have more resources than those who are not allowed or able to telework. This supports the observation that, despite the increased variety of jobs that are teleworkable following the COVID-19 pandemic, there still is a large difference between white-collar occupations (often teleworkable jobs) and blue-collar occupations (often with limited opportunities to telework) in relation to resources (Sostero et al, 2020).

Downsides of telework: Workload, work-life interference and working in free time

Although working conditions have improved for employees in the EU who can telework or work in hybrid mode, the increase in ICT connectivity due to telework has been found to also increase the likelihood of working at high intensity and having a heavy workload (Eurofound and ILO, 2017; European Parliament, 2021). An analysis of the EWCTS 2021 data indicates that indeed work intensity and work-life interference are greater among those who telework than those working at their employer's premises (Figure 33). The difference is most pronounced for people in the hybrid work and occasional telework categories, with, for instance, 61% of these groups indicating that they had been 'worrying about work when they were not working' in the 12 months before the survey, compared with less than 50% of employees working at their employer's premises.

This is in line with findings on the relationship between place of work and working time flexibility. For example, a high degree of job flexibility (as facilitated by telework) can be perceived by employees as requiring them to take on an increased workload, as they feel constantly connected with work, even in their free time (Biron and Van Veldhoven, 2016; Mendonça et al, 2022).

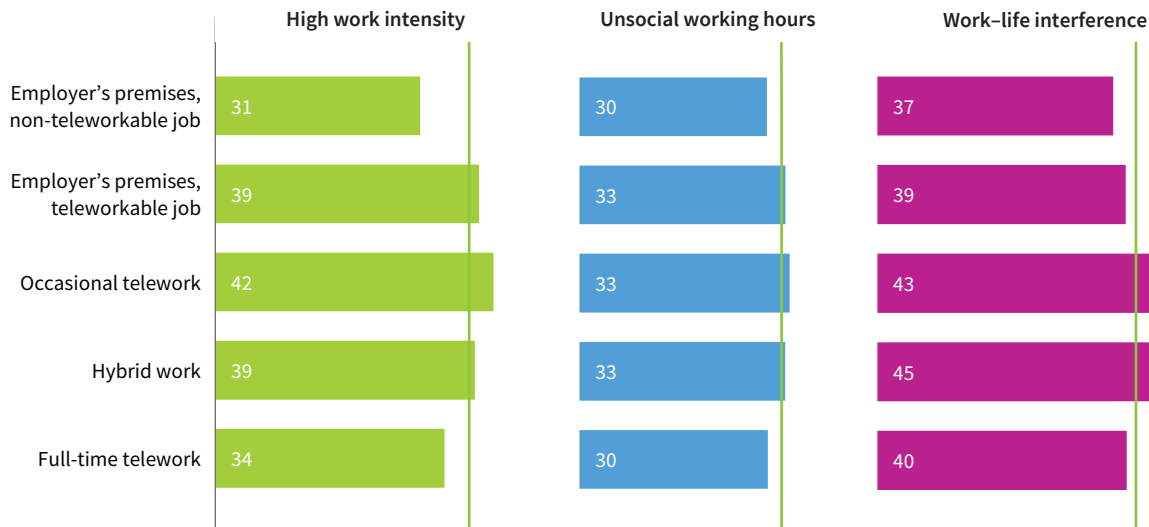
Figure 32: High scores on resources, by telework category, EU27, 2021 (% of employees)



Notes: Only variables that differ significantly, based on between-group Cohen's d effect sizes > |0.20|, are included. Details can be found in Annex 2. Vertical green lines indicate the EU27 average.

Source: EWCTS 2021

Figure 33: Working at high intensity, working unsocial hours and experiencing work–life interference, by telework category, EU27, 2021 (% of employees)



Note: Vertical green lines indicate the EU27 average.

Source: EWCTS 2021

This heightens employees' risk of experiencing work overload, when work expectations start exceeding the time and resources available (causing conflicts with, for instance, family responsibilities), leading to negative health outcomes in the long run (Eurofound and ILO, 2017). The findings of the EWCTS 2021 show that these risks are most pronounced for workers with hybrid arrangements and especially for women aged 35 to 44 years, who often have caring responsibilities. About 50% of these women indicated that they had heavy workloads coinciding with work–life interference, which is consistent with a previous finding that women experienced more difficulties than men balancing telework with their family lives, as they were more likely to bear the brunt of additional unpaid work such as caring or household tasks (Eurofound, 2022d).

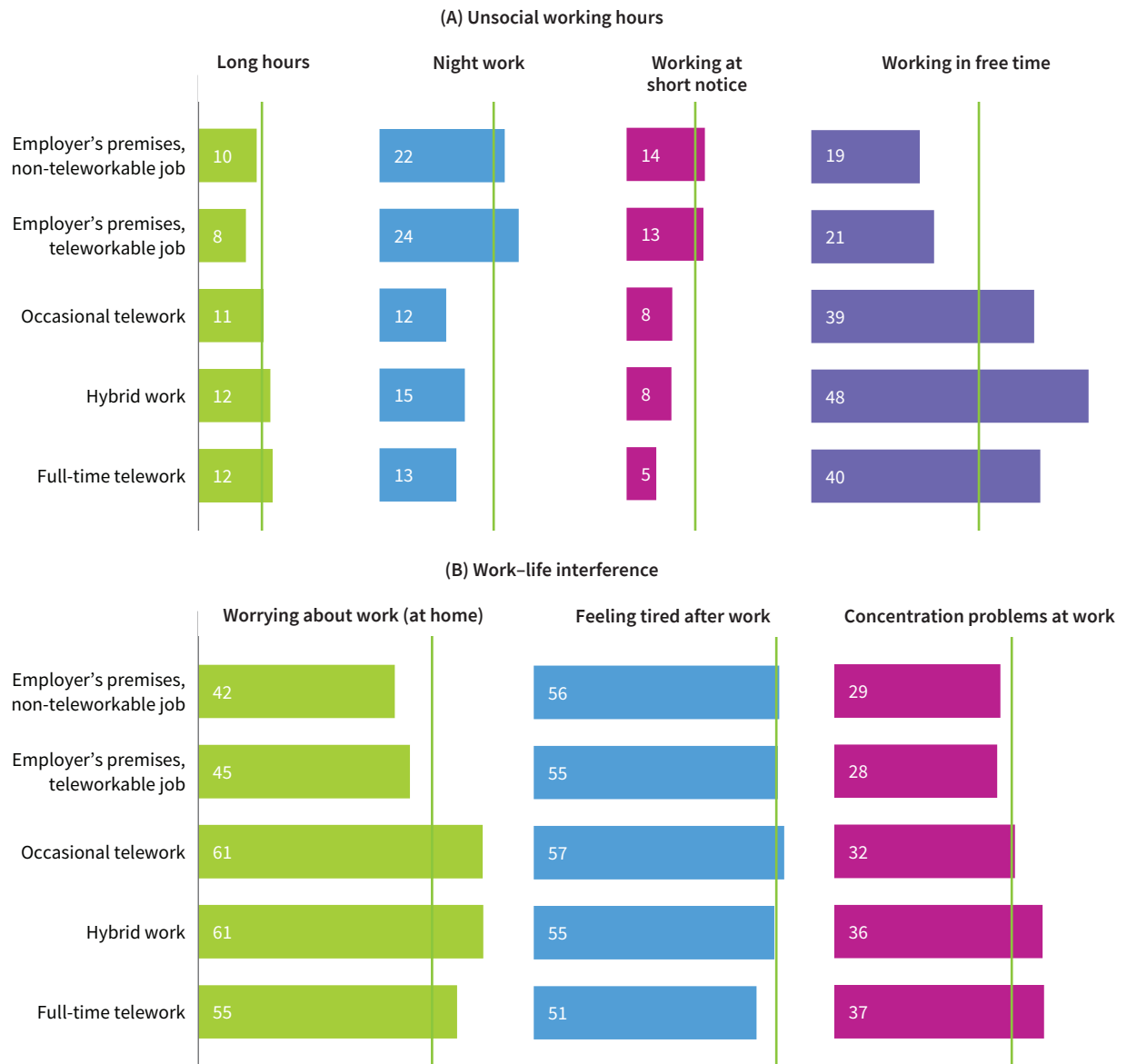
Although unsocial working hours were not more prevalent among employees who teleworked, an item-level analysis indicates that telework coincided with a higher prevalence of regularly working in free time and (to a lesser extent) working long hours

(more than 48 hours per week) (Figure 34). These differences are most pronounced for managers and professionals with hybrid arrangements. In addition, 35- to 44-year-old teleworking women seem to have been most at risk of compensating for a heavy workload by working in their free time.

Although the negative impact of teleworking on stressors such as work intensity, work–life interference and unsocial working hours is consistent across the EU, there are notable country-level differences in their prevalence.

National-level results showed that in most Member States a smaller share of employees working at their employer's premises without a teleworkable job report working at high intensity than employees in any other telework category. Therefore, the use of ICT is a driver for work intensity and at the same time for teleworking. In some countries, teleworking increases the chances of employees reporting high work intensity more than in others. Exceptions include, for example, France, for hybrid work, and Denmark, for occasional telework.

Figure 34: Experience of aspects of (A) unsocial working hours and (B) work–life interference, by telework category, EU27, 2021 (% of employees)

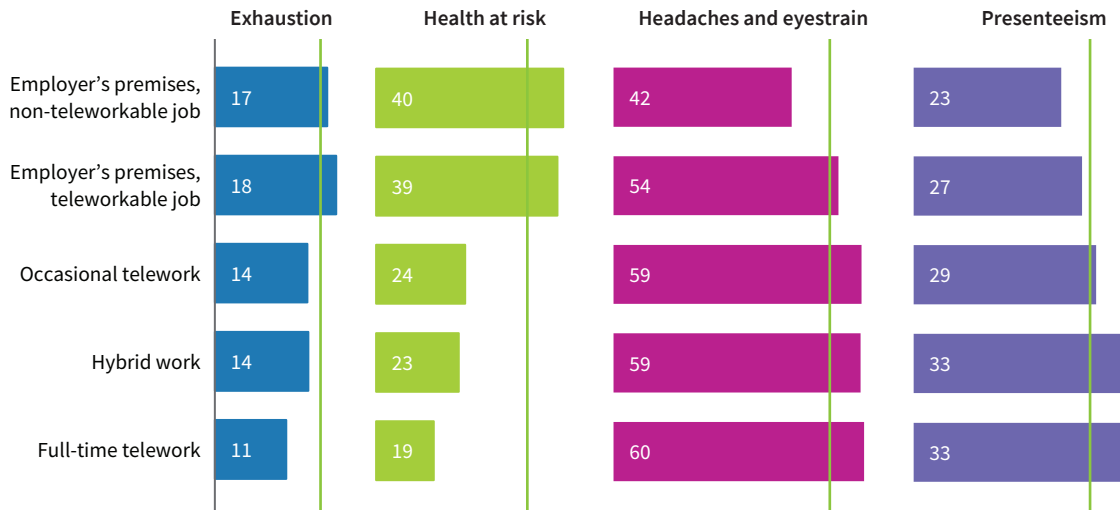


Health and well-being

The findings on health and well-being outcomes for different telework categories are also in line with previous research suggesting that telework has both beneficial and adverse effects on workers' health and well-being (Beckel and Fisher, 2022) (Figure 35). Although employees teleworking full time perceived their health to be less at risk than those working at their employer's premises full time, the opposite is true for

headaches or eyestrain and presenteeism. The highest shares of presenteeism among teleworkers were observed for managers (38%) and service and sales workers in health or public administration (41%). Since presenteeism is costly, it requires attention in psychosocial risk prevention (Garrow, 2016; ETUI, 2022b). A high level of presenteeism is also related to the possibility of workers teleworking when they are sick, which often results in lower productivity.

Figure 35: High scores on negative health outcomes, by telework category, EU27 (% of employees)



Notes: Only variables that differ significantly, based on between-group Cohen's d effect sizes > |0.20|, are included. Details can be found in Annex 2. Vertical green lines indicate the EU27 average.

Source: EWCTS 2021

Relationship between stressors, resources and outcomes

The impact of the frequency of telework on the association between stressors and two health and well-being outcomes – mental well-being and perception of one's health being at risk because of work – is shown in Figure 36. An important finding is the strong association of work–life interference with employees' health and well-being in general, with a further increase in the impact for those who telework. The coincidence of teleworking and work–life interference worsens mental well-being. Therefore, work–life interference is a risk that should be considered in the telework environment. The strong negative effect of work–life interference is similar for women and men who telework, but its prevalence is higher for the former: 47% of women versus 39% of men who telework reported experiencing work–life interference.

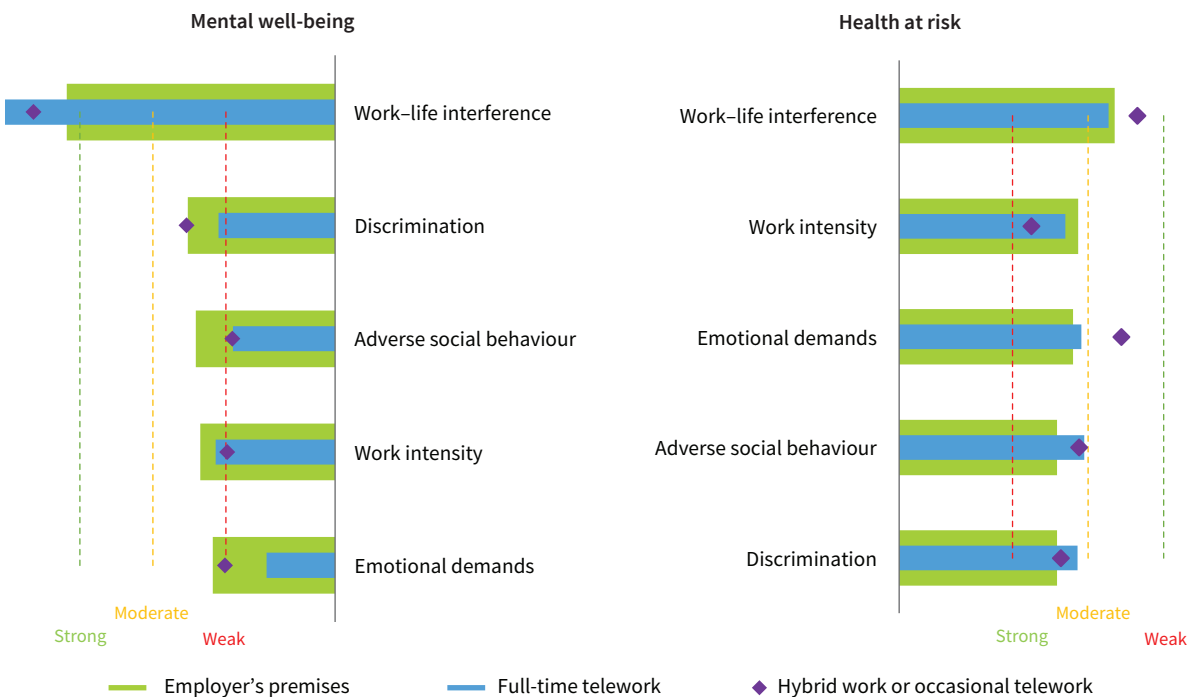
Work–life interference should not be confused with work–life balance. The latter refers to the possibility of work fitting well with other activities, and the former involves the psychological blurring of boundaries.

A worker can have a good work–life balance and at the same time experience some degree of work–life interference, whether life interfering with work or work interfering with life.

Figure 36 indicates that the mental well-being of full-time teleworkers is less associated with stressors related to the social working environment (adverse social behaviour, discrimination and emotional demands) than it is for those who work at their employer's premises. Nonetheless, when these stressors are present, they are still perceived as a risk to employees' health.

Finally, work intensity was found to affect the health and well-being of employees working at their employer's premises slightly more than teleworking employees. This is, however, not true for managers teleworking in the construction, health, financial services or education sectors. This is worrying, as about 6 out of 10 of these managers report working at high intensity.

Figure 36: Relationship between stressors and mental well-being and health at risk, by telework category



Notes: Bars indicate correlation coefficients; red lines indicate $r > |0.15|$, yellow lines indicate $r > |0.25|$, and green lines indicate $r > |0.35|$. Correlations are included if the interaction effect in the regression analysis controlling for gender, age, occupation, sector and country was significant ($p < 0.01$).

Source: Authors' calculations, based on EWCTS 2021

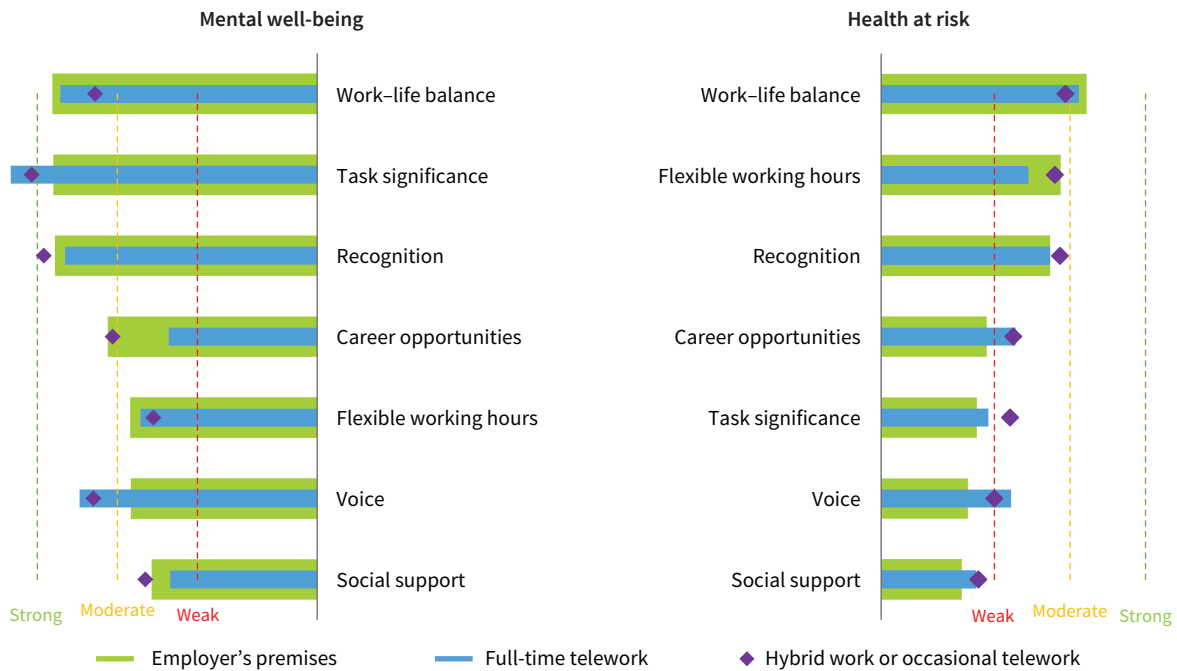
The association between the resources available to employees in the different telework categories and individual health and well-being outcomes is shown in Figure 37. Experiencing a good fit between working hours and family or social commitments (work-life balance), being able to take an hour or two off during working time (flexible working hours) and being able to perform significant tasks are the resources most prominently correlated with positive health and well-being outcomes for all employees.

In terms of employees perceiving their health being at risk, teleworkers, whether part time or full time, are more likely to benefit from resources such as voice, recognition, social support from colleagues and task significance than employees working at their employer's premises full time. This implies that teleworkers strongly value their involvement in decision-making in the organisation they work for.

A supportive working environment gives them the feeling of being appreciated and doing meaningful work. These observations are in line with previous research indicating that providing these resources to teleworkers can increase their resilience to mitigate negative health and well-being outcomes (Pulido-Martos et al, 2021).

Among employees who telework occasionally or have a hybrid arrangement, professionals and technicians and associate professionals in education feel less recognised in their work than workers in other occupations and sectors do, while technicians and associate professionals in the public administration and health sectors score slightly lower on social support, voice and task significance. As these are all female-dominated occupations, this could be especially relevant, as the impact of a supportive and appreciative working environment has been proven to act as a more protective resource against mental distress among women than among men and older workers (Johansen et al, 2021).

Figure 37: Relationship between resources and mental well-being and health at risk, by telework category



Notes: Bars indicate correlation coefficients; red lines indicate $r > |0.15|$, yellow lines indicate $r > |0.25|$, and green lines indicate $r > |0.35|$. Correlations are included if the interaction effect in the regression analysis controlling for gender, age, occupation, sector and country was significant ($p < 0.01$).
Source: Authors' calculations, based on EWCTS 2021

Summary

This chapter on the risks associated with telework focused on the growing group of employees working at least to some extent from home. Employees who telework are generally highly educated, and many work in high-skilled occupations in knowledge-based services. However, a high share of employees who telework are technicians or clerical workers and are found in several sectors.

It is becoming increasingly important to adequately address the psychosocial risks associated with different telework arrangements, such as occasional telework, hybrid work and full-time telework. The findings of the EWCTS 2021 indicate that employees who telework experience fewer stressors (adverse social behaviour, job insecurity, financial worries and emotional demands) and more resources (including career and training opportunities, flexible working hours, organisational participation, task autonomy and voice) than those who work at their employer's premises. This is partly because those who can telework are generally in higher-skilled occupations and partly because these occupations are more likely to be teleworkable. Nonetheless, not all psychosocial risks are less for those who telework. Stressors such as work intensity, work-life interference and working in free time (as an aspect of unsocial working hours) are higher for employees who telework than for those who work at their employer's premises. This could be related, among other things, to the constant use of ICT while teleworking, which provides more flexibility in the organisation of one's work but also leads to higher work intensity and a heightened probability of experiencing work-life conflicts.

These findings confirm that telework has both beneficial and adverse effects, including with respect to the health and well-being of employees: teleworkers are, for instance, less at risk of feeling exhausted, yet more at risk of presenteeism and headaches or eyestrain, than employees who work at their employer's premises. These outcomes may be related to the greater impact of stressors such as work-life interference and work intensity on their health and well-being than for employees who work from their employer's premises. This is especially true when teleworkers experience a blurring of the boundaries between work and private life (including perceptions of communication overload and entrapment).

Finally, this analysis allowed the identification of groups more at risk of negative health and well-being outcomes. With a stable number of around one out of five employees teleworking at different frequencies in the EU from 2020 to 2022, risk prevention should focus on addressing workloads, work–life interference and working in free time. As mentioned in this chapter, there are already regulatory initiatives trying to tackle these problems. These should be implemented with the aim of avoiding the negative effects of hybrid working and teleworking in general, a working arrangement that seems to produce more benefits than disadvantages.

6 | Conclusions

This report is based on an analysis of 2021 data on employees in the EU27, gathered through the European Working Conditions Telephone Survey (EWCTS). The findings are interpreted using a theoretical framework based primarily on the job demands–resources model. This model is used to describe the prevalence and impact of psychosocial risks on the health and well-being of employees. The framework helps to identify the job characteristics that could be detrimental to (stressors or risks) or could support (resources) employees' health and well-being in post-pandemic workplaces in the EU.

Some risks during the COVID-19 pandemic were identified as a major problem: work intensity and unsocial working hours (for example, 38% of employees worked at high speed and to tight deadlines, and 29% worked in their free time), work–life interference (41% reported experiencing some type of work–life interference), job insecurity (14% thought that they might lose their job in the six months following the survey) and financial worries (one in four had difficulty making ends meet). Adverse social behaviour and discrimination were reported by 13% and 12% of employees, respectively.

These psychosocial risks have been found to have a detrimental impact on health and well-being outcomes, which have been proven to be deteriorating in recent years (Niedhammer et al, 2021; WHO, 2022). The impact of psychosocial risks seemed to be especially pronounced for employees who were most affected by the COVID-19 pandemic, such as frontline workers in the health sector or on-location production workers in industry. Furthermore, besides the impact on the employees themselves, such risks have significant societal and economic implications, for example related to rising social security expenditures and productivity losses (OECD and European Union, 2020). The effective prevention and management of psychosocial risks is, therefore, imperative, especially since the current analysis indicated that about one in four employees in the EU has negative work-related health and well-being outcomes, with a wide diversity in prevalence across the Member States.

Greater availability of resources in the workplace could mitigate or prevent the negative impact of psychosocial risks on employees' health and well-being and thereby improve their overall job quality (Eurofound, 2019b, 2022b). This in turn could boost the performance of organisations. Steps could be taken, for instance, to facilitate employee voice, promote training and learning, and improve the means for employees to

achieve a better work–life balance. The implication is that prioritising job quality to support sustainable work throughout employees' working lives means not only reducing their exposure to stressors but also promoting access to resources in the workplace.

Despite the importance of addressing work-related psychosocial risks across the EU, the Member States do not share similar legislation in this area. Some have developed specific regulations, but most lack such an approach in their regulatory framework. There is also substantial variance in the resources available when the prevalence of high levels of a specific resource is compared across the Member States. However, the increase in some psychosocial risks and the deterioration in mental well-being in the EU highlight the necessity of maintaining healthy and safe working conditions, including the psychosocial dimension of work, as a policy priority in the EU. This priority is reflected in policy proposals from the European Parliament and the European Commission. The increased focus on psychosocial risks and future potential initiatives need to be informed by empirical evidence on the impact of specific psychosocial risks on workers.

Risks associated with working time and work intensity

In the EWCTS 2021, nearly 4 in 10 employees reported working at high intensity, while around 3 in 10 reported frequently working unsocial hours, with the biggest challenge being working in free time. At EU level, the Working Time Directive (Directive 2003/88/EC) aims to limit the maximum number of hours worked by employees, to prevent excess working at unsocial hours (for example, working at night) and to guarantee minimum rest periods. Nevertheless, many EU workers experience unsatisfactory working time arrangements and work intensity. There is evidence that these problems were exacerbated during and after the pandemic.

Workers who work at high intensity or work unsocial hours are a diverse group, but it is possible to form a profile of them. Policies aiming to protect workers should target this specific group, taking the particularities of employees' work situations into account as the source of work intensity and unsocial working hours; for example, managers in financial services and plant and machine operators in the transport and storage sector may experience quite different situations.

High work intensity was most prevalent among managers and professionals in the construction, financial services and health sectors, and slightly more women than men reported it. With regard to unsocial working hours, this stressor was more prevalent among employees with a tertiary education than among those with just a secondary or primary education. In terms of sector and occupation, it was most common among employees in managerial or professional functions in education or health, employees in elementary occupations, and plant and machine operators in the transport and storage sector. More men than women reported working unsocial hours.

The COVID-19 pandemic increased the number of employees with non-standard working schedules, especially in hospitals and health-related services, where many frontline workers experienced a sharp and sudden increase in working hours and extended work shifts (Eurofound, 2022b; WHO, 2022).

When employees are exposed to these psychosocial risks, they are also at increased risk of experiencing other work-related stressors, such as emotional demands and work-life interference. In accordance with the Framework Directive for occupational safety and health (Council Directive 89/391/EEC), it is important that EU policies and practices take a holistic approach to psychosocial risk prevention, considering the combined impact of different job stressors on the health and well-being of employees. In addition, policies can also encourage organisations to invest in creating jobs that provide more and higher levels of resources that help to protect workers to some extent from the negative impact of working at high intensity. Examples of such resources are good work-life balance and flexible working hours, as well as trust and recognition, social support in the workplace, and good career opportunities.

From a policy perspective, the resolution of the European Parliament on the right to disconnect, published in 2021, calling for EU-level legislation on this matter, should help to tackle the issues of employees working in their free time and being contacted for work purposes outside working hours. However, without reducing the intensity of work (for example, related to heavy workloads), it will not be possible to reduce some forms of unsocial working hours, and it will be difficult to tackle the negative impacts of long working hours, working at short notice, during nights and in free time on the health of European workers.

Risks associated with job insecurity and financial worries

In 2021, 14% of employees in the EU experienced job insecurity (reporting that they might lose their job in the six months after the survey), and another 26% reported having difficulty making ends meet. Both stressors have a negative impact on workers' health and mental well-being. They are related to the broader macroeconomic context as well as the workplace, and financial hardship is linked to household characteristics, implying that actions to tackle their impact may be needed at both workplace and macroeconomic levels.

Job insecurity and financial worries were aggravated during the COVID-19 pandemic. Financial pressure remains high in some countries due to other disruptions, such as the rise in energy and food prices in 2022, especially for those employees who already experienced financial hardship during the pandemic (Eurofound, 2022c).

The largest shares of workers reporting job insecurity and financial worries were recorded among those with just a primary education: one in five thought that they might lose their job in the six months after the survey, and one in two struggled to make ends meet in 2021. Not surprisingly, given the health pandemic context, job insecurity and financial worries were highest among workers in elementary occupations and service and sales workers, particularly in the commerce and hospitality and other services sectors. For these groups, a lack of job resources may have resulted in them feeling unheard, unseen and unsupported, and having few opportunities to improve their skills through training or experience.

In response, policymakers should seek to facilitate workers' lifelong learning. This would increase their employability and could offset the negative outcomes of job insecurity and financial worries (see also Eurofound, 2018). Furthermore, efforts should be made to increase the job resources – such as voice, participation, recognition, trust and social support from colleagues and management – of employees most at risk of experiencing job insecurity. Labour market policies that help to provide more stable employment would also contribute to reducing job insecurity.

Regarding financial worries, it is essential to ensure that employees receive decent wages for the job they do and that the social safety net is functioning well for the ones whose income is insufficient for their needs or have to provide for other household members. Several new EU-level regulations and recommendations may contribute to reducing financial hardship (the Directive on Adequate Minimum Wages in the European Union, the Pay Transparency Directive and the Council Recommendation on adequate minimum income ensuring active inclusion).

Risks associated with violence and harassment and discrimination at work

In the EWCTS 2021, almost 13% of employees reported having been exposed to adverse social behaviour in the workplace, and 12% of employees indicated that they had felt discriminated against at work. Furthermore, the findings show that these stressors (especially when co-occurring) strongly increased the risk of work having a negative impact on employees' health. Employees in the health and public administration sectors (often professionals, technicians and associate professionals, and service and sales workers) and those in elementary occupations (especially in the transport and storage sector) were most likely to be subject to adverse social behaviour or discrimination, or both, at work.

The European Framework Agreement on Harassment and Violence at Work (2007) provides recommendations for preventing adverse social behaviour. Similarly, in 2010, the European sectoral social partners⁷ signed the multisectoral guidelines to tackle third-party violence and harassment related to work, identifying third-party violence and harassment in the workplace as a key health and safety challenge. These guidelines are being updated currently. Nonetheless, the prevention, remediation and elimination of destructive behaviours such as adverse social behaviour and discrimination at work should remain a prime objective of policymakers and companies.

Some resources can to some extent mitigate the negative impact of adverse social behaviour and discrimination on employees' health and well-being. Strengthening the motivational aspects of the working environment, including social support from colleagues or management, empowering employees to participate in organisational decision-making, and promoting the importance of equal treatment for and among employees can partially buffer the detrimental impact of these social stressors in the workplace (Duan et al, 2019; Eurofound, 2020c). This would also allow adverse social behaviour and discrimination to be spotted earlier, and appropriate preventive or intervening actions to be initiated faster within organisations. Consequently, providing groups at risk of experiencing violence and harassment at work with job resources that strengthen their social ties in the workplace can have a strong direct or indirect positive impact on employees' health and well-being (Duan et al, 2019).

Risks associated with telework

The number of workers working from home greatly increased during the COVID-19 pandemic. However, access to telework is not evenly distributed among employees in the EU (Eurofound, 2022d). Teleworking at least occasionally is most prevalent among managers, professionals, and technicians and associate professionals, especially in the financial services, other services, education and public administration sectors. Uneven access to telework may expand social inequalities, as employees in teleworking professions generally have more job resources than those working at their employer's premises. It therefore is important for future policy guidelines to enable low-skilled and mid-skilled occupations to have the benefit of some form of flexible work, which could help workers in these occupations to achieve a better work-life balance.

Despite having more resources (such as flexible working time, task autonomy and career opportunities), employees who telework experience psychosocial risks such as work-life interference and work intensity, which have a significant impact on health and well-being, to a greater extent than their counterparts working at their employer's premises. The impact of these stressors can be partially remediated by involving teleworkers in decision-making at work by promoting effective autonomy for all regardless of occupation and improving their perception of the value of their work by providing social support and recognition, for example.

Interestingly, the findings confirm that presenteeism is more likely to be reported in remote work settings. In relation to the lower reporting of adverse social behaviour in these settings, more in-depth research must be carried out to understand why. Past research also pointed to the risk of isolation among employees working from home full time.

Therefore, although teleworkers in general have a better work environment than those working only at their employer's premises, some risks are intensified by telework. These are particularly related to working time and the psychological and virtual blurring of the boundaries between work and private life.

Furthermore, implementing the right to disconnect may contribute to protecting teleworkers from the negative effects of work-life interference and working at high intensity. In this regard, at the time of writing this report, the EU social partners were in the final stages of negotiations to review and update the 2002 Framework Agreement on Telework, with a view to it being adopted as a legally binding agreement in the form of an EU directive.

⁷ The European Federation of Public Service Unions, UNI Europa, the European Trade Union Committee for Education, the European Hospital and Healthcare Employers' Association, the Council of European Municipalities and Regions, the European Federation of Education Employers, EuroCommerce and the Confederation of European Security Services. In 2018, the European Public Administration Employers and the Trade Unions' National and European Administration Delegation joined these organisations.

Final remarks

The share of employees with poor well-being and work-related mental health problems is increasing, and these are two of the main causes of work-related absenteeism. Some factors that can be considered psychosocial risks play a role – for example, high work intensity, which is associated with another factor, working in one's free time, and other forms of unsocial working hours.

The intensification of work processes, driven by a work culture where demands outweigh the ability of some workers to cope with them, coupled with the expansion of telework and digitalisation, is contributing to the challenges to workers' health and well-being. More traditional risks that have a strong negative impact on the health and well-being of workers, such as adverse social behaviour and discrimination at work, persist in European workplaces. Job insecurity and financial worries are also stressors with a potential negative impact on the health and well-being of the employees. Anxiety, headaches and eyestrain, and burnout are some of the consequences of these psychosocial risks.

Depending on the stressor, psychosocial risks accumulate more in certain groups of employees than in others. The negative impact of work on health accumulates in mid-skilled and low-skilled occupations, and therefore an occupational approach to risk

prevention is desirable. From a sectoral perspective, skilled and mid-skilled workers in the health sector are particularly affected by adverse social behaviour, work intensity and unsocial working hours, meaning that a high percentage of doctors, nurses and other health workers are at risk of experiencing a negative impact of work on their health.

The expansion of telework has demonstrated that the world of work is facing crucial changes that must be considered to enable us to understand new and growing risks, to implement adequate policies for preventing and mitigating health risks, and to promote the advantages of telework.

Even though resources at work may provide a buffer against the negative consequences of stressors, they are not sufficient on their own to prevent health problems, implying that policies to prevent psychosocial risks before they develop are necessary.

The variety of psychosocial risks in the workplace indicates that actions are required at both a micro level and workplace level as well as a more macro level, depending on the risk to be prevented. The involvement of workers in social dialogue is key to the successful implementation of preventive actions, and common minimum standards specifically addressing psychosocial risks at EU level may contribute to ensuring a future where European workers have better health and well-being.

References

All Eurofound publications are available at <https://www.eurofound.europa.eu>

- Aguiar-Quintana, T., Nguyen, H., Araujo-Cabrera, Y. and Sanabria-Díaz, J. M. (2021), 'Do job insecurity, anxiety and depression caused by the COVID-19 pandemic influence hotel employees' self-rated task performance? The moderating role of employee resilience', *International Journal of Hospitality Management*, Vol. 94, Article 102868.
- Antunes, E. D., Bridi, L. R. T., Santos, M. and Fischer, F. M. (2022), 'Part-time or full-time teleworking? A systematic review of the psychosocial risk factors of telework from home', *Frontiers in Psychology*, Vol. 14.
- Apostel, A., Vandekerckhove, S., Desiere, S., Lenaerts, K. and Walter, C. (2023), *Wat is de welzijnsimpact van atypische arbeidstijden onder ABVV-leden in de metaalsector en de sectoren van ABVV algemene centrale? HIVA – Research Institute for Work and Society, KU Leuven, Leuven, Belgium.*
- Bailey, D. E. and Kurland, N. B. (2002), 'A review of telework research: Findings, new directions, and lessons for the study of modern work', *Journal of Organizational Behavior*, Vol. 23, No. 4, pp. 383–400.
- Bakker, A. B. and Demerouti, E. (2017), 'Job demands–resources theory: Taking stock and looking forward', *Journal of Occupational Health Psychology*, Vol. 22, No. 3, pp. 273–285.
- Bakker, A. B. and Sanz-Vergel, A. I. (2013), 'Weekly work engagement and flourishing: The role of hindrance and challenge job demands', *Journal of Vocational Behaviour*, Vol. 83, No. 3, pp. 397–409.
- Beach, S. R., Schulz, R., Donovan, H. and Rosland, A. M. (2021), 'Family caregiving during the COVID-19 pandemic', *The Gerontologist*, Vol. 61, No. 5, pp. 650–660.
- Beckel, J. L. and Fisher, G. G. (2022), 'Telework and worker health and well-being: A review and recommendations for research and practice', *International Journal of Environmental Research and Public Health*, Vol. 19, No. 7, Article 3879.
- Biron, M. and Van Veldhoven, M. (2016), 'When control becomes a liability rather than an asset: Comparing home and office days among part-time teleworkers', *Journal of Organizational Behavior*, Vol. 37, No. 8, pp. 1317–1337.
- Burke, R. J., Singh, P. and Fiksenbaum, L. (2010), 'Work intensity: Potential antecedents and consequences', *Personnel Review*, Vol. 39, No. 3, pp. 347–360.
- Cartwright, S. and Holmes, N. (2006), 'The meaning of work: The challenge of regaining employee engagement and reducing cynicism', *Human Resource Management Review*, Vol. 16, No. 2, pp. 199–208.
- Chirico, F., Afolabi, A. A., Ilesanmi, O. S., Nucera, G., Ferrari, G., Szarpak, L. et al (2022), 'Workplace violence against healthcare workers during the COVID-19 pandemic: A systematic review', *Journal of Health and Social Sciences*, Vol. 7, No. 1, pp. 14–35.
- Choi, S., Yi, Y. and Kim, J. (2018), 'Exposure to adverse social behaviour in the workplace and sickness presenteeism among Korean workers: The mediating effects of musculoskeletal disorders', *International Journal of Environmental Research and Public Health*, Vol. 15, No. 10.
- Chung, N. G. and Angeline, T. (2010), 'Does work engagement mediate the relationship between job resources and job performance of employees?' *African Journal of Business Management*, Vol. 4, No. 9, pp. 1837–1843.
- Cohen, J. (1988), *Statistical power analysis for the behavioural sciences*, Routledge, New York.
- DAK-Gesundheit (2021), *Psychreport 2022: Entwicklungen der psychischen Erkrankungen im job 2011–2021*, Hamburg, Germany.
- Dares (2021), *Quelles conséquences de la crise sanitaire sur les conditions de travail et les risques psychosociaux*, Dares Analysis No. 28.
- De Kock, J. H., Latham, H. A. and Cowden, R. G. (2022), 'The mental health of healthcare workers during the COVID-19 pandemic: A narrative review', *Current Opinion in Psychiatry*, Vol. 35, No. 5, pp. 311–316.
- De Witte, H. (2006), 'Onzeker over de toekomst van je baan: een groeiend maatschappelijk fenomeen. Peilen naar oorzaken, gevolgen en oplossingen', in Raymaekers, B. and Van Riel, G. (eds.), *Weten in woorden en daden: Lessen voor de eenentwintigste eeuw*, Leuven University Press, Leuven, Belgium, pp. 251–277.
- De Witte, H. and Näswall, K. (2003), "'Objective" vs "subjective" job insecurity: Consequences of temporary work for job satisfaction and organizational commitment in four European countries', *Economic and Industrial Democracy*, Vol. 24, No. 2, pp. 149–188.

- Duan, X., Ni, X., Shi, L., Zhang, L., Ye, Y., Mu, H. et al (2019), 'The impact of workplace violence on job satisfaction, job burnout, and turnover intention: The mediating role of social support', *Health and Quality of Life Outcomes*, Vol. 17, No. 1, pp. 1–10.
- Dye, T. D., Alcantara, L., Siddiqi, S., Barbosu, M., Sharma, S., Panko, T. et al (2020), 'Risk of COVID-19-related bullying, harassment and stigma among healthcare workers: An analytical cross-sectional global study', *BMJ Open*, Vol. 10, No. 2, e046620.
- EIGE (European Institute for Gender Equality) (2021), *Gender equality and the socio-economic impact of the COVID-19 pandemic*, Publications Office of the European Union, Luxembourg.
- Elser, H., Rehkopf, D. H., Meausoone, V., Jewell, N. P., Eisen, E. A. and Cullen, M. R. (2019), 'Gender, depression, and blue-collar work: A retrospective cohort study of US aluminum manufacturers', *Epidemiology*, Vol. 30, No. 3, pp. 435–444.
- ETUI (2022a), *A case for an EU directive addressing work-related psychological risks: An eastern European perspective*, Brussels.
- ETUI (2022b), *Psychosocial risks in the healthcare and long-term care sectors: Evidence review and trade union views*, Brussels.
- EU-Compass for Action on Mental Health and Well-being (2017), *Mental health in the workplace in Europe*, consensus paper, European Commission, Brussels.
- EU-OSHA (European Agency for Safety and Health at Work) (2014), *Calculating the cost of work-related stress and psychosocial risks*, Publications Office of the European Union, Luxembourg.
- EU-OSHA (2017), *Framework agreement on harassment and violence at work*, web page, accessed 29 June 2023.
- EU-OSHA (2019), *Third European Survey of Enterprises on New and Emerging Risks (ESENER 3)*, Publications Office of the European Union, Luxembourg.
- EU-OSHA (2020), *COVID-19: Back to the workplace – Adapting workplaces and protecting workers*, Publications Office of the European Union, Luxembourg.
- EU-OSHA (2021a), *Musculoskeletal disorders and psychosocial risk factors in the workplace – Statistical analysis of EU-wide survey data*, Publications Office of the European Union, Luxembourg.
- EU-OSHA (2021b), *Musculoskeletal disorders: Association with psychosocial risk factors at work*, Publications Office of the European Union, Luxembourg.
- EU-OSHA (2021c), *Telework and health risks in the context of the COVID-19 pandemic: Evidence from the field and policy implications*, Publications Office of the European Union, Luxembourg.
- EU-OSHA (2022), *OSH Pulse – Occupational safety and health in post-pandemic workplaces*, Publications Office of the European Union, Luxembourg.
- EU-OSHA (2023a), *The links between exposure to work-related psychosocial risk factors and cardiovascular disease*, Publications Office of the European Union, Luxembourg.
- EU-OSHA (2023b), *Psychosocial risk exposure and mental health outcomes of European workers with low socioeconomic status*, Publications Office of the European Union, Luxembourg.
- Eurofound (2008), *Extended and unusual working hours in European companies*, Publications Office of the European Union, Luxembourg.
- Eurofound (2010), *Work-related stress*, Publications Office of the European Union, Luxembourg.
- Eurofound (2015a), *Violence and harassment in European workplaces: Causes, impacts and policies*, Dublin.
- Eurofound (2015b), *New forms of employment*, Publications Office of the European Union, Luxembourg.
- Eurofound (2017a), *Sixth European Working Conditions Survey – Overview report (2017 update)*, Publications Office of the European Union, Luxembourg.
- Eurofound (2017b), *Working conditions of workers of different ages: European Working Conditions Survey 2015*, Publications Office of the European Union, Luxembourg.
- Eurofound (2018), *Social insecurities and resilience*, Publications Office of the European Union, Luxembourg.
- Eurofound (2019a), *Further exploring the working conditions of ICT-based mobile workers and home-based teleworkers*, Publications Office of the European Union, Luxembourg.
- Eurofound (2019b), *Working conditions and workers' health*, Publications Office of the European Union, Luxembourg.
- Eurofound (2020a), *Telework and ICT-based mobile work: Flexible working in the digital age*, New forms of employment series, Publications Office of the European Union, Luxembourg.
- Eurofound (2020b), *Living, working and COVID-19*, COVID-19 series, Publications Office of the European Union, Luxembourg.
- Eurofound (2020c), *Role of social partners in tackling discrimination at work*, Publications Office of the European Union, Luxembourg.
- Eurofound (2021a), 'Workers want to telework but long working hours, isolation and inadequate equipment must be tackled', news article, 6 September.

- Eurofound (2021b), *Living, working and COVID-19 (update April 2021): Mental health and trust decline across EU as pandemic enters another year*, Publications Office of the European Union, Luxembourg.
- Eurofound (2021c), *Business not as usual: How EU companies adapted to the COVID-19 pandemic*, Publications Office of the European Union, Luxembourg.
- Eurofound (2021d), *Tackling labour shortages in EU Member States*, Publications Office of the European Union, Luxembourg.
- Eurofound (2021e), *Impact of COVID-19 on young people in the EU*, Publications Office of the European Union, Luxembourg.
- Eurofound (2021f), *EWCTS 2021 – Questionnaire development*, web page.
- Eurofound (2022a), *Psychosocial risks*, web page, accessed 30 June 2023.
- Eurofound (2022b), *Working conditions in the time of COVID-19: Implications for the future*, European Working Conditions Telephone Survey 2021 series, Publications Office of the European Union, Luxembourg.
- Eurofound (2022c), *Fifth round of the Living, working and COVID-19 e-survey: Living in a new era of uncertainty*, Publications Office of the European Union, Luxembourg.
- Eurofound (2022d), *The rise in telework: Impact on working conditions and regulations*, Publications Office of the European Union, Luxembourg.
- Eurofound (2022e), *Adverse social behaviour at work: Background note*, Eurofound working paper, Dublin.
- Eurofound (2022f), *European Working Conditions Telephone Survey, 2021*, data collection, SN: 9026, UK Data Service.
- Eurofound (2022g), *Recovery from COVID-19: The changing structure of employment in the EU*, Publications Office of the European Union, Luxembourg.
- Eurofound (2022h), *Telework in the EU: Regulatory frameworks and recent updates*, Publications Office of the European Union, Luxembourg.
- Eurofound (2022i), *European Working Conditions Telephone Survey 2021: Technical report*, Eurofound working paper, Dublin.
- Eurofound (2023), *Job quality of COVID-19 pandemic essential workers*, Publications Office of the European Union, Luxembourg.
- Eurofound (undated), *European Working Conditions Telephone Survey 2021*, web page.
- Eurofound and EU-OSHA (2014), *Psychosocial risks in Europe: Prevalence and strategies for prevention*, Publications Office of the European Union, Luxembourg.
- Eurofound and European Commission Joint Research Centre (2021), *What just happened? COVID-19 lockdowns and change in the labour market*, Publications Office of the European Union, Luxembourg.
- Eurofound and ILO (International Labour Organization) (2017), *Working anytime, anywhere: The effects on the world of work*, Publications Office of the European Union, Luxembourg, and ILO, Geneva.
- Eurofound and ILO (2019), *Working conditions in a global perspective*, Publications Office of the European Union, Luxembourg, and ILO, Geneva.
- European Commission (2020), *Peer review on 'Legislation and practical management of psychosocial risks at work'*, thematic discussion paper, Publications Office of the European Union, Luxembourg.
- European Commission (2021), *Study to support the evaluation of the EU Strategic Framework on Health and Safety at Work 2014–2020: Final report*, Publications Office of the European Union, Luxembourg.
- European Commission (2022), *Proposal for a Council Recommendation on adequate minimum income ensuring active inclusion*, COM(2020)490 final, Brussels.
- European Parliament (2022), *Report on a new EU strategic framework on health and safety at work post 2020 (including better protection of workers from exposure to harmful substances, stress at work and repetitive motion injuries)*, 2021/2165(INI), Brussels.
- Eurostat (2021), *Eurostat regional yearbook – 2021 edition*, Publications Office of the European Union, Luxembourg.
- Eurostat (2022), *Eurostat regional yearbook – 2022 edition*, Publications Office of the European Union, Luxembourg.
- Eyllon, M., Vallas, S. P., Dennerlein, J. T., Garverich, S., Weinstein, D., Owens, K. et al (2020), 'Mental health stigma and wellbeing among commercial construction workers: a mixed methods study', *Journal of Occupational and Environmental Medicine*, Vol. 62, No. 8, e423–e430.
- Ferry, F., Bunting, B., Rosato, M., Curran, E. and Leavey, G. (2021), 'The impact of reduced working on mental health in the early months of the COVID-19 pandemic: Results from the understanding society COVID-19 study', *Journal of Affective Disorders*, Vol. 287, pp. 308–315.
- Fox, S., Spector, P. E. and Miles, D. (2001), 'Counterproductive work behaviour (CWB) in response to job stressors and organizational justice: Some mediator and moderator tests for autonomy and emotions', *Journal of Vocational Behaviour*, Vol. 59, No. 3, pp. 1–19.

- Furnham, A., Eracleous, A. and Chamorro-Premuzic, T. (2009), 'Personality, motivation and job satisfaction: Hertzberg meets the big five', *Journal of Managerial Psychology*, Vol. 24, No. 8, pp. 765–779.
- Furnham, A., MacRae, I. and Tetchner, J. (2021), 'Measuring work motivation: The facets of the work values questionnaire and work success', *Scandinavian Journal of Psychology*, Vol. 62, No. 3, pp. 401–408.
- Gao, Q., Prina, A. M., Ma, Y., Aceituno, D. and Mayston, R. (2022), 'Inequalities in older age and primary health care utilization in low-and middle-income countries: A systematic review', *International Journal of Health Services*, Vol. 52, No. 1, pp. 99–114.
- Garrow, V. P. (2016), *A review of current thinking*, Institute for Employment Studies, Brighton, UK.
- Gignac, G. E. and Szodorai, E. T. (2016), 'Effect size guidelines for individual differences researchers', *Personality and Individual Differences*, Vol. 102, pp. 74–78.
- Giusti, E. M., Peddroli, E., D'Aniello, G. E., Badiale, C. S., Pietrabissa, G., Manna, C. et al (2020), 'The psychological impact of the COVID-19 outbreak on health professionals: A cross-sectional study', *Frontiers in Psychology*, Vol. 11, Article 1684.
- Glerum, D. R. and Judge, T. A. (2021), 'Advancing employability: Applying training evaluation to employability development programs', *Career Development International*, Vol. 26, No. 3, pp. 363–390.
- Graham, C., Laffan, K. and Pinto, S. (2018), 'Well-being in metrics and policy', *Science*, Vol. 362, No. 6412, pp. 287–288.
- Greenhaus, J. H., Collins, K. M. and Shaw, J. D. (2003), 'The relation between work–family balance and quality of life', *Journal of Vocational Behavior*, Vol. 63, No. 3, pp. 510–531.
- Grigorescu, S., Cazan, A. M., Rogozea, L. and Grigorescu, D. O. (2022), 'Predictive factors of the burnout syndrome occurrence in the healthcare workers during the COVID-19 pandemic', *Frontiers in Medicine*, Vol. 9, Article 842457.
- Hackman, J. R. and Oldham, G. R. (1976), Motivation through the design of work: Test of a theory, *Organizational Behavior and Human Performance*, Vol. 16, No. 2, pp. 250–279.
- Hobfoll, S. E. (1989), 'Conservation of resources: A new attempt at conceptualizing stress', *American Psychologist*, Vol. 44, No. 3, pp. 513–524.
- Hogg, B., Moreno-Alcázar, A., Tóth, M. D., Serbanescu, I., Aust, B., Leduc, C. et al (2022), 'Supporting employees with mental illness and reducing mental illness-related stigma in the workplace: An expert survey', *Journal of Occupational and Environmental Medicine*, Vol. 62, e423–e430.
- Hu, Q. and Schaufeli, W. B. (2011), 'Job insecurity and remuneration in Chinese family-owned business workers', *Career Development International*, Vol. 16, No. 1, pp. 6–19.
- Hu, Q., Schaufeli, W. B. and Taris, T. W. (2011), 'The job demands–resources model: An analysis of additive and joint effects of demands and resources', *Journal of Vocational Behavior*, Vol. 79, No. 1, pp. 181–190.
- ILO (2020), *Managing work-related psychosocial risks during the COVID-19 pandemic*, Geneva.
- ILO (2022), *Social dialogue report 2022: Collective bargaining for an inclusive, sustainable and resilient recovery*, Geneva.
- ISO (International Organization for Standardization) (2021), 'Mental health in the workplace: The world's first international standard just published', 8 June.
- Jiang, L. and Lavaysse, L. M. (2018), 'Cognitive and affective job insecurity: A meta-analysis and a primary study', Vol. 44, No. 6, pp. 2307–2342.
- Joensuu, M., Väänänen, A., Koskinen, A., Kivimäki, M., Virtanen, M. and Vahtera, J. (2010), 'Psychosocial work environment and hospital admissions due to mental disorders: A 15-year prospective study of industrial employees', *Journal of Affective Disorders*, Vol. 124, Nos. 1–2, pp. 118–125.
- Johansen, R., Espetvedt, M. N., Lyshol, H., Clench-Aas, J. and Mykkestad, I. (2021), 'Mental distress among young adults – Gender differences in the role of social support', *BMC Public Health*, Vol. 21, pp. 1–14.
- Jones, K. P., Peddie, C. I., Gilrane, V. L., King, E. B. and Gray, A. L. (2016), 'Not so subtle: A meta-analytic investigation of the correlates of subtle and overt discrimination', *Journal of Management*, Vol. 42, No. 6, pp. 1588–1613.
- Karasek, R. (1979), 'Job demands, job decision latitude and mental strain: Implications for job redesign', *Administrative Science Quarterly*, Vol. 24, pp. 285–308.
- Karasek, R. A. and Theorell, T. (1990), *Healthy work: Stress, productivity, and the reconstruction of working life*, Basic Books, New York.
- Keim, A. C., Landis, R. S., Pierce, C. A. and Earnest, D. R. (2014), 'Why do employees worry about their jobs? A meta-analytic review of predictors of job insecurity', *Journal of Occupational Health Psychology*, Vol. 19, No. 3, pp. 269–290.
- Kinman, G. (2019), 'Sickness presenteeism at work: Prevalence, costs and management', *British Medical Bulletin*, Vol. 129, No. 1, pp. 69–78.
- Koen, J., Klehe, U. C. and Van Vianen, A. E. (2013), 'Employability among the long-term unemployed: A futile quest or worth the effort?' *Journal of Vocational Behavior*, Vol. 82, No. 1, pp. 37–48.

- Kopp, M. S., Stauder, A., Purebl, G., Janszky, I. and Skrabski, A. (2008), 'Work stress and mental health in a changing society', *European Journal of Public Health*, Vol. 18, No. 3, pp. 238–244.
- Kreshpaj, B., Orellana, C., Burström, B., Davis, L., Hemmingsson, T., Johansson, G. et al (2020), 'What is precarious employment? A systematic review of definitions and operationalizations from quantitative and qualitative studies', *Scandinavian Journal of Work, Environment & Health*, Vol. 46, No. 3, pp. 235–247.
- Landsbergis, P. A., Grzywacz, J. G. and Lamontagne, A. D. (2014), 'Work organization, job insecurity, and occupational health disparities', *American Journal of Industrial Medicine*, Vol. 57, No. 5, pp. 495–515.
- Lazarus, R. S. and Folkman, S. (1984), *Stress, appraisal, and coping*, Springer Publishing Company, New York.
- Lim, S. and Lee, A. (2011), 'Work and nonwork outcomes of workplace incivility: Does family support help?' *Journal of Occupational Health Psychology*, Vol. 16, No. 1, pp. 95–111.
- Martinez, L. M. (2020), 'Psychosocial risks and work stress in times of COVID-19: Instruments for its evaluation', *Revista de Comunicación y Salud*, Vol. 10, No. 2, pp. 301–321.
- Mendonça, I., Coelho, F., Ferrajão, P. and Abreu, A. M. (2022), 'Telework and mental health during COVID-19', *International Journal of Environmental Research and Public Health*, Vol. 19, No. 5, Article 2602.
- Mental Health Foundation (2007), *The fundamental facts: The latest facts and figures on mental health*, London.
- Meuris, J. and Leana, C. (2018), 'The price of financial precarity: Organizational costs of employees' financial concerns', *Organization Science*, Vol. 29, No. 3, pp. 398–417.
- Nahrgang, J. D., Morgeson, F. P. and Hofmann, D. A. (2011), 'Safety at work: A meta-analytic investigation of the link between job demands, job resources, burnout, engagement, and safety outcomes', *Journal of Applied Psychology*, Vol. 96, No. 1, pp. 71–94.
- Newby, J. M., O'Moore, K., Tang, S., Christensen, H. and Faasse, K. (2020), 'Acute mental health responses during the COVID-19 pandemic in Australia', *PLoS ONE*, Vol. 15, No. 7, e0236562.
- Niedhammer, I., Bertrais, S. and Witt, K. (2021), 'Psychosocial work exposures and health outcomes: A meta-review of 72 literature reviews with meta-analysis', *Scandinavian Journal of Work, Environment & Health*, Vol. 47, No. 7, pp. 489–508.
- Nielsen, M. B. and Einarsen, S. V. (2018), 'What we know, what we do not know, and what we should and could have known about workplace bullying: An overview of the literature and agenda for future research', *Aggression and Violent Behaviour*, Vol. 42, pp. 71–83.
- Noblet, A. J. and Rodwell, J. J. (2010), 'Workplace health promotion', in Leka, S. and Houdmont, J. (eds.), *Occupational health psychology*, Wiley-Blackwell, Chichester, UK, pp. 124–156.
- OECD (2021), *Tackling the mental health impact of the COVID-19 crisis: An integrated, whole-of-society response*, OECD Publishing, Paris.
- OECD and European Union (2020), *Health at a glance: Europe 2020 – State of health in the EU cycle*, OECD Publishing, Paris.
- Pulido-Martos, M., Cortés-Denia, D. and Lopez-Zafra, E. (2021), 'Teleworking in times of COVID-19: Effects on the acquisition of personal resources', *Frontiers in Psychology*, Vol. 12, Article 685275.
- Rahnfeld, M., Wendsche, J., Ihle, A., Müller, S. A. and Kliegel, M. (2016), 'Uncovering the care setting–turnover intention relationship of geriatric nurses', *European Journal of Ageing*, Vol. 13, No. 2, pp. 159–169.
- Rossi, R., Socci, V., Talevi, D., Mensi, S., Ntoli, C., Pacitti, F. et al (2020), 'COVID-19 pandemic and lockdown measures impact on mental health among the general population in Italy', *Frontiers in Psychiatry*, Vol. 11, Article 790.
- Rosso, B. D., Dekas, K. H. and Wrzesniewski, A. (2010), 'On the meaning of work: A theoretical integration and review', *Research in Organizational Behaviour*, Vol. 30, No. 5, pp. 91–127.
- Ryu, S. and Fan, L. (2022), 'The relationship between financial worries and psychological distress among U.S. adults', *Journal of Family and Economic Issues*, Vol. 44, No. 1, pp. 16–33.
- Serafin, L., Kusiak, A. and Czarkowska-Pączek, B. (2022), 'The COVID-19 pandemic increased burnout and bullying among newly graduated nurses but did not impact the relationship between burnout and bullying and self-labelled subjective feeling of being bullied: A cross-sectional, comparative study', *International Journal of Environmental Research and Public Health*, Vol. 19, No. 3, Article 1730.
- Seubert, C., Hopfgartner, L. and Glaser, J. (2021), 'Living wages, decent work, and need satisfaction: An integrated perspective', *European Journal of Work and Organizational Psychology*, Vol. 30, No. 6, pp. 808–823.
- Sherf, E. N., Parke, M. R. and Isaakyan, S. (2021), 'Distinguishing voice and silence at work: Unique relationships with perceived impact, psychological safety, and burnout', *Academy of Management Journal*, Vol. 64, No. 1, pp. 114–148.

- Siegrist, J. (1996), 'Adverse health effects of high-effort/low-reward conditions', *Journal of Occupational Health Psychology*, Vol. 1, No. 1, pp. 27–41.
- Sostero, M., Milasi, S., Hurley, J., Fernandez-Macias, E. and Bisello, M. (2020), *Teleworkability and the COVID-19 crisis: A new digital divide?* JRC working papers series on labour, education and technology, European Commission, Seville.
- Stanhope, J. and Weinstein, P. (2021), 'Organisational injustice from the COVID-19 pandemic: A hidden burden of disease', *Perspectives in Public Health*, Vol. 141, No. 1, pp. 13–14.
- Timming, A. R., French, M. T. and Mortensen, K. (2021), 'Health anxiety versus economic anxiety surrounding COVID-19: An analysis of psychological distress in the early stages of the pandemic', *Journal of Affective Disorders Reports*, Vol. 5, Article 100152.
- Topp, C. W., Østergaard, S. D., Søndergaard, S. and Bech, P. (2015), 'The WHO-5 well-being index: A systematic review of the literature', *Psychotherapy and Psychosomatics*, Vol. 84, No. 3, pp. 167–176.
- Turner, R. J. and Brown, R. L. (2010), 'Social support and mental health', in Scheid, T. and Brown, T. (eds.), *A handbook for the study of mental health: Social contexts, theories, and systems*, Cambridge University Press, Cambridge, pp. 200–212.
- Van den Broeck, A., de Cuyper, N., de Witte, H. and Vansteenkiste, M. (2010), 'Not all job demands are equal: Differentiating job hindrances and job challenges in the job demands–resources model', *European Journal of Work and Organizational Psychology*, Vol. 19, No. 6, pp. 735–759.
- van der Molen, H. F., Nieuwenhuijsen, K., Frings-Dresen, M. H. and de Groene, G. (2020), 'Work-related psychosocial risk factors for stress-related mental disorders: An updated systematic review and meta-analysis', *BMJ Open*, Vol. 10, No. 7, e034849.
- van de Ven, H., Hulsegge, G. and de Korte, E. (2022), 'Hoe maak je een ploegen rooster gezonder', *Tijdschrift voor HRM*, Vol. 25, No. 1, pp. 92–120.
- WHO (World Health Organization) (2020), *Basic documents – Forty-ninth edition*, Geneva.
- WHO (2021), *European framework for action on mental health 2021–2025*, draft for the Seventy-first Regional Committee for Europe, WHO Regional Office for Europe, Copenhagen.
- WHO (2022), *Mental health and COVID-19: Early evidence of the pandemic's impact*, scientific brief, Geneva.
- Yao, J., Lim, S., Guo, C. Y., Ou, A. Y. and Ng, J. W. X. (2022), 'Experienced incivility in the workplace: A meta-analytical review of its construct validity and nomological network', *Journal of Applied Psychology*, Vol. 107, No. 2, pp. 193–220.
- Yi, J.-S. and Kim, H. (2020), 'Factors related to presenteeism among South Korean workers exposed to workplace psychological adverse social behaviour', *International Journal of Environmental Research and Public Health*, Vol. 17, No. 10, Article 3472.
- Yunus, S., Whitfield, K. and Sayed Mostafa, A. M. (2023), 'High-performance HR practices, job demands and employee well-being: The moderating role of managerial support', *Stress and Health*.

Annexes

Annex 1: Construction of variables for resources, stressors, and health and well-being outcomes

Datasets used

Data from the EWCTS 2021 are used for the analysis in this report. Where relevant, the results were compared with EWCS 2015 data. For this report, the analysis was restricted to employees in the 27 EU Member States.

Box 1 in the introduction provides some information on the EWCTS 2021 data collection. More detailed information can be found on Eurofound's website,⁸ in the technical report on the EWCTS 2021 (Eurofound, 2022i) and in the first report on the findings of the EWCTS 2021 (Eurofound, 2022b).

Rationale behind construction of variables

The EWCTS 2021 questionnaire (Eurofound, 2021f) was the starting point for the selection of items and construction of variables.

Step 1: Data cleaning

- Each item is checked and cleaned (missing values are recoded as missing).
- When necessary for scale construction or for comparison over time, items are inverted or recoded (with the EWCTS 2021 as the point of reference).
- Items are recoded on a scale from 0 to 100 to allow their combination into variables and to facilitate their comparison, and to enable the creation of trend variables for some questions where the answer scale changed.

Step 2: Construction of continuous variables

- Where possible, variables are constructed for the concepts using multiple items. To achieve this, the 'rowmean' function of Stata is used. This function allows the average score of the combined items for each individual to be calculated, taking into account missing values. This again produces a variable with values between 0 and 100. As there are many possibilities for analyses of interrelations between a broad set of concepts, preference is given to variables that use only core items where possible. Item selection is guided by the literature, concepts constructed in previous Eurofound reports (Eurofound, 2017a, 2019, 2022b, 2022e) and the calculation of the Cronbach's alpha of the scale.
- If only one item is available for the concept, it is used as the variable.

Step 3: Construction of dichotomous variables for prevalence figures

- All variables were also recoded as dichotomous variables, which allowed the calculation of prevalence figures.
- Stressors, resources and outcomes in general are given a value of 1 if their score is higher than or equal to 75, and 0 if their score is lower than 75. Certain variables, such as organisational participation, training opportunities, adverse social behaviour and MSDs, are given a value of 1 if at least one of the items included in the variable's construction is 'affirmative', implying exposure to the stressor or the presence of the resource. Other variables that are based on a single item that was already dichotomous are given identical scores to this item. A score of 1 always indicates the presence of the stressor, resource, or health and well-being outcome.

Details of variables constructed and used

Tables A1 and A2 provide an overview of all the variables constructed, the scale on which they are measured, whether the variable consists only of core items or can only be used within a module (at least one item from a module is included) (for the EWCTS 2021), and the question numbers and full questions for each item based on the EWCTS 2021 questionnaire.

- Table A1 provides information on the variables for resources and stressors.
- Table A2 details the variables for health and well-being outcomes.

8 <https://www.eurofound.europa.eu/surveys/2021/european-working-conditions-telephone-survey-2021>

Table A1: Construction of variables for resources and stressors using the EWCTS 2021 and the EWCS 2015

Variable	Type	Core or module	Question number in the EWCTS 2021	Item(s)	Construction of continuous variable	Construction of dichotomous variable → at-risk group
Appropriate pay	Resource	M1A/M1C	Q98a	To what extent do you agree or disagree with the following statement about your job? Considering all my efforts and achievements in my job, I feel I get paid appropriately.	The item is rescaled to a scale of 0 to 100, with 100 indicating the highest level.	Employees with a high score (≥ 75) on the continuous variable are considered to have a high level of this resource.
Adverse social behaviours	Stressor	M1B/M1C	Q80a Q80b Q81a	Over the last month, during the course of your work have you been subjected to any of the following? Verbal abuse or threats Unwanted sexual attention And over the past 12 months, during the course of your work, have you been subjected to any of the following? Bullying, harassment, violence	The variable is constructed as the mean score of the items, rescaled to a scale of 0 to 100, with 100 indicating the highest level.	Employees who score 100 on at least one of the items are considered at risk (and have a score of 1); employees who are confronted with no adverse social behaviours have a score of 0.
Career opportunities	Resource	M1A/M1C	Q89b	To what extent do you agree or disagree with the following statement about your job? My job offers good prospects for career advancement.	The item is rescaled to a scale of 0 to 100, with 100 indicating the highest level.	Employees with a high score (≥ 75) on the continuous variable are considered to have a high level of this resource.
Discrimination	Stressor	Core	Q72	Over the past 12 months, have you been discriminated at work? By this, I mean been treated less favourably or unfairly because of who you are or because you have certain characteristics?	The dichotomous item is rescaled to a scale of 0 and 100, with 100 indicating the presence of discrimination.	The dichotomous item is rescaled to a scale of 0 and 1, with 1 indicating the presence of discrimination.
Emotional demands	Stressor	Core	Q30f Q30h	How often does your main paid job involve ...? Dealing directly with people who are not employees at your workplace, such as customers, passengers, pupils, patients, etc. Being in situations that are emotionally disturbing for you.	The variable is constructed as the mean score of the items, rescaled to a scale of 0 to 100, with 100 indicating the highest level.	Employees with a high score (≥ 75) on the continuous variable are considered at risk.
Financial worries	Stressor	M2b	Q100	A household may have different sources of income and more than one household member may contribute to it. Thinking of your household's total monthly income, is your household able to make ends meet? (on a scale from very easy to with great difficulty)	The item is rescaled to a scale of 0 to 100, with 100 indicating the highest level.	Employees with a high score (> 50) on the continuous variable are considered at risk.
Flexible working hours	Resource	Core	Q47	Would you say that for you arranging to take an hour or two off during your usual working hours to take care of personal or family matters is ...? (on a scale from very easy to very difficult)	The item is rescaled to a scale of 0 to 100, with 100 indicating the highest level.	Employees with a high score (≥ 75) on the continuous variable are considered to have a high level of this resource.
Influence of others	Stressor	M2A	Q14a Q14b	To what extent does your supervisor or manager influence what you do in your work? To what extent do your customers or suppliers influence what you do in your work?	The variable is constructed as the mean score of the items, rescaled to a scale of 0 to 100, with 100 indicating the highest level.	Employees with a high score (≥ 75) on the continuous variable are considered at risk.
Job insecurity	Stressor	Core	Q89g	To what extent do you agree or disagree with the following statements about your job? I might lose my job in the next 6 months.	The item is rescaled to a scale of 0 to 100, with 100 indicating the highest level.	Employees with a high score (≥ 75) on the continuous variable are considered at risk.

Variable	Type	Core or module	Question number in the EWCTS 2021	Item(s)	Construction of continuous variable	Construction of dichotomous variable → at-risk group
Managerial support	Resource	M1B/M1C	Q61b	Tell me how often the following applies to your work situation. Your manager helps and supports you.	The item is rescaled to a scale of 0 to 100, with 100 indicating the highest level.	Employees with a high score (≥ 75) on the continuous variable are considered to have a high level of this resource.
Organisational participation	Resource	M2A	Q71a Q71b Q71c	Does the following exist at your company or organisation? Trade union, works council or a similar committee representing employees Health and safety delegate or committee A regular meeting in which employees can express their views about what is happening in the organisation	The variable is constructed as the mean score of the items, rescaled to a scale of 0 to 100, with 100 indicating the highest level.	Employees who score 100 on at least one of the items are considered to have opportunities for organisational participation.
Physical risk factors	Physical risk	Core	Q29g Q29 Q30b Q30c	How often are you exposed at work to ...? Handling or being in skin contact with chemical products or substances Handling or being in direct contact with materials which can be infectious, such as waste, bodily fluids, laboratory materials, etc. How often does your main paid job involve ...? Lifting or moving people Carrying or moving heavy loads	The variable is constructed as the mean score of the items, rescaled to a scale of 0 to 100, with 100 indicating the highest level.	Employees are considered at risk of experiencing physical risk factors if they answer often or always for at least one of the items; otherwise, they have a score of 0 (and are not at risk).
Recognition	Resource	Core	Q89d	To what extent do you agree or disagree with the following statement about your job? I receive the recognition I deserve for my work.	The item is rescaled to a scale of 0 to 100, with 100 indicating the highest level.	Employees with a high score (≥ 75) on the continuous variable are considered to have a high level of this resource.
Skills use	Resource	Core	Q89p	To what extent do you agree or disagree with the following statement about your job? I have enough opportunities to use my knowledge and skills in my current job.	The item is rescaled to a scale of 0 to 100, with 100 indicating the highest level.	Employees with a high score (≥ 75) on the continuous variable are considered to have a high level of this resource.
Social support	Resource	Core	Q61a1	Tell me how often the following applies to your work situation. Your colleagues help and support you.	The item is rescaled to a scale of 0 to 100, with 100 indicating the highest level.	Employees with a high score (≥ 75) on the continuous variable are considered to have a high level of this resource.
Task autonomy	Resource	Core	Q54b	Are you able to choose or change your methods of work?	The item is rescaled to a scale of 0 to 100, with 100 indicating the highest level.	An employee is considered to have a high level of task discretion if they indicate that they are sometimes, often or always able to choose or change their methods of work.
Task significance	Resource	Core	Q61h	Tell me how often the following applies to your work situation. Your job gives you the feeling of work well done.	The item is rescaled to a scale of 0 to 100, with 100 indicating the highest level.	Employees with a high score (≥ 75) on the continuous variable are considered to have a high level of this resource.

Variable	Type	Core or module	Question number in the EWCTS 2021	Item(s)	Construction of continuous variable	Construction of dichotomous variable → at-risk group
Training opportunities	Resource	M1A/M1C	Q65a Q65c	Over the past 12 months, have you undergone any of the following types of training to improve your skills? Training paid for or provided by your employer On-the-job training (co-workers, supervisors)	The variable is constructed as the mean score of the items, rescaled to a scale of 0 to 100, with 100 indicating the highest level.	Employees who score 100 on at least one of the items are considered to have many training opportunities.
Trust	Resource	M2A	Q70b Q70e Q70f	The next questions are about your workplace. To what extent do you agree or disagree with the following statements? The management trusts the employees to do their work well. There is good cooperation between you and your colleagues. In general, employees trust management.	This variable is constructed as the mean score of the items, rescaled to a scale of 0 to 100, with 100 indicating the highest level.	Employees with a high score (≥ 75) on the continuous variable are considered to have a high level of this resource.
Unsocial working hours	Stressor	Core	Q37a Q40 Q46 Q24	How often do you work at night, for at least 2 hours between 10.00 pm and 05.00 am? Over the last 12 months, how often have you been requested to come into work at short notice? Over the last 12 months, how often have you worked in your free time to meet work demands? How many hours do you usually work per week in your main paid job?	The variable 'long working hours' is constructed based on the question 'How many hours do you usually work per week in your main paid job?'. This variable is 0 when employees work between 0 and 48 hours a week, and 100 when they work more than 48 hours a week. The variable 'unsocial working hours' is constructed as the mean score of the items on night work, work at short notice, work in free time and long working hours, rescaled to a scale of 0 to 100, with 100 indicating the highest level.	Employees are considered at risk of working unsocial hours if they answer often or always for the items (or score 100 on the item 'long working hours'), or if they answer sometimes for at least two of the items.
Voice	Resource	M1A/M1B	Q61c Q61d	Tell me how often the following applies to your work situation. You are consulted before objectives are set for your work. You are involved in improving the work organisation or work processes of your department or organisation.	The variable is constructed as the mean score of the items, rescaled to a scale of 0 to 100, with 100 indicating the highest level.	Employees with a high score (≥ 75) on the continuous variable are considered to have a high level of this resource.
Work intensity	Stressor	Core	Q49a Q49b	Does your job involve working at very high speed? Does your job involve working to tight deadlines?	The variable is constructed as the mean score of the items, rescaled to a scale of 0 to 100, with 100 indicating the highest level.	Employees with a high score (≥ 75) on the continuous variable are considered at risk.

Variable	Type	Core or module	Question number in the EWCTS 2021	Item(s)	Construction of continuous variable	Construction of dichotomous variable → at-risk group
Work–life balance	Resource	Core	Q44	In general, how do your working hours fit with your family or social commitments outside work?	The item is rescaled to a scale of 0 to 100, with 100 indicating the highest level.	Employees with a high score (≥ 75) on the continuous variable are considered to have a high level of this resource.
Work–life interference	Stressor	M2A	Q45a Q45b Q45d	How often in the last 12 months, have you ...? Kept worrying about work when you were not working Felt too tired after work to do some of the household jobs which need to be done Found it difficult to concentrate on your job because of your family responsibilities	The variable is constructed as the mean score of the items, rescaled to a scale of 0 to 100, with 100 indicating the highest level.	Employees are considered at risk if they answer often or always on at least one of the items; otherwise, they have a score of 0 (and are not at risk).

Table A2: Construction of variables for the health and well-being outcomes using the EWCTS 2021 and the EWCS 2015

Variable	Core or module	Question number in the EWCTS 2021	Item(s)	Construction of continuous variable	Construction of dichotomous variable
Mental well-being (WHO-5)	Core	Q87a Q87b Q87c Q87d Q87e	Over the last two weeks, how often have you been feeling ...? Cheerful and in good spirits Calm and relaxed Active and vigorous Fresh and rested when you woke up That your daily life has been filled with things that interest you	The variable is constructed as the mean score of the items, rescaled to a scale of 0 to 100, with 100 indicating the highest level.	Employees with a high score (≥ 75) on the continuous variable are considered to have a high level of this outcome.
Work engagement	M2A	M2A	The following statements are about how you feel about your job. For each statement, please tell me how often you feel this way. At my work I feel full of energy. I am enthusiastic about my job. Time flies when I am working.	The variable is constructed as the mean score of the items, rescaled to a scale of 0 to 100, with 100 indicating the highest level.	Employees with a high score (≥ 75) on the continuous variable are considered to have a high level of this outcome.
Anxiety	M2B	Q78h	Over the last 12 months, did you have any of the following health problems? Anxiety	The dichotomous item is rescaled to a scale of 0 to 100, with 100 indicating the presence of the outcome.	The dichotomous item is rescaled to a scale of 0 and 1, with 1 indicating the presence of the outcome.
Exhaustion	M2A	Q90d Q90e	The following statements are about how you feel about your job. For each statement, please tell me how often you feel this way. I feel physically exhausted at the end of the working day. I feel emotionally drained by my work.	The variable is constructed as the mean score of the items, rescaled to a scale of 0 to 100, with 100 indicating the highest level.	Employees with a high score (≥ 75) on the continuous variable are considered to have a high level of this outcome.
Headaches and eyestrain	M2B	Q78f	Over the last 12 months, did you have any of the following health problems? Headaches, eyestrain	The dichotomous item is rescaled to a scale of 0 to 100, with 100 indicating the presence of the outcome.	The dichotomous item is rescaled to a scale of 0 and 1, with 1 indicating the presence of the outcome.

Variable	Core or module	Question number in the EWCTS 2021	Item(s)	Construction of continuous variable	Construction of dichotomous variable
Health at risk because of work	Core	Q73	Do you think your health or safety is at risk because of your work?	The dichotomous item is rescaled to a scale of 0 to 100, with 100 indicating the presence of the outcome.	The dichotomous item is rescaled to a scale of 0 and 1, with 1 indicating the presence of the outcome.
MSDs	M2B	Q78c Q78d Q78e	Over the last 12 months, did you have any of the following health problems? Backache Muscular pains in shoulders, neck and/or upper limbs (arms, elbows, wrists, hands, etc.) Muscular pains in lower limbs (hips, legs, knees, feet, etc.)	The variable is constructed as the mean score of the items, rescaled to a scale of 0 to 100, with 100 indicating the highest level.	Employees who score 100 on at least one of the items are considered to have had MSDs (and have a score of 1); employees who have not experienced an MSD have a score of 0.
Presenteeism	Core	Q84a	Over the past 12 months, did you work when you were sick?	The dichotomous item is rescaled to a scale of 0 to 100, with 100 indicating the presence of the outcome.	The dichotomous item is rescaled to a scale of 0 and 1, with 1 indicating the presence of the outcome.

Annex 2: Additional information on statistical methods and analyses

Methodological details

- **Programme:** Most of the analyses were carried out using the statistical software Stata/MP 15.1. Some additional analyses were carried out using IBM SPSS Statistics version 28.
- **Sample sizes:** The data were restricted to employees (excluding those who were self-employed) from the 27 EU Member States in 2021. This resulted in a sample of 51,111 employees.
- **Weights:** The '*weight_core*' weight from the EWCTS 2021 database was used.

Analysing prevalence by sector and occupation

To analyse the prevalence of resources, stressors and health issues for specific groups of occupations within sectors, occupations (based on the International Standard Classification of Occupations (ISCO) one-digit classification) and sectors (based on the Nomenclature of Economic Activities (NACE) 10 classification) were combined. To ensure sufficient sample sizes (and avoid spurious correlations), only combinations of sectors and occupations in the EWCTS 2021 that had at least 200 respondents at EU27 level (for instance, the occupation 'manager' in the sector 'commerce and hospitality') were analysed. One exception was made for the group of skilled agricultural workers working in agriculture (based on NACE). This subgroup had a sample size of only 150 employees but was included to enable figures to be provided for agricultural workers. Table A3 gives an overview of the sample sizes for each combination that is included in the report.

Table A3: Sample sizes of the subgroups that are included in the prevalence analyses, by sector and occupation

Sector/occupation	Armed forces occupations	Managers	Professionals	Technicians and associate professionals	Clerical support workers	Service and sales workers	Skilled agricultural workers	Craft and related trades workers	Plant and machine operators	Elementary occupations
Agriculture							150			
Commerce and hospitality		988	688	1,036	821	2,828		498		633
Construction		309	384	437				1,080		
Education		293	4,235	208		403				
Financial services		491	936	734	694					
Health		298	2,220	1,449	254	1,236				203
Industry		1,131	1,562	1,625	795	213		1,743	1,019	451
Other services		1,317	4,242	1,731	1,286	907		248		684
Public administration	233	456	824	1,019	597	470				
Transport and storage		280	206	357	615				1,086	224

Mean scores

When comparing groups that are or are not exposed to certain psychosocial risks (see Chapters 2, 3, 4 and 5), weighted mean scores are calculated for the continuous variables for resources and stressors, and health and well-being outcomes. Next, the relevance of these mean scores and the differences between the groups are checked using Cohen's *d* effect sizes. Only weighted mean scores that have a considerable Cohen's *d* effect size ($> |0.20|$) are considered significantly different and included in the radar graphs (Cohen, 1988).

Correlations

To analyse the impact of psychosocial risks or telework on the relationship between stressors or resources and health and well-being outcomes, the weighted correlation between the outcomes and each job characteristic is calculated for each of the dichotomised psychosocial risks (comparing the group of employees who have a high exposure to a specific risk with those who have a low exposure to the risk). This straightforward method of statistical analysis was chosen because more complex methods (such as structural equation modelling or stepwise (linear) regression analyses) could not be used due to the modular nature of data collection in the EWCTS 2021. This modular structure means that variables that should be included together in a more complex and comprehensive module are measured in different modules, and hence the same respondents are not asked about them. This makes it impossible to include them together in a single statistical model.

However, comparing correlations does give some indication of which psychosocial risks, or work arrangements such as telework, may worsen the negative impact of other stressors on health and well-being outcomes. It also provides an insight into which resources enhance the well-being and health of workers overall and which could even provide an additional positive contribution to well-being or could potentially buffer the negative impact of some stressors to a certain extent. Hence, in Chapters 2 to 5, correlations are compared for both the group that is and the group that is not exposed to the stressor of interest (the results of which are presented in figures).

Correlations that are smaller than $|0.15|$ are considered too weak and not relevant. Correlations between $|0.15|$ and $|0.25|$ are weak, those between $|0.25|$ and $|0.35|$ are moderate and those larger than $|0.35|$ are considered strong (Gignac and Szodorai, 2016).

If a correlation is at least weak, it can be considered of some relevance to the health or well-being outcomes. Next, it is important to consider in particular the difference between the correlations of the group exposed to the stressor of interest and the group that is not exposed. However, as other background variables, such as gender, age, sector, occupation and country, may also have an impact on these differences, an additional assessment is carried out to determine whether the difference can be attributed to the exposure or can merely be explained by background

variables confounding the findings. To test this, simple regression analyses were carried out to predict the health and well-being outcomes.

- For the variable 'mental well-being', linear regression models were tested that included a dichotomous variable indicating exposure to the stressor of interest, and the other job characteristic (resource or stressor) that was being considered (in the correlation), the interaction effect between the stressor of interest and the other job characteristic, and dummy variables for gender, age (age group), sector (NACE 10 classification), occupation (ISCO one-digit classification) and country. Betas were considered, giving an indication of the direction of the differences. Only if the interaction effect was significant ($p < 0.01$, and for some chapters $p < 0.05$ or $p < 0.1$) were the correlations and the difference between them considered significant and relevant.
- For the variable 'health at risk because of work', similar logistic regression analyses were carried out. Logistic regression was used as the outcome variable was dichotomous. In these analyses, the odds ratios were considered. Like in the linear regression analysis, the significance of the interaction effect was evaluated to decide which correlations were included in graphs ($p < 0.01$, or for some chapters $p < 0.05$ or $p < 0.1$).

Annex 3: Multivariate logistic regression using telework categories

To establish the relationship between the various stressors (psychosocial risks), resources, and health and well-being outcomes, on the one hand, with the different telework categories, on the other hand, a logistic regression analysis was carried out (similar to the one for which results are shown in Table 5 in Chapter 1). This analysis focused on identifying stressors, resources and outcomes most prevalent for teleworking employees in the EU27 (specific stressors, resources and outcomes for teleworking and non-teleworking employees), while controlling for gender, age, country, sector and occupation. The numbers in Table A4 (odds ratios) indicate the likelihood of employees in a particular telework category experiencing a stressor, resource or outcome compared with (A) employees who work at their employer's premises in non-teleworkable jobs and (B) employees who telework occasionally. If the number is greater than 1, employees who telework are more likely to experience the stressor, resource or outcome than those in the reference group; if the number is less than 1, employees who telework are less likely to experience it than those in the reference group.

For example, employees who telework full time are less likely than workers who work at their employer's premises in non-teleworkable jobs to experience adverse social behaviour, but they are more likely to work at high intensity.

Table A4: Results of logistic regression analysis using telework categories to predict the presence or absence of stressors, resources and outcomes (odds ratio), EU27

		Sample A: all employees in the EU27 (weighted)					Sample B: only teleworking employees in the EU27 (weighted)		
		Employer's premises, non-teleworkable job	Employer's premises, teleworkable job	Occasional telework	Partial telework	Full-time telework	Occasional telework	Partial telework	Full-time telework
Stressors	Adverse social behaviour	REF	1.36	0.97	0.78	0.54	REF	0.78	0.60
	Discrimination	REF	1.24	0.91	0.90	0.80	REF	0.98	0.93
	Emotional demands	REF	1.64	0.90	0.74	0.46	REF	0.84	0.53
	Financial worries	REF	0.75	0.48	0.40	0.36	REF	0.83	0.80
	Influence of others	REF	1.28	1.30	1.20	1.32	REF	0.93	1.04
	Job insecurity	REF	0.76	0.61	0.69	0.62	REF	1.13	0.99
	Physical risk factors	REF	0.92	0.29	0.20	0.08	REF	0.69	0.30
	Unsocial working hours	REF	1.21	1.15	1.64	1.29	REF	1.39	1.18
	<i>Working long hours</i>	REF	0.87	1.17	1.37	1.40	REF	1.39	1.18
	<i>Night work</i>	REF	1.33	0.67	0.97	0.92	REF	1.35	1.35
	<i>Having to come to work at short notice</i>	REF	1.03	0.73	0.77	0.49	REF	1.07	0.76
	<i>Working in free time</i>	REF	1.07	2.10	3.01	2.36	REF	1.44	1.17
	Work intensity	REF	1.38	1.49	1.43	1.61	REF	0.94	1.02
	<i>High speed</i>	REF	1.23	1.32	1.26	1.40	REF	0.93	1.02
	<i>Tight deadlines</i>	REF	1.44	1.73	1.69	1.76	REF	0.96	0.98
Work-life interference	REF	1.10	1.33	1.45	1.22	REF	1.10	0.95	
Resources	Appropriate pay	REF	0.90	1.12	1.13	1.23	REF	1.00	1.07
	Career opportunities	REF	1.12	1.41	1.48	1.61	REF	1.04	1.09
	Flexibility of working hours	REF	0.98	1.20	1.39	1.79	REF	1.18	1.46
	Managerial support	REF	1.07	1.27	1.40	1.46	REF	1.13	1.13
	Organisational participation	REF	1.57	2.01	2.97	4.40	REF	1.33	1.90
	Recognition	REF	0.92	1.25	1.16	1.27	REF	0.94	0.99
	Skills use	REF	1.19	1.44	1.42	1.16	REF	0.98	0.76
	Social support	REF	1.32	1.40	1.46	1.45	REF	1.05	1.01
	Task autonomy	REF	1.10	1.98	1.96	1.53	REF	0.97	0.76
	Task significance	REF	1.01	1.08	1.03	0.98	REF	0.97	0.88
	Training opportunities	REF	1.57	2.10	2.29	2.24	REF	1.05	1.02
	Trust	REF	1.22	1.36	1.42	1.54	REF	1.02	1.10
	Voice	REF	1.30	1.78	1.57	1.63	REF	0.91	0.93
	Work-life balance	REF	0.93	0.91	1.01	1.16	REF	1.13	1.26

		Sample A: all employees in the EU27 (weighted)					Sample B: only teleworking employees in the EU27 (weighted)		
		Employer's premises, non-teleworkable job	Employer's premises, teleworkable job	Occasional telework	Partial telework	Full-time telework	Occasional telework	Partial telework	Full-time telework
Outcomes	Mental well-being	REF	0.93	0.73	0.71	0.71	REF	0.97	0.97
	Work engagement	REF	1.01	0.93	0.82	0.75	REF	0.87	0.80
	Anxiety	REF	1.01	1.02	1.14	1.40	REF	1.12	1.39
	Exhaustion	REF	1.13	0.94	0.98	0.82	REF	1.03	0.88
	Headaches and eyestrain	REF	1.45	1.77	1.70	1.92	REF	0.97	1.09
	Health at risk because of work	REF	1.05	0.57	0.56	0.49	REF	0.93	0.86
	MSDs	REF	0.95	0.70	0.71	0.96	REF	0.99	1.37
	Presenteeism	REF	1.12	1.19	1.40	1.55	REF	1.18	1.32

Notes: The control variables gender, age, sector, occupation and country were included in the model. REF, reference category in the analysis. Source: EWCTS 2021

Getting in touch with the EU

In person

All over the European Union there are hundreds of Europe Direct information centres. You can find the address of the centre nearest you at: https://european-union.europa.eu/contact-eu_en

On the phone or by email

Europe Direct is a service that answers your questions about the European Union. You can contact this service:

- by freephone: 00 800 6 7 8 9 10 11 (certain operators may charge for these calls)
- at the following standard number: +32 22999696
- by email via: https://european-union.europa.eu/contact-eu_en

Finding information about the EU

Online

Information about the European Union in all the official languages of the EU is available on the Europa website at: <https://europa.eu>

EU publications

You can download or order free and priced EU publications at: <https://op.europa.eu/publications>

Multiple copies of free publications may be obtained by contacting Europe Direct or your local information centre (see https://european-union.europa.eu/contact-eu_en).

EU law and related documents

For access to legal information from the EU, including all EU law since 1952 in all the official language versions, go to EUR-Lex at: <https://eur-lex.europa.eu>

Open data from the EU

The EU Open Data Portal (<https://data.europa.eu>) provides access to datasets from the EU. Data can be downloaded and reused for free, both for commercial and non-commercial purposes.

Psychosocial risks represent a major challenge to the health and well-being of workers in the EU. While the COVID-19 pandemic intensified some of these risks, it also increased awareness of them among policymakers. Using data from the European Working Conditions Telephone Survey 2021 and building on a theoretical model that differentiates between job stressors and job resources, this report examines key psychosocial risks in the workplace and their impact on health. It also assesses job characteristics that could help to protect workers' health and well-being in post-pandemic workplaces.

While the prevalence of psychosocial risks varies across the Member States, work–life interference and work intensity are the most widespread risks in the EU, and the prevalence of the latter increased during the pandemic. Job stressors such as adverse social behaviour and job insecurity continue to be experienced by a significant proportion of workers in the EU. Although resources are available to combat some risks, these may not be sufficient, and preventive policies need to be implemented to prevent risks from arising in the first place.

The European Foundation for the Improvement of Living and Working Conditions (Eurofound) is a tripartite European Union Agency established in 1975. Its role is to provide knowledge in the area of social, employment and work-related policies according to Regulation (EU) 2019/127.

